

FUNDAMENTALS OF ACCOUNTING

FOUNDATION

STUDY NOTES



The Institute of Cost Accountants of India

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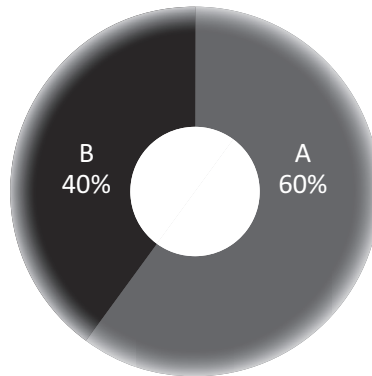
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Syllabus

Paper 2: Fundamentals of Accounting (FOA)

Syllabus Structure

A	Fundamentals of Financial Accounting	60%
B	Fundamentals of Cost & Management Accounting	40%



ASSESSMENT STRATEGY

There will be written examination paper of three hours

OBJECTIVES

To gain comprehensive understanding of all aspects relating to financial statements, principles, procedures of accounting and their application to different practical situations

Learning Aims

The Syllabus aims to test the student's ability to:

- Understand and explain the conceptual framework of Accounting
- Prepare Accounts for various entities under different situations
- Acquire basic concepts of Cost & Management Accounting relevant for managerial decision making

Skill sets required

Level A: Requiring the skill levels of knowledge and comprehension

Section A : Fundamentals of Financial Accounting 60%

1. Accounting Process
2. Reconciliation Statement
3. Accounting for Depreciation
4. Preparation of Final Accounts
5. Accounting for Special Transactions

Section B: Fundamentals of Cost & Management Accounting 40%

6. Fundamentals of Cost Accounting
7. Preparation of Cost Statements
8. Fundamentals of Management Accounting – basic knowledge and its application

Section A : Fundamentals of Financial Accounting [60 marks]

1. Accounting Process

- (a) Theoretical Framework (meaning, scope and usefulness of Accounting; Generally Accepted Accounting Principles, Concepts and Conventions)
- (b) Capital and Revenue transactions- capital and revenue expenditures, capital and revenue receipts
- (c) Measurement, Valuation and Accounting estimates
- (d) Double entry system, Books of prime entry, Subsidiary Books
- (e) Recording of Cash and Bank transactions
- (f) Preparation of Ledger Accounts
- (g) Preparation of Trial Balance- interpretation and usefulness
- (h) Rectification of Errors
- (i) Opening entries, Transfer entries, Adjustment entries, Closing entries

2. Reconciliation Statements

- (a) Bank Reconciliation Statement
- (b) Receivables / Payables Reconciliation Statement
- (c) Stock Reconciliation Statement

3. Accounting for Depreciation

- (a) Depreciation Policy
- (b) Methods, computation and Accounting treatment

4. Preparation of Final Accounts:

(a) Of a Profit making concern (for sole proprietorship concern and partnership firm only)

- (i) Preparation of Trading Account, Profit & Loss Account and Balance Sheet
- (ii) Accounting treatment of bad debts, reserve for bad and doubtful debts, provision for discount on debtors and provision for discount on creditors

(b) Of a Not-for-Profit making concern

- (i) Preparation of Receipts and Payments Account;
- (ii) Preparation of Income and Expenditure Account
- (iii) Preparation of Balance Sheet

(c) Under Single Entry System including conversion of single entry into double entry system (basic level)

- (i) Concept of Single Entry System and preparation of Statement showing Profit and Loss , Statement of Affairs
- (ii) Conversion of Single Entry System into Double Entry System of Accounting

5. Accounting for Special Transactions

- (a) Bills of Exchange
- (b) Consignment
- (c) Joint Venture
- (d) Sale of goods on approval or return basis

Section B: Fundamentals of Cost & Management Accounting[40 marks]

6. Fundamentals of Cost Accounting

- (a) Cost and Management Accounting – Generally Accepted Cost Accounting Principles
- (b) Accounting for Material cost (including Accounting of Inventory – LIFO, FIFO, Weighted Average Cost)
- (c) Accounting for Labour costs, Direct Expenses and Overheads

7. Preparation of Cost Statements

- (a) Cost Data collection, Cost Sheet formats,
- (b) Preparation of Cost Sheets (historical cost sheets and estimated cost sheets)

8. Fundamentals of Management Accounting

- (a) Marginal Costing and Break-even analysis – basic knowledge
- (b) Application of Marginal Costing for decision-making

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Study Note - 1

ACCOUNTING PROCESS



This Study Note includes

- 1.1 Introduction
- 1.2 Definitions
- 1.3 Accounting Cycle
- 1.4 Objectives of Accounting
- 1.5 Basic Accounting Terms
- 1.6 Generally Accepted Accounting Principles
- 1.7 Accounting Concepts and Conventions
- 1.8 Events and Transactions
- 1.9 Voucher
- 1.10 The Concepts of "Account", "Debit" and "Credit"
- 1.11 Types of Accounts
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- 1.18 Trial Balance
- 1.19 Measurement, Valuation & Accounting Estimates
- 1.20 Opening entries, Closing entries, Transfer entries and Rectification entries

1.1 INTRODUCTION

Business is an economic activity undertaken with the motive of earning profits and to maximize the wealth for the owners. Business cannot run in isolation. Largely, the business activity is carried out by people coming together with a purpose to serve a common cause. This team is often referred to as an organization, which could be in different forms such as sole proprietorship, partnership, body corporate etc. The rules of business are based on general principles of trade, social values, and statutory framework encompassing national or international boundaries. While these variables could be different for different businesses, different countries etc., the basic purpose is to add value to a product or service to satisfy customer demand.

The business activities require resources (which are limited & have multiple uses) primarily in terms of material, labour, machineries, factories and other services. The success of business depends on how efficiently and effectively these resources are managed. Therefore, there is a need to ensure the businessman tracks the use of these resources. The resources are not free and thus one must be careful to keep an eye on cost of acquiring them as well.

As the basic purpose of business is to make profit, one must keep an ongoing track of the activities undertaken in course of business. Two basic questions would have to be answered:

- (a) What is the result of business operations? This will be answered by finding out whether it has made profit or loss.
- (b) What is the position of the resources acquired and used for business purpose? How are these resources financed? Where the funds come from?

The answers to these questions are to be found continuously and the best way to find them is to record all the business activities. Recording of business activities has to be done in a scientific manner so that they reveal correct outcome. The science of book-keeping and accounting provides an effective solution. It is a branch of social science. This study material aims at giving a platform to the students to understand basic principles and concepts, which can be applied to accurately measure performance of business. After studying the various chapters included herein, the student should be able to apply the principles, rules, conventions and practices to different business situations like trading, manufacturing or service.

Over years, the art and science of accounting has evolved together with progress of trade and commerce at national and global levels. Professional accounting bodies have been doing intensive research to come up with accounting rules that will be applicable. Modern business is certainly more complex and continuous updating of these rules is required. Every stakeholder of the business is interested in a particular facet of information about the business. The art and science of accounting helps to put together these requirements of information as per universally accepted principles and also to interpret the results. It is interesting to note that each one of us has an accountant hidden in us. We do see our parents keep track of monthly expenses. We make a distinction between payment done for monthly grocery and that for buying a house or a car. We understand that while grocery is a monthly expense and buying a house is like creating a resource that has indefinite future use. The most common accounting record that each one of us knows is our bank passbook or a bank statement, which the bank maintains for us. It tracks each rupee that we deposit or withdraw from our account. When we go to supermarket to buy something, the cashier at the counter will record things we buy and give us a 'bill' or 'cash memo'. These are source documents prepared for the transaction between the supermarket and us. While these are simple examples, there could be more complex business activities. A good working knowledge of keeping records is therefore necessary. Professional accounting bodies all over the world have been functioning with the objective of providing this body of knowledge. These institutions are engaged in imparting training in the field of accounting. Let us start with some basic definitions, concepts, conventions and practices used in development of this art as well as science.

1.2 DEFINITIONS

In order to understand the subject matter with clarity, let us study some of the definitions which depict the scope, content and purpose of Accounting. The field of accounting is generally sub-divided into:

- (a) Book-keeping
- (b) Financial Accounting
- (c) Cost Accounting and
- (d) Management Accounting

Let us understand each of these concepts.

(a) Book-keeping

The most common definition of book-keeping as given by J. R. Batliboi is "Book-keeping is an art of recording business transactions in a set of books."

As can be seen, it is basically a record keeping function. One must understand that not all dealings are, however, recorded. Only transactions expressed in terms of money will find place in books of accounts. These are the transactions which will ultimately result in transfer of economic value from one person to the other. Book-keeping is a continuous activity, the records being maintained as transactions are entered into. This being a routine and repetitive work, in today's world, it is taken over by the computer systems. Many accounting packages are available to suit different business organizations.

It is also referred to as a set of primary records. These records form the basis for accounting. It is an art because, the record is to be kept in such a manner that it will facilitate further processing and reporting of financial information which will be useful to all stakeholders of the business.

(b) Financial Accounting

It is commonly termed as Accounting. The American Institute of Certified Public Accountants defines Accounting as "an art of recoding, classifying and summarizing in a significant manner and in terms of money, transactions and events which are in part at least of a financial character, and interpreting the results thereof."

The first step in the cycle of accounting is to identify transactions that will find place in books of accounts. Transactions having financial impact only are to be recorded. E.g. if a businessman negotiates with



the customer regarding supply of products, this will not be recorded. The negotiation is a deal which will potentially create a transaction and will have exchange of money or money's worth. But unless this transaction is finally entered into, it will not be recorded in the books of accounts.

Secondly, the recording of the business transactions is done based on the Golden Rules of accounting (which are explained later) in a systematic manner. Transaction of similar nature are grouped together and recorded accordingly. e.g. Sales Transactions, Purchase Transactions, Cash Transactions etc. One has to interpret the transaction and then apply the relevant Golden Rule to make a correct entry thereof.

Thirdly, as the transactions increase in number, it will be difficult to understand the combined effect of the same by referring to individual records. Hence, the art of accounting also involves the step of summarizing them. With the aid of computers, this task is simplified in today's accounting though. The summarization will help users of the business information to understand and interpret business results.

Lastly, the accounting process provides the users with statements which will describe what has happened to the business. Remember the two basic questions we talked about, one to know whether business has made profit or loss and the other to know the position of resources that are used by the business.

It can be noted that although accounting is often referred to as an art, it is a science also. This is because it is based on universally applicable set of rules. However, it is not a pure science as there is a possibility of different interpretation.

(c) Cost Accounting

According to the Chartered Institute of Management Accountants (CIMA), Cost Accountancy is defined as "application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability as well as the presentation of information for the purpose of managerial decision-making."

It is a branch of accounting dealing with the classification, recording, allocation, summarization and reporting of current and prospective costs and analyzing their behaviours. Cost Accounting is frequently used to facilitate internal decision making and provides tools with which management can appraise performance and control costs of doing business. It primarily involves relating the costs to the different products produced and sold or services rendered by the business. While Financial Accounting deals with business transactions at a broader level, Cost Accounting aims at further breaking it up to the last possible level to identify costs with products and services. It uses the same Financial Accounting documents and records. Modern computerized accounting packages like ERP systems provide for processing Financial as well as Cost Accounting records simultaneously.

This branch of accounting deals with the process of ascertainment of costs. The concept of cost is always applied with reference to a context. Knowledge of cost concepts and their application provide a very sound platform for decision making. Cost Accounting aims at equipping management with information that can be used for control on business activities.

(d) Management Accounting

Management Accounting is concerned with the use of Financial and Cost Accounting information to managers within organizations, to provide them with the basis in making informed business decisions that would allow them to be better equipped in their management and control functions. Unlike Financial Accounting information (which, for public companies, is public information), Management Accounting information is used within an organization (typically for decision-making) and is usually confidential and its access available only to a selected few.

According to the Chartered Institute of Management Accountants (CIMA), Management Accounting is "the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of information used by management to plan, evaluate and control within an entity and to assure appropriate use of and accountability for its resources. Management Accounting also comprises the preparation of financial reports for non management groups such as shareholders, creditors, regulatory authorities and tax authorities"

Basically, Management Accounting aims to facilitate management in formulating strategies, planning and constructing business activities, making decisions, optimal use of resources, and safeguarding assets of business.

These branches of accounting have evolved over years of research and are basically synchronized with the requirements of business organizations and all entities associated with them. We will now see what are they and how accounting satisfies various needs of different stakeholders.

1.2.1 Difference between Book-keeping and Accountancy

The Significant difference between Book-keeping and Accountancy are :-

Sl No.	Points of difference	Book Keeping	Accountancy
1.	Meaning	Book-keeping is considered as ends.	Accountancy is considered as beginning.
2.	Functions	The primary stage of accounting function is called Book-keeping.	The overall accounting functions are guided by accountancy.
3	Depends	Accountancy can complete its functions with the help of Book-keeping.	Accountancy depends on Book-keeping for its complete functions.
4.	Data	The necessary data about financial performances and financial positions are taken from Book-keeping.	Accountancy can take its decisions, prepare reports and statements from the data taken from Book-keeping.
5.	Recording of Transactions	Financial transactions are recorded on the basis of accounting principles, concepts and conventions.	Accountancy does not take any principles, concepts and conventions from Book-keeping.

1.2 .2 Difference between Management Accounting and Financial Accounting

The significant difference between Management Accounting and Financial Accounting are :

Management Accounting		Financial Accounting	
1.	Management Accounting is primarily based on the data available from Financial Accounting.	1.	Financial Accounting is based on the monetary transactions of the enterprise.
2.	It provides necessary information to the management to assist them in the process of planning, controlling, performance evaluation and decision making.	2.	Its main focus is on recording and classifying monetary transactions in the books of accounts and preparation of financial statements at the end of every accounting period.
3.	Reports prepared in Management Accounting are meant for management and as per management requirement.	3.	Reports as per Financial Accounting are meant for the management as well as for shareholders and creditors of the concern.
4.	Reports may contain both subjective and objective figures.	4.	Reports should always be supported by relevant figures and it emphasizes on the objectivity of data.
5.	Reports are not subject to statutory audit.	5.	Reports are always subject to statutory audit.
6.	It evaluates the sectional as well as the entire performance of the business.	6.	It ascertains , evaluates and exhibits the financial strength of the whole business.

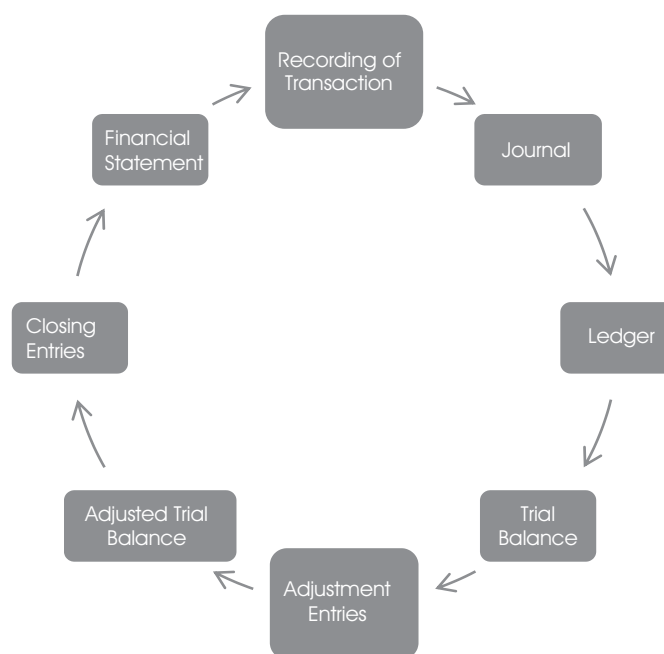


1.3 ACCOUNTING CYCLE

When complete sequence of accounting procedure is done which happens frequently and repeated in same directions during an accounting period, the same is called an accounting cycle.

Steps/Phases of Accounting Cycle

The steps or phases of accounting cycle can be depicted as under:



ACCOUNTING CYCLE

- a) **Recording of Transaction:-** As soon as a transaction happens it is at first recorded in subsidiary books.
- b) **Journal :-** The transactions are recorded in Journal chronologically.
- c) **Ledger:-** All journals are posted into ledger chronologically and in a classified manner.
- d) **Trial Balance:-** After taking all the ledger account closing balances, a Trial Balance is prepared at the end of the period for the preparation of financial statements.
- e) **Adjustment Entries :-** All the adjustments entries are to be recorded properly and adjusted accordingly before preparing financial statements.
- f) **Adjusted Trial Balance:-** An adjusted Trail Balance may also be prepared.
- g) **Closing Entries:-** All the nominal accounts are to be closed by transferring to Trading Account and Profit and Loss Account.
- h) **Financial Statements:-** Financial statement can now be easily prepared which will exhibit the true financial position and operating results.

1.4 OBJECTIVES OF ACCOUNTING

The main objective of Accounting is to provide financial information to stakeholders. This financial information is normally given via financial statements, which are prepared on the basis of Generally Accepted Accounting Principles (GAAP). There are various accounting standards developed by professional accounting bodies all over the world. In India, these are governed by The Institute of Chartered Accountants of India, (ICAI). In the US, the American Institute of Certified Public Accountants

(AICPA) is responsible to lay down the standards. The Financial Accounting Standards Board (FASB) is the body that sets up the International Accounting Standards. These standards basically deal with accounting treatment of business transactions and disclosing the same in financial statements.

The following objectives of accounting will explain the width of the application of this knowledge stream:

- (a) To ascertain the amount of profit or loss made by the business i.e. to compare the income earned versus the expenses incurred and the net result thereof.
- (b) To know the financial position of the business i.e. to assess what the business owns and what it owes.
- (c) To provide a record for compliance with statutes and laws applicable.
- (d) To enable the readers to assess progress made by the business over a period of time.
- (e) To disclose information needed by different stakeholders

Let us now see which are different stakeholders of the business and what do they seek from the accounting information. This is shown in the following table.

Stakeholder	Interest in business	Accounting Information
Owners / Investors / existing and potential	Profits or losses	Financial statements, Cost Accounting records, Management Accounting reports
Lenders	Assessment of capability of the business to pay interest and principal of money lent. Basically, they monitor the solvency of business.	Financial statement and analysis thereof, reports forming part of accounts, valuation of assets given as security.
Customers and suppliers	Stability and growth of the business	Financial and Cash flow statements to assess ability of the business to offer better business terms and ability to supply the products and services
Government	Whether the business is complying with various legal requirements	Accounting documents such as vouchers, extracts of books, information of purchase, sales, employee obligations etc. and financial statements
Employees and trade unions	Growth and profitability	Financial statements for negotiating pay packages
Competitors	Performance and possible tie-ups in the era of mergers and acquisitions	Accounting information to find out possible synergies

1.4.1 Users of Accounting Information

Accounting provides information both to internal users and the external users. The internal users are all the organizational participants at all levels of management (i.e. top, middle and lower). Generally top level management requires information for planning, middle level management which requires information for controlling the operations. For internal use, the information is usually provided in the form of reports, for instance Cash Budget Reports, Production Reports, Idle Time Reports, Feedback Reports, whether to retain or replace an equipment decision reports, project appraisal report, and the like.

There are also the external users (e.g. Banks, Creditors). They do not have direct access to all the records of an enterprise, they have to rely on financial statements as the source of information. External users are basically, interested in the solvency and profitability of an enterprise.

1.4.2 Types of Accounting Information

Accounting information may be categorized in number of ways on the basis of purpose of accounting information, on the basis of measurement criteria and so on. The various types of accounting information are given below:



I. Accounting Information relating to financial transactions and events.

(a) Financial Position- Information about financial position is primarily provided in a balance sheet.

The financial position of an enterprise is affected by different factors, like -

- (i) Information about the economic resources controlled by the enterprise and its capacity in the past to alter these resources is useful in predicting the ability of the enterprise to generate cash and cash equivalents in the future.
- (ii) Information about financial structure is useful in predicting future borrowing needs and how future profits and cash flows will be distributed among those with an interest in the enterprise; it is also useful in predicting how successful the enterprise is likely to be in raising further finance.
- (iii) Information about liquidity and solvency is useful in predicting the ability of the enterprise to meet its financial commitments as they fall due. Liquidity refers to the availability of cash in the near future to meet financial commitments over this period. Solvency refers to the availability of cash over the longer term to meet financial commitments as they fall due.

(b) Financial Performance- Information about financial performance is primarily provided in a Statement of Profit and Loss which is also known as Income Statement.

Information about the performance of an enterprise and its profitability, is required in order to assess potential changes taking place in the economic resources that it is likely to control in the future. Information about variability of performance is also important in this regard. Information about performance is necessary in predicting the capacity to generate cash flows from its available resource. It is an important input in forming judgments about the effectiveness of an enterprise to utilize resources.

(c) Cash Flows—Information about cash flows is provided in the financial statements by means of a cash flow statement.

Information concerning cash flows is useful in providing the users with a basis to assess the ability of the enterprise to generate cash and cash equivalents and the needs of the enterprise to utilise those cash and cash equivalent.

These information may be classified as follows:

- (i) on the basis of Historical Cost , (ii) on the basis of Current Cost , (iii) on the basis of Realizable Value , (iv) on the basis of Present Value

II. Accounting information relating to cost of a product, operation or function.

III. Accounting information relating to planning and controlling the activities of an enterprise for internal reporting.

This information may further be classified as follows:

- (i) Information relating to Finance Area,
- (ii) Information relating to Production Area
- (iii) Information relating to Marketing Area
- (iv) Information relating to Personnel Area
- (v) Information relating to Other Areas (such as Research & Development)

IV. Accounting information relating to Social Effects of business decisions.

V. Accounting information relating to Environment and Ecology.

VI. Accounting information relating to Human Resources.

1.4.3 Qualitative Characteristics of Accounting Information

Qualitative characteristics are the attributes that make the information provided in financial statements useful to its users.

Qualitative Characteristics of Accounting Information can be segregated in the following categories

- (i) Reliability
- (ii) Relevance
- (iii) Materiality
- (iv) Understandability
- (v) Comparability

(i) Reliability - To be useful, information must also be reliable. Information has the quality of reliability when it is free from material error and bias and can be depended upon by users to represent faithfully that which it either portrays to represent or could reasonably be expected to represent. Information may be relevant but so unreliable in nature or representation that its recognition may be potentially misleading and so it becomes useless. Reliability of the financial statements is dependent on the following:

(a) Faithful Representation- To be reliable, information must represent faithfully the transactions and other events which either portrays to represent or could reasonably be expected to represent. Most financial information is subject to some risks of being less than faithful representation of that which it purports to portray. This is not due to bias, but rather to enhance difficulties either in identifying the transactions or other events to be measured in devising or applying measurements and presentation techniques that can convey messages that correspond with those transactions and events.

(b) Substance Over Form-If information is to represent faithfully the transactions and other events that it portrays to represent, it is necessary that they are accounted for and presented in accordance with their substance and economic reality and not merely by their legal forms. The substance of transactions or other events is not always consistent with that which is apart from their legal or contrived form.

(c) Neutrality - To be reliable the information contained in financial statements must be neutral. Financial statements are not neutral if by selective presentation of information, they influence the making of a decision or judgment in order to achieve a predetermined result or outcome.

(d) Prudence - The preparers of financial statements have to contend with uncertainties that inevitably surround many events and circumstances. Such uncertainties are recognized by the disclosure of their nature and extent and by exercise of prudence in the financial statements. Prudence is the inclusion of a degree of caution. In the exercise of judgement needed in making the estimate required under conditions of uncertainties so that assets or income are not overstated and liabilities or expenses are not understated. However, the exercise of prudence does not allow the creation of hidden reserves or excessive provisions, i.e. the deliberate understatement of assets or income or deliberate over statement of liabilities or expenses.

(e) Completeness - To be reliable the information in the financial statements must be complete within the bounds of materiality and cost. An omission can cause information to be false or misleading and thus, unreliable and deficient in terms of its relevance.

(ii) Relevance To be useful, information must be relevant to the decision-making needs of users. Information has the quality of relevance when it influences the economic decisions of the users by helping them to evaluate past, present or future events or confirming or correcting their past evaluation. The productive and confirmatory roles of information are interrelated. For example, information about the current level and structure of asset-holding has value to users when they endeavour to predict the ability of the enterprise to take advantage of opportunities and its ability to react to adverse situations. The same information plays a confirmatory role in respect of past prediction about, for example, the way in which the enterprise would be structured or the outcome of planned operations.



- (iii) **Materiality-** The relevance of information is affected by its nature and materiality. Information is material if its omission or mis-statement could influence the economic decisions of users made on the basis of financial statements. Materiality depends on the size of the item or error judged in the particular circumstance of its omission or mis-statement. Thus, materiality provides a threshold or a cut-off point rather than being a primary qualitative characteristic which information must have if it is to be useful.
- (iv) **Understandability** The information provided in financial statements must be easily understandable by users. For this purpose, users are assumed to have a reasonable knowledge of business and economic activities, accounting and a willingness to study the information with reasonable diligence. However, information about complex matters that should be included in the financial statements because of its relevance to the decision making needs of users and should not be excluded merely on the grounds that it may be too difficult for certain users to understand.
- (v) **Comparability** The financial statements of an enterprise should be comparable. For this purpose users should be informed of the accounting policies, any changes in those policies and the effects of such changes. This qualitative characteristic requires pursuance of consistency in choosing accounting policies. Lack of consistency may disturb the comparability quality of the financial statement information. Accordingly, accounting standard on disclosure of accounting policies consider consistency as a fundamental accounting assumption along with accrual and going concern.

1.5 BASIC ACCOUNTING TERMS

In order to understand the subject matter clearly, one must grasp the following common expressions always used in business accounting. The aim here is to enable the student to understand with these often used concepts before we embark on accounting procedures and rules. You may note that these terms can be applied to any business activity with the same connotation.

- (i) **Transaction:** It means an event or a business activity which involves exchange of money or money's worth between parties. The event can be measured in terms of money and changes the financial position of a person e.g. purchase of goods would involve receiving material and making payment or creating an obligation to pay to the supplier at a future date. Transaction could be a cash transaction or credit transaction. When the parties settle the transaction immediately by making payment in cash or by cheque, it is called a cash transaction. In credit transaction, the payment is settled at a future date as per agreement between the parties.
- (ii) **Goods/Services :** These are tangible article or commodity in which a business deals. These articles or commodities are either bought and sold or produced and sold. At times, what may be classified as 'goods' to one business firm may not be 'goods' to the other firm. e.g. for a machine manufacturing company, the machines are 'goods' as they are frequently made and sold. But for the buying firm, it is not 'goods' as the intention is to use it as a long term resource and not sell it. Services are intangible in nature which are rendered with or without the object of earning profits.
- (iii) **Profit:** The excess of Revenue Income over expense is called profit. It could be calculated for each transaction or for business as a whole.
- (iv) **Loss:** The excess of expense over income is called loss. It could be calculated for each transaction or for business as a whole.
- (v) **Asset:** Asset is a resource owned by the business with the purpose of using it for generating future profits. Assets can be Tangible and Intangible. Tangible Assets are the Capital assets which have some physical existence. They can, therefore, be seen, touched and felt, e.g. Plant and Machinery, Furniture and Fittings, Land and Buildings, Books, Computers, Vehicles, etc. The capital assets which have no physical existence and whose value is limited by the rights and anticipated benefits that possession confers upon the owner are known as Intangible Assets. They cannot be seen or felt although they help to generate revenue in future, e.g. Goodwill, Patents, Trade-marks, Copyrights, Brand Equity, Designs, Intellectual Property, etc.

Assets can also be classified into Current Assets and Non-Current Assets.

Current Assets – An asset shall be classified as Current when it satisfies any of the following :

- (a) It is expected to be realised in, or is intended for sale or consumption in the Company's normal Operating Cycle,
- (b) It is held primarily for the purpose of being traded ,
- (c) It is due to be realised within 12 months after the Reporting Date, or
- (d) It is Cash or Cash Equivalent unless it is restricted from being exchanged or used to settle a Liability for at least 12 months after the Reporting Date.

Non-Current Assets – All other Assets shall be classified as Non-Current Assets. e.g. Machinery held for long term etc.

- (vi) **Liability:** It is an obligation of financial nature to be settled at a future date. It represents amount of money that the business owes to the other parties. E.g. when goods are bought on credit, the firm will create an obligation to pay to the supplier the price of goods on an agreed future date or when a loan is taken from bank, an obligation to pay interest and principal amount is created. Depending upon the period of holding, these obligations could be further classified into Long Term on non-current liabilities and Short Term or current liabilities.

Current Liabilities – A liability shall be classified as Current when it satisfies any of the following :

- (a) It is expected to be settled in the Company's normal Operating Cycle,
- (b) It is held primarily for the purpose of being traded,
- (c) It is due to be settled within 12 months after the Reporting Date, or
- (d) The Company does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date (Terms of a Liability that could, at the option of the counterparty, result in its settlement by the issue of Equity Instruments do not affect its classification)

Non-Current Liabilities – All other Liabilities shall be classified as Non-Current Liabilities. E.g. Loan taken for 5 years, Debentures issued etc.

- (vii) **Internal Liability :** These represent proprietor's equity, i.e. all those amount which are entitled to the proprietor, e.g., Capital, Reserves, Undistributed Profits, etc.
- (viii) **Working Capital :** In order to maintain flows of revenue from operation, every firm needs certain amount of current assets. For example, cash is required either to pay for expenses or to meet obligation for service received or goods purchased, etc. by a firm. On identical reason, inventories are required to provide the link between production and sale. Similarly, Accounts Receivable generate when goods are sold on credit. Cash, Bank, Debtors, Bills Receivable, Closing Stock, Prepayments etc. represent current assets of firm. The whole of these current assets form the working capital of a firm which is termed as Gross Working Capital.

$$\begin{aligned}\text{Gross Working capital} &= \text{Total Current Assets} \\ &= \text{Long term internal liabilities plus long term debts plus the current liabilities} \\ &\quad \text{minus the amount blocked in the fixed assets.}\end{aligned}$$

There is another concept of working capital. Working capital is the excess of current assets over current liabilities. That is the amount of current assets that remain in a firm if all its current liabilities are paid. This concept of working capital is known as Net Working Capital which is a more realistic concept.

Working Capital (Net) = Current Assets – Currents Liabilities.

- (ix) **Contingent Liability :** It represents a potential obligation that could be created depending on the outcome of an event. E.g. if supplier of the business files a legal suit, it will not be treated as a liability because no obligation is created immediately. If the verdict of the case is given in favour of the supplier then only the obligation is created. Till that it is treated as a contingent liability. Please note



that contingent liability is not recorded in books of account, but disclosed by way of a note to the financial statements.

- (x) **Capital** : It is amount invested in the business by its owners. It may be in the form of cash, goods, or any other asset which the proprietor or partners of business invest in the business activity. From business point of view, capital of owners is a liability which is to be settled only in the event of closure or transfer of the business. Hence, it is not classified as a normal liability. For corporate bodies, capital is normally represented as share capital.
- (xi) **Drawings** : It represents an amount of cash, goods or any other assets which the owner withdraws from business for his or her personal use. e.g. if the life insurance premium of proprietor or a partner of business is paid from the business cash, it is called drawings. Drawings will result in reduction in the owners' capital. The concept of drawing is not applicable to the corporate bodies like limited companies.
- (xii) **Net worth** : It represents excess of total assets over total liabilities of the business. Technically, this amount is available to be distributed to owners in the event of closure of the business after payment of all liabilities. That is why it is also termed as Owner's equity. A profit making business will result in increase in the owner's equity whereas losses will reduce it.
- (xiii) **Non-current Investments** : Non-current Investments are investments which are held beyond the current period as to sale or disposal. e. g. Fixed Deposit for 5 years.
- (xiv) **Current Investments** : Current investments are investments that are by their nature readily realizable and are intended to be held for not more than one year from the date on which such investment is made. e. g. 11 months Commercial Paper.
- (xv) **Debtor** : The sum total or aggregate of the amounts which the customer owe to the business for purchasing goods on credit or services rendered or in respect of other contractual obligations, is known as Sundry Debtors or Trade Debtors, or Trade Payable, or Book-Debts or Debtors. In other words, Debtors are those persons from whom a business has to recover money on account of goods sold or service rendered on credit. These debtors may again be classified as under:
 - (i) Good debts : The debts which are sure to be realized are called good debts.
 - (ii) Doubtful Debts : The debts which may or may not be realized are called doubtful debts.
 - (iii) Bad debts : The debts which cannot be realized at all are called bad debts.It must be remembered that while ascertaining the debtors balance at the end of the period certain adjustments may have to be made e.g. Bad Debts, Discount Allowed, Returns Inwards, etc.
- (xvi) **Creditor** : A creditor is a person to whom the business owes money or money's worth. e.g. money payable to supplier of goods or provider of service. Creditors are generally classified as Current Liabilities.
- (xvii) **Capital Expenditure** : This represents expenditure incurred for the purpose of acquiring a fixed asset which is intended to be used over long term for earning profits there from. e. g. amount paid to buy a computer for office use is a capital expenditure. At times expenditure may be incurred for enhancing the production capacity of the machine. This also will be a capital expenditure. Capital expenditure forms part of the Balance Sheet.
- (xviii) **Revenue expenditure** : This represents expenditure incurred to earn revenue of the current period. The benefits of revenue expenses get exhausted in the year of the incurrence. e.g. repairs, insurance, salary & wages to employees, travel etc. The revenue expenditure results in reduction in profit or surplus. It forms part of the Income statement.
- (xix) **Balance Sheet** : It is the statement of financial position of the business entity on a particular date. It lists all assets, liabilities and capital. It is important to note that this statement exhibits the state of affairs of the business as on a particular date only. It describes what the business owns and what the business owes to outsiders (this denotes liabilities) and to the owners (this denotes capital). It is prepared after incorporating the resulting profit/losses of Income statement.

- (xx) **Profit and Loss Account or Income Statement** : This account shows the revenue earned by the business and the expenses incurred by the business to earn that revenue. This is prepared usually for a particular accounting period, which could be a month, quarter, a half year or a year. The net result of the Profit and Loss Account will show profit earned or loss suffered by the business entity.
- (xxi) **Trade Discount** : It is the discount usually allowed by the wholesaler to the retailer computed on the list price or invoice price. e.g. the list price of a TV set could be ₹ 15000. The wholesaler may allow 20% discount thereof to the retailer. This means the retailer will get it for ₹ 12000 and is expected to sale it to final customer at the list price. Thus the trade discount enables the retailer to make profit by selling at the list price. Trade discount is not recorded in the books of accounts. The transactions are recorded at net values only. In above example, the transaction will be recorded at ₹ 12000 only.
- (xxii) **Cash Discount** : This is allowed to encourage prompt payment by the debtor. This has to be recorded in the books of accounts. This is calculated after deducting the trade discount. e.g. if list price is ₹ 15000 on which a trade discount of 20% and cash discount of 2% apply, then first trade discount of ₹ 3000 (20% of ₹ 15000) will be deducted and the cash discount of 2% will be calculated on ₹ 12000 (₹15000 – ₹ 3000). Hence the cash discount will be ₹ 240/- (2% of ₹ 12000) and net payment will be ₹ 11,760 (₹12,000 - ₹ 240)

Let us see if we can apply these in the following examples.

Illustration 1

Fill in the blanks:

- The cash discount is allowed by _____ to the _____.
- Profit means excess of _____ over _____.
- Debtor is a person who _____ to others.
- In a credit transaction, the buyer is given a _____ facility.
- The fixed asset is generally held for _____.
- The current liabilities are obligations to be settled in _____ period.
- The withdrawal of money by the owner of business is called _____.
- The amount invested by owners into business is called _____.
- Transaction means exchange of money or money's worth for _____.
- The net result of an income statement is _____ or _____.
- The _____ shows financial position of the business as on a particular date.
- The _____ discount is never entered in the books of accounts.
- Vehicles represent _____ expenditure while repairs to vehicle would mean _____ expenditure.
- Net worth is excess of _____ over _____.

Answers:

- creditor, debtor
- income, expenditure
- Owes
- Credit
- Longer period
- Short
- Drawings



- (h) Capital
- (i) Value
- (j) Profit, loss
- (k) Balance sheet
- (l) Trade
- (m) Capital, revenue
- (n) Total assets, total liabilities

Illustration 2.

Give one word or a term used to describe the following:-

- (a) An exchange of benefit for value
- (b) A transaction without immediate cash settlement.
- (c) Commodities in which a business deals.
- (d) Excess of expenditure over income.
- (e) Things of value owned by business to earn future profits.
- (f) Amount owed by business to others.
- (g) An obligation which may or may not materialise.
- (h) An allowance by a creditor to debtor for prompt payment.
- (i) Assets like brand value, copy rights, goodwill

Answers

- (a) Transaction, (b) credit transaction, (c) goods, (d) loss, (e) Assets, (f) liability, (g) contingent liability, (h) cash discount, (i) intangible assets

1.6. GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

A widely accepted set of rules, conventions, standards, and procedures for reporting financial information, as established by the Financial Accounting Standards Board are called Generally Accepted Accounting Principles (GAAP). These are the common set of accounting principles, standards and procedures that companies use to compile their financial statements. GAAP are a combination of standards (set by policy boards) and simply the commonly accepted ways of recording and reporting accounting information.

GAAP is to be followed by companies so that investors have a optimum level of consistency in the financial statements they use when analyzing companies for investment purposes. GAAP cover such aspects like revenue recognition, balance sheet item classification and outstanding share measurements.

1.7 ACCOUNTING CONCEPTS AND CONVENTIONS

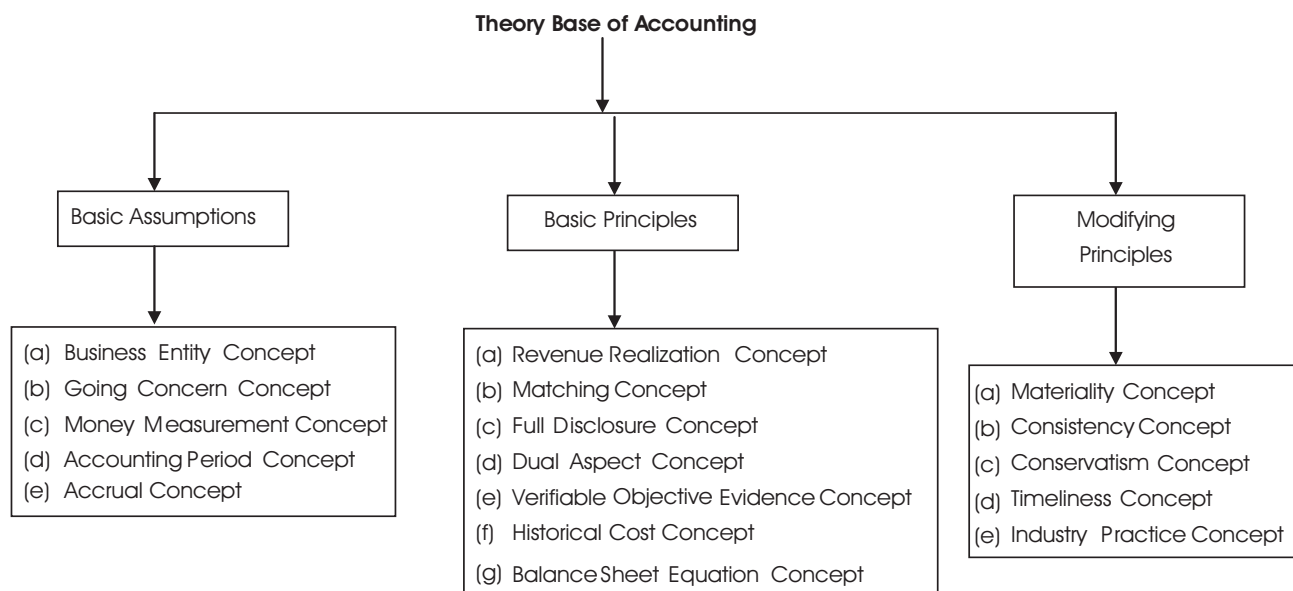
As seen earlier, the accounting information is published in the form of financial statements. The three basic financial statements are

- (i) The Profit & Loss Account that shows net business result i.e. profit or loss for a certain periods
- (ii) The Balance Sheet that exhibits the financial strength of the business as on a particular dates
- (iii) The Cash Flow Statement that describes the movement of cash from one date to the other.

As these statements are meant to be used by different stakeholders, it is necessary that the information contained therein is based on definite principles, concrete concepts and well accepted convention.

Accounting principles are basic guidelines that provide standards for scientific accounting practices and procedures. They guide as to how the transactions are to be recorded and reported. They assure uniformity and understandability. Accounting concepts lay down the foundation for accounting principles. They are ideas essentially at mental level and are self-evident. These concepts ensure recording of financial facts on sound bases and logical considerations. Accounting conventions are methods or procedures that are widely accepted. When transactions are recorded or interpreted, they follow the conventions. Many times, however, the terms-principles, concepts and conventions are used interchangeably.

Professional Accounting Bodies have published statements of these concepts. Over years, many of these concepts are being challenged as outdated. Yet, no major deviations have been made as yet. Path breaking ideas have emerged and the accounting standards of modern days do require companies to record and report transactions which may not be necessarily based on concepts that are in vogue for long. It is essential to study accounting from the basic levels and understand these concepts in entirety.



A. BASIC ASSUMPTIONS

(a) Business entity concept

As per this concept, the business is treated as distinct and separate from the individuals who own or manage it. When recording business transactions, the important question is how will it affect the business entity? How they affect the persons who own it or run it or otherwise associated with it is irrelevant. Application of this concept enables recording of transactions of the business entity with its owners or managers or other stakeholders. For example, if the owner pays his personal expenses from business cash, this transaction can be recorded in the books of business entity. This transaction will take the cash out of business and also reduce the obligation of the business towards the owner.

At times it is difficult to separate owners from the business. Consider an individual, who runs a small retail outlet. In the eyes of law, there is no distinction made between financial affairs of the outlet with that of the individual. The creditors of the retail outlet can sue the individual and collect his claim from personal resources of the individual. However, in accounting, the records are kept as distinct for the retail outlet and the individual respectively. For certain forms of business entities, such as limited companies this distinction is easier. The limited companies are separate legal persons in the eyes of law as well.

The entity concept requires that all the transactions are to be viewed, interpreted and recorded from 'business entity' point of view. An accountant steps into the shoes of the business entity and decides to account for the transactions. The owner's capital is the obligation of business and it has to be paid



back to the owner in the event of business closure. Also, the profit earned by the business will belong to the owner and hence is treated as owner's equity.

(b) Going Concern Concept

The basic principles of this concept is that business is assumed to exist for an indefinite period and is not established with the objective of closing it down. So unless there is good evidence to the contrary, the accountant assumes that a business entity is a 'going concern' - that it will continue to operate as usual for a longer period of time. It will keep getting money from its customers, pay its creditors, buy and sell goods, use assets to earn profits in future. If this assumption is not considered, one will have to constantly value the worth of the assets and resource. This is not practicable. This concept enables the accountant to carry forward the values of assets and liabilities from one accounting period to the other without asking the question about usefulness and worth of the assets and recoverability of the receivables.

The going concern concept forms a sound basis for preparation of a balance sheet.

(c) Money Measurement Concept

A business transaction will always be recorded if it can be expressed in terms of money. The advantage of this concept is that different types of transactions could be recorded as homogenous entries with money as common denominator. A business may own ₹ 3 Lacs cash, 1500 kg of raw material, 10 vehicles, 3 computers etc. Unless each of these is expressed in terms of money, we cannot find out the assets owned by the business. When expressed in the common measure of money, transactions could be added or subtracted to find out the combined effect. In the above example, we could add values of different assets to find the total assets owned.

The application of this concept has a limitation. When transactions are recorded in terms of money, we only consider the absolute value of the money. The real value of the money may fluctuate from time to time due to inflation, exchange rate changes, etc. This fact is not considered when recording the transaction.

(d) The Accounting Period Concept

We have seen that as per the going-concern concept the business entity is assumed to have an indefinite life. Now if we were to assess whether the business has made profit or loss, should we wait until this indefinite period is over? Would it mean that we will not be able to assess the business performance on an ongoing basis? Does it deprive all stakeholders the right to the accounting information? Would it mean that the business will not pay income tax as no income will be computed?

To circumvent this problem, the business entity is supposed to be paused after a certain time interval. This time interval is called an accounting period. This period is usually one year, which could be a calendar year i.e. 1st January to 31st December or it could be a fiscal year in India as 1st April to 31st March. The business organizations have the freedom to choose their own accounting year. For certain organizations, reporting of financial information in public domain are compulsory. In India, listed companies must report their quarterly unaudited financial results and yearly audited financial statements. For internal control purpose, many organizations prepare monthly financial statements. The modern computerized accounting systems enable the companies to prepare real-time online financials at the click of button.

Businesses are living, continuous organisms. The splitting of the continuous stream of business events into time periods is thus somewhat arbitrary. There is no significant change just because one accounting period ends and a new one begins. This results into the most difficult problem of accounting of how to measure the net income for an accounting period. One has to be careful in recognizing revenue and expenses for a particular accounting period. Subsequent section on accounting procedures will explain how one goes about it in practice.

(e) The Accrual Concept

The accrual concept is based on recognition of both cash and credit transactions. In case of a cash transaction, owner's equity is instantly affected as cash either is received or paid. In a credit transaction, however, a mere obligation towards or by the business is created. When credit transactions exist (which

is generally the case), revenues are not the same as cash receipts and expenses are not same as cash paid during the period.

When goods are sold on credit as per normally accepted trade practices, the business gets the legal right to claim the money from the customer. Acquiring such right to claim the consideration for sale of goods or services is called accrual of revenue. The actual collection of money from customer could be at a later date.

Similarly, when the business procures goods or services with the agreement that the payment will be made at a future date, it does not mean that the expense effect should not be recognized. Because an obligation to pay for goods or services is created upon the procurement thereof, the expense effect also must be recognized.

Today's accounting systems based on accrual concept are called as Accrual system or mercantile system of accounting.

B. BASIC PRINCIPLES

(a) The Revenue Realisation Concept

While the conservatism concept states whether or not revenue should be recognized, the concept of realisation talks about what revenue should be recognized. It says amount should be recognized only to the tune of which it is certainly realizable. Thus, mere getting an order from the customer won't make it eligible to recognize as revenue. The reasonable certainty of realizing the money will come only when the goods ordered are actually supplied to the customer and he is billed. This concept ensures that income unearned or unrealized will not be considered as revenue and the firms will not inflate profits.

Consider that a store, sales goods for ₹ 25 lacs during a month on credit. The experience and past data shows that generally 2% of the amount is not realized. The revenue to be recognized will be ₹ 24.50 lacs. Although conceptually the revenue to be recognized at this value, in practice the doubtful amount of ₹ 50 thousand (2% of ₹ 25 lacs) is often considered as expense.

(b) The Matching Concept

As we have seen the sale of goods has two effects: (i) a revenue effect, which results in increase in owner's equity by the sales value of the transaction and (ii) an expense effect, which reduces owner's equity by the cost of goods sold, as the goods go out of the business. The net effect of these two effects will reflect either profit or loss. In order to correctly arrive at the net result, both these aspects must be recognized during the same accounting period. One cannot recognize only the revenue effect thereby inflating the profit or only the expense effect which will deflate the profit. Both the effects must be recognized in the same accounting period. This is the principle of matching concept.

To generalize, when a given event has two effects – one on revenue and the other on expense, both must be recognized in the same accounting period.

(c) Full Disclosure Concept

As per this concept, all significant information must be disclosed. Accounting data should properly be clarified, summarized, aggregated and explained for the purpose of presenting the financial statements which are useful for the users of accounting information. Practically, this principle emphasizes on the materiality, objectivity and consistency of accounting data which should disclose the true and fair view of the state of affairs of a firm. This principle is going to be popular day by day as the Companies Act, 1956 makes provisions for disclosure of essential information about accounting data and as such, concealment of material information, at present, is not very easy. Thus, full disclosure must be made for such material information which are useful to the users of accounting information.

(d) Dual Aspect Concept

The assets represent economic resources of the business, whereas the claims of various parties on business are called obligations. The obligations could be towards owners (called as owner's equity) and towards parties other than the owners (called as liabilities).



When a business transaction happens, it will involve use of one or the other resource of the business to create or settle one or more obligations. e.g. consider Mr. Suresh starts a business with the investment of ₹ 25 lacs. Here, the business has got a resource of cash worth ₹ 25 lacs (which is its asset), but at the same time it has created an obligation of business towards Mr. Suresh that in the event of business closure, the money will be paid back to him. This could be shown as:

$$\text{Assets} = \text{Liabilities} + \text{Capital}$$

In other words,

Cash brought in by Mr. Suresh (₹ 25 lacs) = Liability of business towards Mr. Suresh (₹ 25 lacs)

We know that liability of the business could be towards owners and parties other than owners, this equation could be re-written as:

$$\begin{aligned} \text{Assets} &= \text{Liabilities} + \text{Owner's equity} \\ \text{Cash ₹ 2500000} &= \text{Liabilities ₹ nil} + \text{Mr. Suresh's equity ₹ 25,00,000} \end{aligned}$$

This is the fundamental accounting equation shown as formal expression of the dual aspect concept. This powerful concept recognizes that every business transaction has dual impact on the financial position. Accounting systems are set up to simultaneously record both these aspects of every transaction; that is why it is called as Double-entry system of accounting. In its present form the double entry system of accounting owes its existence to an Italian expert Mr. Luca Pacioli in the year 1495.

Continuing with our example of Mr. Suresh, now let us consider he borrows ₹ 15 lacs from bank. The dual aspect of this transaction-on one hand the business cash will increase by ₹ 15 lacs and a liability towards the bank will be created for ₹ 15 lacs.

$$\begin{aligned} \text{Assets} &= \text{Liabilities} + \text{Owner's equity} \\ \text{Cash ₹ 40,00,000} &= \text{Liabilities ₹ 15,00,000} + \text{Mr. Suresh's equity ₹ 25,00,000} \end{aligned}$$

The student must note that the dual aspect concept entails recognition of the two effects of each transaction. These effects are of equal amount and reverse in nature. How to decide these two aspects? The golden rules of accounting are used to arrive at this decision. After recording both aspects of the transaction, the basic accounting equation will always balance or be equal.

The above concepts find the application in preparation of the balance sheet which is the statement of assets and liabilities as on a particular date. We will now see some more concepts that are important for preparation of Profit and Loss Account or Income Statement.

(e) Verifiable Objective Evidence Concept

Under this principle, accounting data must be verified. In other words, documentary evidence of transactions must be made which are capable of verification by an independent expert. In the absence of such verification, the data which will be available will neither be reliable nor be dependable, i.e., these should be biased data. Verifiability and objectivity express dependability, reliability and trustworthiness that are very useful for the purpose of displaying the accounting data and information to the users.

(f) Historical Cost Concept

Business transactions are always recorded at the actual cost at which they are actually undertaken. The basic advantage is that it avoids an arbitrary value being attached to the transactions. Whenever an asset is bought, it is recorded at its actual cost and the same is used as the basis for all subsequent accounting purposes such as charging depreciation on the use of asset, e.g. if a production equipment is bought for ₹ 1.50 crores, the asset will be shown at the same value in all future periods when disclosing the original cost. It will obviously be reduced by the amount of depreciation, which will be calculated with reference to the actual cost. The actual value of the equipment may rise or fall subsequent to the purchase, but that is considered irrelevant for accounting purpose as per the historical cost concept.

The limitation of this concept is that the balance sheet does not show the market value of the assets owned by the business and accordingly the owner's equity will not reflect the real value. However, on an ongoing basis, the assets are shown at their historical costs as reduced by depreciation.

(g) Balance Sheet Equation Concept

Under this principle, all which has been received by us must be equal to that has been given by us and needless to say that receipts are clarified as debits and giving is clarified as credits. The basic equation, appears as :-

$$\text{Debit} = \text{Credit}$$

Naturally every debit must have a corresponding credit and vice-e-versa. So, we can write the above in the following form –

$$\text{Expenses} + \text{Losses} + \text{Assets} = \text{Revenues} + \text{Gains} + \text{Liabilities}$$

And if expenses and losses, and incomes and gains are set off, the equation takes the following form –

$$\text{Asset} = \text{Liabilities}$$

$$\text{or, Asset} = \text{Equity} + \text{External Liabilities}$$

i.e., the Accounting Equation.

C. MODIFYING PRINCIPLES

(a) The Concept of Materiality

This is more of a convention than a concept. It proposes that while accounting for various transactions, only those which may have material effect on profitability or financial status of the business should have special consideration for reporting. This does not mean that the accountant should exclude some transactions from recording. e.g. even ₹ 20 worth conveyance paid must be recorded as expense. What this convention claims is to attach importance to material details and insignificant details should be ignored while deciding certain accounting treatment. The concept of materiality is subjective and an accountant will have to decide on merit of each case. Generally, the effect is said to be material, if the knowledge of an event would influence the decision of an informed stakeholder.

The materiality could be related to information, amount, procedure and nature. Error in description of an asset or wrong classification between capital and revenue would lead to materiality of information. Say, If postal stamps of ₹ 500 remain unused at the end of accounting period, the same may not be considered for recognizing as inventory on account of materiality of amount. Certain accounting treatments depend upon procedures laid down by accounting standards. Some transactions are by nature material irrespective of the amount involved. e.g. audit fees, loan to directors.

(b) The Concept of Consistency

This concept advocates that once an organization decides to adopt a particular method of revenue or expense recognition in line with the other concepts, the same should be consistently applied year after year, unless there is a valid reason for change in the method. Lack of consistency would result in the financial information becoming non-comparable between the different accounting periods. The insistence of this concept would result in avoidance of window dressing the results by choosing the accounting method by convenience and thereby either inflating or understating net income.

Consider an example. An asset of ₹ 10 lacs is purchased by a business. It is estimated to have useful life of 5 years. It will follow that the asset will be depreciated over a period of 5 years at the rate of ₹ 2 lacs every year. The estimate of useful life and the rate of depreciation cannot be changed from one period to the other without a valid reason. Suppose the firm applies the same depreciation rate for the first three years and due to change in technology the asset becomes obsolete, the whole of the remaining amount could be expensed out in the fourth year.



However, it may be difficult to be consistent if the business entities have two factories in different countries which have different statutory requirement for accounting treatment.

(c) The Conservatism Concept

Accountants who prepare financial statements of the business, like other human being, would like to give a favourable report on how well the business has performed during an accounting period. However, prudent reporting based on skepticism builds confidence in the results and in the long run best serves all the divergent interests of users of financial statements. This philosophy of prudence leads to the conservatism concept.

The concept underlines the prudence of under-stating than over-stating the net income of an entity for a period and the net assets as on a particular date. This is because business is done in situations of uncertainty. For years, this concept was meant to “anticipate no profits but recognize all losses”. This can be stated as

- (i) Delay in recognizing income unless one is reasonably sure
- (ii) Immediately recognize expenses when reasonably sure

This, of course, does not mean to overdo and create window dressing in reporting. e.g. if the business has sold ₹ 20 Lacs worth goods on the last day of accounting period and also received a cheque for the same, one cannot argue that the revenue should not be recognized as it is not certain whether the cheque will be cleared by the bank. One cannot stretch the conservatism concept too much. But at the same time, if the business has to receive ₹ 5 lacs from a customer to whom goods were sold quite some time ago and no payments are forthcoming, then while determining the net income for the period, the accountant must judge the likelihood of the recoverability of this money and the prudence will prevail to make a provision for this amount as doubtful debtors.

Let us take another example. A business had purchased goods for ₹ 10 lacs before the end of an accounting period. If sold at the usual selling price, the goods would fetch the price of ₹ 12.50 lacs. Due to innovative product introduced by the competition, the goods are likely to be sold for ₹ 9 lacs only. At what value should the goods be shown in the balance sheet? Would it be at ₹ 10 lacs being the actual cost of buying? Or would it be at ₹ 9 lacs? Here, the conservatism principle will come in play. The stock of goods will be valued at ₹ 9 lacs, being the lower of cost or net realisable value, as per AS-2.

(d) Timeliness Concept

Under this principle, every transaction must be recorded in proper time. Normally, when the transaction is made, the same must be recorded in the proper books of accounts. In short, transaction should be recorded date-wise in the books. Delay in recording such transaction may lead to manipulation, misplacement of vouchers, misappropriation etc. of cash and goods. This principle is followed particularly while verifying day to day cash balance. Principle of timeliness is also followed by banks, i.e. every bank verifies the cash balance with their cash book and within the day, the same must be completed.

(e) Industry Practice

As there are different types of industries, each industry has its own characteristics and features. There may be seasonal industries also. Every industry follows the principles and assumptions of accounting to perform their own activities. Some of them follow the principles, concepts and conventions in a modified way. The accounting practice which has always prevailed in the industry is followed by it. e.g. Electric supply companies, Insurance companies maintain their accounts in a specific manner. Insurance companies prepare Revenue Account just to ascertain the profit/loss of the company and not Profit and Loss Account. Similarly, non trading organizations prepare Income and Expenditure Account to find out Surplus or Deficit.

CONCLUSION

The above paragraphs bring out essentially broad concepts and conventions that lay down principles to be followed for accounting of business transaction. While going through the different topics, students

are advised to keep track of concepts applicable for various accounting treatment. One would have by now understood the importance of these concepts in preparation of basic financial statements. More clarity will emerge as one explores the ocean of different business transactions arising out of complex business situations. The legal and professional requirements also have their say in deciding the accounting treatment. Let us see if you can apply these concepts in the following illustrations.

Illustration 3.

Recognise the accounting concept in the following:

- (1) The business will run for an indefinite period.
- (2) The business is distinct and separate from its owners.
- (3) The transactions are recorded at their original cost.
- (4) The transactions recorded are those that can be expressed in money terms.
- (5) Revenues will be recognized only if there is reasonable certainty that it will be paid for.
- (6) Accounting treatment once decided should be followed period after period.
- (7) Every transaction has two effects to be recorded in books of accounts.
- (8) Transactions are recorded even if an obligation is created and actual cash is not involved.
- (9) Stock of goods is valued at lower of its cost and realizable value.
- (10) Effects of an event must be recognized in the same accounting period.

1.8 EVENTS AND TRANSACTIONS

Event is a transaction or change recognized on the financial statements of an accounting entity. Accounting events can be either external or internal. An external event would occur with an outside party, such as the purchase or sales of a good. An internal event would involve changes in the accounting entity's records, such as adjusting an account on the financial statements.

An accounting event is any financial event that would impact the account balances of a company's financial statements. Every time the company uses or receives cash, or adjusts an entry in its accounting records, an accounting event has occurred.

1.8.1 Transaction vs. Events

Transactions is exchange of an asset with consideration of money value while events is any thing in general purpose which occur at specific time and particular place. All transactions are events but all events are not transactions. This is because in order events to be called transaction an event must involve exchange of values.

1.9 VOUCHER

It is a written instrument that serves to confirm or witness (vouch) for some fact such as a transaction. Commonly, a voucher is a document that shows goods have bought or services have been rendered, authorizes payment, and indicates the ledger account(s) in which these transactions have to be recorded.

1.9.1 Types of Voucher - Normally the following types of vouchers are used. i.e.:

- (i) Receipt Voucher
- (ii) Payment Voucher
- (iii) Non-Cash or Transfer Voucher
- (iv) Supporting Voucher

(i) Receipt Voucher

Receipt voucher is used to record cash or bank receipt. Receipt vouchers are of two types. i.e.

- (a) Cash receipt voucher – it denotes receipt of cash
- (b) Bank receipt voucher – it indicates receipt of cheque or demand draft



(ii) Payment Voucher

Payment voucher is used to record a payment of cash or cheque. Payment vouchers are of two types. i.e.

- (a) Cash Payment voucher – it denotes payment of cash
- (b) Bank Payment voucher – it indicates payment by cheque or demand draft.

(iii) Non Cash Or Transfer Voucher

These vouchers are used for non-cash transactions as documentary evidence. e.g., Goods sent on credit.

(iv) Supporting Vouchers

These vouchers are the documentary evidence of transactions that have happened.

1.9.2 Source Documents

Vouchers are the documentary evidence of the transactions so happened. Source documents are the basis on which transactions are recorded in subsidiary books i.e. source documents are the evidence and proof of transactions.

Name of the Book	Source document
(a) Cash Book	Cash Memos, Cash Receipts and issue vouchers
(b) Purchase Books	Inward invoice received from the creditors of goods
(c) Sales Book	Outward Invoice issued to Debtors
(d) Return Inward Book	Credit Note issued to Debtors and Debit Notes received from Debtors
(e) Returns Outward Book	Debit Note issued to creditors and Credit Note received from creditors.

1.10 THE CONCEPTS OF 'ACCOUNT', 'DEBIT' AND 'CREDIT'

One must get conversant with these terms before embarking to learn actual record-keeping based on the rules.

An 'Account' is defined as a summarised record of transactions related to a person or a thing. e.g. when the business deals with customers and suppliers, each of the customers and supplier will be a separate account. We must know that each one of us is identified as a separate account by the bank when we open an account with them. The account is also related to things – both tangible and intangible. e.g. land, building, equipment, brand value, trademarks etc. are some of the things. When a business transaction happens, one has to identify the 'account' that will be affected by it and then apply the rules to decide the accounting treatment.

Typically, an account is expressed as a statement in form of English letter 'T'. It has two sides. The left hand side is called as "Debit" side and the right hand side is called as "Credit" side. The debit is connoted as 'Dr' and the credit by 'Cr'. The convention is to write the Dr and Cr labels on both sides as shown below. Please see the following example:

Dr.	Cash Account	Cr.
Debit side		Credit side

Each side of the account will show effects, so that one can easily take totals of both sides and find out the difference between the two. Such difference in the two sides of an account is called 'balance'. If the total of debit side is more than the credit side, the balance is called as 'debit balance' and if the total of credit side is more than the debit side, the balance is called as 'credit balance'. If the debit and credit side are equal, the account will show 'nil balance'.

The balances are to be computed at the end of an accounting period. These balances are then considered for preparation of income statement and balance sheet. Let us see the example,

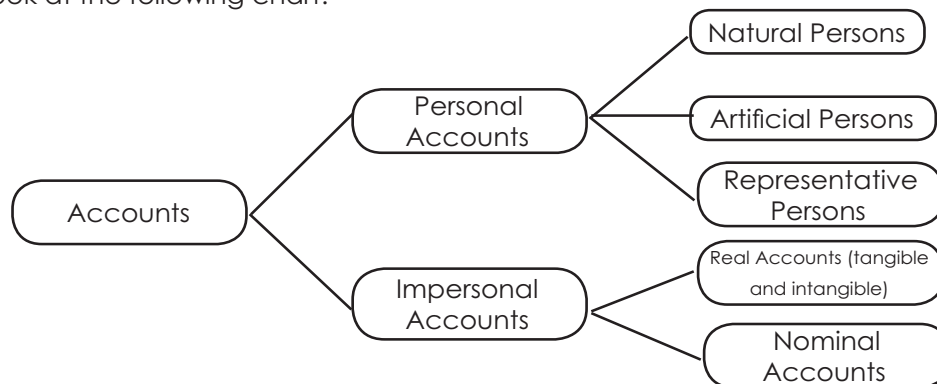
Cash Account			
Dr.			Cr.
Particulars	Amount ₹	Particulars	Amount ₹
Cash brought into business	1,00,000	Paid for goods purchased	50,000
Received for goods sold	25,000	Paid for rent	15,000
		Balance at the end	60,000
	1,25,000		1,25,000

It can be seen from the above example that the debit side of cash account shows the receipt of cash into the business and the credit side reflects the cash that has gone out of the business. What is the meaning of the balance at the end? Well, it shows that cash balance available in the business.

1.11 TYPES OF ACCOUNTS

We have seen that an account may be related to a person or a thing – tangible or intangible. While doing business transactions (that may be large in number and complex in nature), one may come across numerous accounts that are affected. How does one decide about accounting treatment for each of them? If common rules are to be applied to similar type of accounts, there must be a way to classify the account on the basis of their common characteristics.

Please take look at the following chart.



Let us see what each type of account means.

(1) Personal Account : As the name suggests these are accounts related to persons.

- These persons could be natural persons like Suresh's A/c, Anil's a/c, Rani's A/c etc.
- The persons could also be artificial persons like companies, bodies corporate or association of persons or partnerships etc. Accordingly, we could have Videocon Industries A/c, Infosys Technologies A/c, Charitable Trust A/c, Ali and Sons trading A/c, ABC Bank A/c, etc.
- There could be representative personal accounts as well. Although the individual identity of persons related to these is known, the convention is to reflect them as collective accounts. e.g. when salary is payable to employees, we know how much is payable to each of them, but collectively the account is called as 'Salary Payable A/c'. Similar examples are rent payable, Insurance prepaid, commission pre-received etc. The students should be careful to have clarity on this type and the chances of error are more here.

(2) Real Accounts : These are accounts related to assets or properties or possessions. Depending on their physical existence or otherwise, they are further classified as follows:-



- (a) **Tangible Real Account** – Assets that have physical existence and can be seen, and touched. e.g. Machinery A/c, Stock A/c, Cash A/c, Vehicle A/c, and the like.
 - (b) **Intangible Real Account** – These represent possession of properties that have no physical existence but can be measured in terms of money and have value attached to them. e.g. Goodwill A/c, Trade mark A/c, Patents & Copy Rights A/c, Intellectual Property Rights A/c and the like.
- (3) Nominal Account** : These accounts are related to expenses or losses and incomes or gains e.g. Salary and Wages A/c, Rent of Rates A/c, Travelling Expenses A/c, Commission received A/c, Loss by fire A/c etc.

1.12 THE ACCOUNTING PROCESS

There are two approaches for deciding when to write on the debit side of an account and when to write on the credit side of an account:

- A. American Approach/ Modern Approach
 - B. British Approach/ Traditional Approach/Double Entry System
- A. American approach** : In order to understand the rules of debit and credit according to this approach transactions are divided into the following five categories:
- (i) Transactions relating to owner, e.g., Capital – These are personal accounts
 - (ii) Transactions relating to other liabilities, e.g., suppliers of goods – These are mostly personal accounts
 - (iii) Transactions relating to assets, e.g., land, building, cash, bank, stock-in-trade, bills receivable – These are basically all real accounts
 - (iv) Transactions relating to expenses, e.g., rent, salary, commission, wages, cartage – These are nominal accounts
 - (v) Transactions relating to revenues, e.g., interest received, dividend received, sale of goods – These are nominal accounts

The rules of debit and credit in relation to these accounts are stated as under:

- (i) For Capital Account:
 - Debit means decrease
 - Credit means increase
- (ii) For any Liability Account:
 - Debit means decrease
 - Credit means increase
- (iii) For any Asset Account:
 - Debit means increase
 - Credit means decrease
- (iv) For any Expense Account:
 - Debit means increase
 - Credit means decrease
- (v) For any Revenue Account:
 - Debit means decrease
 - Credit means increase

A careful perusal of the above rules will reveal that meaning of debit is the same for the first three types of accounts on the one side and last two types of accounts on the other. It also reveals that in the first three cases 'debit' stands for decrease, and for increase in the last two cases. Similarly, 'credit' stands for increase in the first three cases and for decrease in the last two cases. The meaning of debit and credit has been diagrammatically illustrated as under:

ANY ASSET ACCOUNT

DEBIT	↑	CREDIT	↓
Record increase on this side		Record decrease on this side	

ANY CAPITAL ACCOUNT

DEBIT	↓	CREDIT	↑
Record decrease on this side		Record increase on this side	

ANY LIABILITY ACCOUNT

DEBIT	↓	CREDIT	↑
Record decrease on this side		Record increase on this side	

ANY REVENUE ACCOUNT

DEBIT	↓	CREDIT	↑
Record decrease on this side		Record increase on this side	

ANY EXPENSE ACCOUNT

DEBIT	↑	CREDIT	↓
Record increase on this side		Record decrease on this side	

The rules can be further compressed in the following way:

ANY CAPITAL, LIABILITY OR REVENUE ACCOUNT

DEBIT	↓	CREDIT	↑
Record decrease on this side		Record increase on this side	

ANY ASSET OR EXPENSE ACCOUNT

DEBIT	↑	CREDIT	↓
Record increase on this side		Record decrease on this side	

TO SUM UP

For Assets	Increase in Assets Decrease in Assets	Dr. Cr.
For Liabilities	Decrease in Liabilities Increase in Liabilities	Dr. Cr.
For Capital	Decrease in Capital Increase in Capital	Dr. Cr.
For Incomes	Decrease in Income Increase in Income	Dr. Cr.
For Expense	Increase in Expense Decrease in Expense	Dr. Cr.
For Stock	Increase in Stock Decrease in Stock	Dr. Cr.



Illustration 4.

Ascertain the debit and credit from the following particulars under Modern Approach.

- a) Started business with capital.
- b) Bought goods for cash.
- c) Sold goods for cash.
- d) Paid salary.
- e) Received Interest on Investment.
- f) Bought goods on credit from Mr. Y
- g) Paid Rent out of Personal cash.

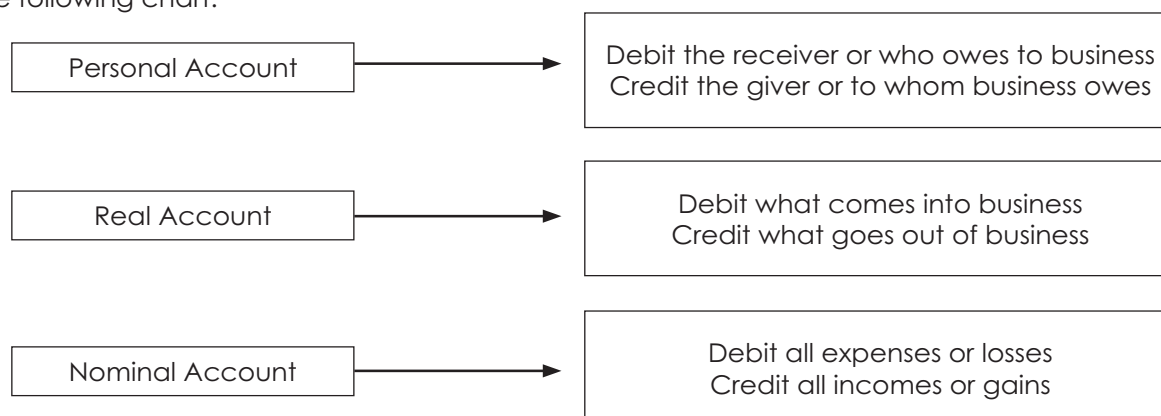
Solution.

	Effect of Transaction	Account	To be debited/Credited
(a)	Increase in Cash Increase in Capital	Cash A/c Capital A/c	Debit Credit
(b)	Increase in Stock Decrease in Cash	Purchase A/c Cash A/c	Debit Credit
(c)	Increase in Cash Decrease in Stock	Cash A/c Sale A/c	Debit Credit
(d)	Increase in Expense Decrease in Cash	Salary A/c Cash A/c	Debit Credit
(e)	Increase in Cash Increase in Income	Cash A/c Interest A/c	Debit Credit
(f)	Increase in Stock Increase in Liability	Purchase A/c Y A/c	Debit Credit
(g)	Increase in Expense Increase in Liability	Rent A/c Capital A/c	Debit Credit

B. British Approach or Double Entry System :

When one identifies the account that is getting affected by a transaction and type of that account, the next step is to apply the rules to decide whether the accounting treatment is to debit or credit that account. The Golden Rules will guide us whether the account is to be debited or credited.

There is one rule for each basic type of account i.e. personal, real and nominal. These rules are shown in the following chart.



We will see the following example to understand application of these rules. Consider the following transactions:

- (i) Mr. Vikas and Mrs. Vaibhavi who are husband and wife started offering consultancy services, by investing cash of ₹ 5,00,000 and ₹ 2,50,000 respectively.

From business point of view the two effects of this transaction are: first, the cash of ₹ 7,50,000 has come into business and second, there is an obligation of the business towards Mr. Vikas and Mrs. Vaibhavi.

Now, we know that Cash is real account, so rule for real account will apply. Cash has come into the business thereby increasing the asset. Hence, Cash Account should be debited.

We also know that Vikas's A/c and Vaibhavi's A/c are personal accounts, so rule for personal account will apply. (As both Vikas and Vaibhavi are givers of cash, their respective accounts will be credited.)

The answer will be	Debit Cash	₹ 7,50,000
	Credit Vikas's Capital	₹ 5,00,000
	Credit Vaibhavi's capital	₹ 2,50,000

Please note that the total debits and total credit match. It is the reflection of the dual aspect concept

- (ii) They buy office furniture of ₹ 25,000 for cash.

Here, the two effects are: First, Furniture (which is an asset) has come into the business and second cash (which is also an asset) that has gone out of business.

Since, both the accounts viz. Furniture and Cash are real accounts, rule for real account will apply. Furniture has come in (asset increase), it will be debited and cash has gone out (asset decrease), it will be credited.

The answer will be:-	Debit Furniture	₹ 25,000
	Credit Cash	₹ 25,000

- (iii) They open a current account with Citi Bank by depositing ₹ 1,00,000

Here, the two effects are: First, cash in hand has gone out (asset decrease) and second, the business cash at bank has increased (asset increase). Cash is a real account and Bank is a personal account.

The answer will be	Debit Citi Bank	₹ 1,00,000
	Credit Cash	₹ 1,00,000

- (iv) They pay office rent of ₹ 15,000 for the month by cheque drawn on their Citi Bank to M/s Realtors Properties.

Here, the two effects are: First, since the payment is made by cheque, bank balance will reduce (asset decrease), and second, rent being an item of expense rent expense will increase.

Citi Bank A/c being a personal A/c, rule for personal account will apply. Citi bank A/c will be credited.

Rent A/c being a nominal account, rule for nominal account will apply. Since, rent is paid, it is an expense. Hence, Rent A/c will be debited.

The answer will be	Debit Rent	₹ 15,000
	Credit Citi Bank	₹ 15,000

In case of a cash transaction, the party with whom the transaction is made, is not recorded, but the cash or bank account is recorded.

- (v) They buy a motor car worth ₹ 4,50,000 from Millennium Motors by making a down payment of ₹ 50,000 by cheque drawn on Citi Bank and the balance by taking a loan from HDFC Bank.



Here the effects will be: First, Motor Car (which is an asset) has come into the business (increase in asset). Second, Bank balance (which is an asset) has reduced (decrease in asset). Thirdly, there is an obligation created towards HDFC Bank from whom loan of ₹ 400000 is taken (increase in liability).

Citi Bank is a personal account, so rule for personal account will apply. Citi Bank will be credited.

Motor Car is a real account is so rule for real account will apply. Motor Car has come in, so Motor Car A/c will be debited.

HDFC Bank is provider of loan to whom money is payable by the business in future. HDFC Bank account being a personal account, rule for personal account will apply. HDFC Bank being the giver, it will be credited. (Note: In different opinions, we can consider Citi Bank A/c as Real Account. The reason behind that is the balance at Citi Bank A/c belongs to the business, so it is an asset. However, in any circumstances HDFC Bank, who has paid Millennium Motors on behalf of the business, cannot be considered as Real Account. It is a Personal Account as it does not hold any business cash)

The answer will be	Debit Motor Car	₹ 4,50,000
	Credit Citi Bank	₹ 50,000
	Credit Loan from HDFC Bank	₹ 4,00,000

Will you now answer as to why no accounting treatment is considered for Millennium Motors?

- (vi) Vikas and Vaibhavi carried out a consulting assignment for Avon Pharmaceuticals and raise a bill for ₹ 1000000 as consultancy fees. Avon Pharmaceuticals have immediately settled ₹ 250000 by way of cheque and the balance will be paid after 30 days. The cheque received is deposited into Citi Bank.

Here the effects will be: First, the work done by Vikas and Vaibhavi has resulted in the revenue for the business. What should be the amount of revenue considered? Is it ₹ 10 lac for which work is done or only ₹ 2.50 lacs which is received? The revenue of entire ₹ 10 lac will be considered as by doing the work the business has acquired legal claim against Avon Pharmaceutical. Second effect will be cash that is received by way of cheque (asset increase). The third effect will be the amount of ₹ 7.50 lacs, which Avon Pharmaceuticals owes to the business.

Consultancy fees received (revenue earned) being income, rule for nominal account will apply and this account will be credited. Cheque received and deposited into Citi bank will increase the balance at the bank. Citi Bank being a personal account will be debited. The amount receivable from Avon is an asset, but it's due from Avon at a future date. To be able to recover it from them, their personal account will have to be created in books of accounts. Avon Pharmaceuticals is a personal account and they are receiver of consultancy, it will be debited.

The answer will be	Debit Citi Bank	₹ 2,50,000
	Debit Avon Pharmaceuticals	₹ 7,50,000
	Credit Consultancy Fees	₹ 10,00,000

- vii) They have employed a receptionist on a salary of ₹ 5,000 per month and one officer at a salary ₹ 10,000 per month. The salary for the current month is payable to them.

Is this a transaction to be recorded in the books? Remember accrual concept? Accordingly the expense of salary for the current month must be recognized as the expense for the current month even if it's not paid for. In fact, the business owes the salary to its employees and this obligation (which is a liability) must be shown in the books.

The effects will be: First, salary being an item of expense, is a nominal account and rule for nominal account will be applied. So, Salary A/c will be debited. Secondly, the obligation to pay salary is towards both employees, the convention is not to create separate employee accounts, but to use a representative personal account named as Salary Payable account. Since, this is personal account, rule of personal account will apply. Employees being givers of service, it will be credited.

The answer will be:	Debit Salary	₹ 15,000
	Credit Salary payable	₹ 15,000

Please look at the way we have approached each transaction and decided about accounting treatment. If you follow these logical steps, you will certainly be able to grasp the basics thoroughly

Under double entry system, the accounting of a business transaction involves the following steps:

- Consider whether an event qualifies to be entered in books of accounts in money terms
- If the answer to the above is 'yes', then assess the two aspects of the transaction
- Determine what type of 'account' is affected by each of the aspects
- Apply the Golden Rule of 'Debit' and 'Credit'
- Prepare the basic document such as invoice, voucher, debit note or credit note
- Record the transaction in the primary books or subsidiary books
- Carry out the posting into the ledger
- Prepare the list of all ledger balances and ensure it tallies
- Rectify the errors, if any
- Pass adjustment entries
- Prepare adjusted Trial Balance
- Prepare the financial statements – the Income Statement and Balance Sheet

Although it looks to be a lengthy process on paper, in practice it does not take time. In a computerised accounting environment in fact one has to prepare basic documents and enter them into accounting program. The computer program automatically carries out the rest of the processes to give us real time online financial statements. To get a hang of this, students are advised to lay their hands on simple computerized accounting packages to gain real time exposure.

Illustration 5.

Ascertain the Debit Credit under British Approach or Double Entry System. Take Previous illustration.

Solution.

	Step-I	Step-II	Step-III	Step-IV
(a)	Cash A/c Capital A/c	Real Personal	Comes in Giver	Debit Credit
(b)	Purchase A/c Cash A/c	Nominal Real	Expenses Goes out	Debit Credit
(c)	Cash A/c Sales A/c	Real Nominal	Comes in Incomes	Debit Credit
(d)	Salary A/c Cash A/c	Nominal Real	Expenses Goes out	Debit Credit
(e)	Cash A/c Interest A/c	Real Nominal	Comes in Incomes	Debit Credit
(f)	Purchase A/c Y' A/c	Nominal Personal	Expenses Giver	Debit Credit
(g)	Rent A/c Capital A/c	Nominal Personal	Expenses Giver	Debit Credit



1.13 ACCOUNTING EQUATION

The whole Financial Accounting depends on Accounting Equation which is also known as Balance Sheet Equation. The basic Accounting Equation is:

$$\text{Assets} = \text{Liabilities} + \text{Owner's equity}$$

$$\left. \begin{array}{l} \text{or } A = L + P \\ \text{or } P = A - L \\ \text{or } L = A - P \end{array} \right\} \text{Where } A = \text{Assets, } L = \text{Liabilities, } P = \text{Capital}$$

While trying to do this correlation, please note that incomes or gains will increase owner's equity and expenses or losses will reduce it.

Students are advised to go through the following illustration to understand this equation properly.

Illustration 6.

Prepare an Accounting Equation from the following transactions in the books of Mr. X for January, 2012 :-

- 1 Invested Capital in the firm ₹ 20,000
- 2 Purchased goods on credit from Das & Co. for ₹ 2,000
- 4 Bought plant for cash ₹ 8,000
- 8 Purchased goods for cash ₹ 4,000
- 12 Sold goods for cash (cost ₹ 4,000 + Profit ₹ 2,000) ₹ 6,000.
- 18 Paid to Das & Co. in cash ₹ 1,000
- 22 Received from B. Banerjee ₹ 300
- 25 Paid salary ₹ 6,000
- 30 Received interest ₹ 5,000
- 31 Paid wages ₹ 3,000

Solution

Effect of transaction on Assets, Liabilities and Capital

Date	Transaction	Assets =	Liabilities +	Capital
January, 2012 1	Invested Capital in the firm, ₹ 20,000	20,000	-	20,000
2	Purchased goods on credit from Das & Co. ₹ 2,000	+2,000	+2,000	-
	Revised Equation	22,000=	2,000+	20,000
4	Bought Plant for cash ₹ 8,000	+8,000 -8,000	-	-
	Revised Equation	22,000 =	2,000+	20,000
8	Purchased goods for cash ₹ 4,000	+4,000 -4,000	-	-
	Revised Equation	22,000=	2,000+	20,000
12	Sold Goods for cash (Cost ₹ 4,000 + Profit ₹ 2,000)	+6,000 -4,000		+2,000
	Revised Equation	24,000	2,000+	22,000
18	Paid to Das & Co. for ₹ 1,000	-1,000	-1,000	
	Revised Equation	23,000=	1,000+	22,000
22	Received from B. Banerjee for ₹ 300	+300 -300		

Date	Transaction	Assets =	Liabilities +	Capital
	Revised Equation	23,000 =	1,000+	22,000
25	Paid salary for ₹ 6,000	- 6,000		-6,000
	Revised Equation	17,000 =	1,000+	16,000
30	Received Interest for ₹ 5,000	+5,000		+5,000
	Revised Equation	22,000=	1,000+	21,000
31	Paid Wages for ₹3,000	-3,000		-3,000
	Revised Equation	19,000=	1,000+	18,000

1.14 ACCRUAL BASIS AND CASH BASIS OF ACCOUNTING

(i) Accrual Basis of Accounting

Accrual Basis of Accounting is a method of recording transactions by which revenue, costs, assets and liabilities are reflected in the accounts for the period in which they accrue. This basis includes consideration relating to deferrals, allocations, depreciation and amortization. This basis is also referred to as mercantile basis of accounting. Under the Companies Act 1956, all companies are required to maintain the books of accounts according to accrual basis of accounting

(ii) Cash Basis of Accounting

Cash Basis of Accounting is a method of recording transactions by which revenues, costs, assets and liabilities are reflected in the accounts for the period in which actual receipts or actual payments are made.

1.14.1 Distinction between Accrual Basis of Accounting and Cash Basis of Accounting

Accrual basis of accounting differs from Cash basis of accounting in the following respects:

Basis of Distinction	Accrual Basis of Accounting	Cash Basis of Accounting
1. Prepaid/Outstanding Expenses/ accrued/unaccrued Income in Balance Sheet.	Under this, there may be prepaid/ outstanding expenses and accrued/unaccrued incomes in the Balance Sheet.	Under this, there is no prepaid/outstanding expenses or accrued/unaccrued incomes.
2. Higher/lower Income in case of prepaid expenses and accrued income	Income Statement will show a relatively higher income	Income Statement will show lower income.
3. Higher/lower income incase of outstanding expenses and unaccrued income	Income Statement will show a relatively lower income.	Income Statement will show higher income.
4. Recognition under the Companies Act. 1956.	This basis is recognized under the Companies Act, 1956.	This basis is not recognized under the Companies Act, 1956.
5. Availability of options to an accountant to manipulate the accounts by way of choosing the most suitable method out of several alternative methods of accounting e.g. FIFO/LIFO/SLM/WDV	Under this, an accountant has options.	Under this an accountant has no option to make a choice as such.

1.14.2 Hybrid or Mixed Basis

Is the combination of both the basis i.e. Cash as well as Accrual basis. Incomes are recorded on Cash basis but expenses are recorded on Accrual basis.



This is not a system of accounting on its own. It is a combination of the Cash Basis Accounting and Accrual Basis Accounting. This system is based on the concept of conservatism.

Under the hybrid system of accounting, incomes are recognised as in Cash Basis Accounting i.e. when they are received in cash and expenses are recognised on accrual basis i.e. during the accounting period in which they arise irrespective of when they are paid.

Illustration 7.

Mr. Anil Roy, a junior lawyer, provides the following particulars for the year ended 31st December, 2012:

	₹
Fees received in cash in 2012	60,000
Salary paid to Staff in 2012	8,000
Rent of office in 2012	14,000
Magazine and Journal for 2012	1,000
Travelling and Conveyance paid in 2012	3,000
Membership Fees paid in 2012	1,600
Office Expenses paid in 2012	10,000

Additional Information:-

Fees include ₹ 3,000 in respect of 2011 and fees not yet received is ₹ 7,000.

Office rent includes ₹ 4,000 for previous year and rent of ₹ 2,000 not yet paid.

Membership fees is paid for 2 years.

Compute his net income for the year 2012, under – (a) Cash Basis, (b) Accrual Basis and (c) Mixed or Hybrid Basis.

Solution

(i)

Mr. Anil Roy
Statement of Income (Cash Basis)
For the year ended 31st December, 2012

Particulars	Amount (₹)	Amount (₹)
Fees received		60,000
Less :		
Salary	8,000	
Office Rent	14,000	
Magazine & Journal	1,000	
Travelling & Conveyance	3,000	
Membership Fees	1,600	
Office Expenses	10,000	37,600
Net Income		22,400

(ii)

Mr. Anil Roy

Statement of Income (Accrual Basis)
For the year ended 31st December, 2012

Particulars		Amount (₹)	Amount (₹)
Fees received		60,000	
Add: Accrued fees for 2012		7,000	
		67,000	
Less: Fees for 2011 received in 2012		3,000	64,000
Less :			
Salary		8,000	
Office Rent	14,000		
Add: Outstanding rent	2,000		
	16,000		
Less: Rent for 2011 paid in 2012	4,000	12,000	
Magazine & Journal		1,000	
Travelling & Conveyance		3,000	
Membership Fees	1,600		
Less: Advance fee paid for 2013 ($\frac{1}{2} \times 1600$)	800	800	
Office Expenses		10,000	34,800
Net Income			29,200

(iii)

Mr. Anil Roy

Statement of Income (Mixed or Hybrid Basis)
For the year ended 31st December, 2012

Particulars	Amount (₹)	Amount (₹)	Amount (₹)
Fees received			60,000
Less :			
Salary		8,000	
Office Rent	14,000		
Add: Outstanding rent	2,000		
	16,000		
Less: Fees for 2011	4,000	12,000	
Magazine & Journal		1,000	
Travelling & Conveyance		3,000	
Membership Fees	1,600		
Less: Advance	800	800	
Office Expenses		10,000	34,800
Net Income			25,200

1.14.3 Conversion of Cash Basis of Accounting into Accrual Basis of Accounting:

When accounting is done under Cash Basis and the final accounts are prepared, the same can be converted into Accrual Basis from the beginning of the next financial period. The following procedure should be followed for the purpose.



At first it is necessary to ascertain the amount of outstanding and prepaid expenses and at the same time, accrued incomes and income received in advance.

Thereafter following journal entries should be made:

S No.	Particulars	L.F.	Dr.	Cr.
			Amount (₹)	Amount (₹)
(a)	Accrued Income A/c	Dr.	-	
	Prepaid Expenses A/c	Dr.	-	-
	To, Profit and Loss Adjustment A/c			
	(Bringing into account the accrued income, prepaid expenses for converting the cash basis of accounting into accrual basis)			
(b)	Profit and Loss Adjustment A/c	Dr.	-	
	To, Income Received in Advance A/c			-
	To, Outstanding Expenses A/c			-
	(Bringing into account the income received in advance and outstanding expenses for converting the cash basis of accounting into accrual basis)			
(c)	If there is a profit as a result of above adjustment- Profit and Loss Adjustment A/c	Dr.	-	-
	To, Capital A/c (Profit transferred to capital account as a result of conversion from cash basis to accrual basis.)			
	If there is a loss as a result of above adjustment- Capital A/c	Dr.	-	-
	To, Profit and Loss Adjustment A/c (Loss transferred to capital account as a result of conversion from cash basis to accrual basis.)			

Illustration 8.

X and Y formed partnership sharing profits as 2 : 1. The term was to distribute mercantile profit. But cash profit has been calculated all through. Now it is desired to convert cash accounts into mercantile accounts. The details are :

	Cash Profit ₹	Closing Outstanding Income. ₹	Closing Outstanding Expenses ₹
1st Year	10,000	1,000	500
2nd Year	12,000	3,000	1,000
3rd Year	18,000	2,000	800.

Pass conversion entry.

Solution

Cash Profit for three years (₹ 10,000 + ₹ 12,000 + ₹ 18,000)	₹	40,000
Add : Closing outstanding incomes		2,000
		42,000
Less : Closing outstanding expenses		800
Mercantile Profit		41,200
Less : Cash profit which are already distributed		40,000
Profit to be distributed between X and Y in 2 : 1.		1,200

Thus, the entry being :

Journal

Date	Particulars	L.F.	Dr.	Cr.
			Amount (₹)	Amount (₹)
?	Outstanding Income A/c Dr.		2,000	
	To Outstanding Expenses A/c			800
	'' X's Capital A/c			800
	''Y's Capital A/c			400
	(Cash basis of accounting converted into mercantile basis of accounting).			

1.15 CAPITAL AND REVENUE TRANSACTIONS

The concepts of capital and revenue are of fundamental importance to the correct determination of accounting profit for a period and recognition of business assets at the end of that period. The distinction affects the measurement of profit in a number of accounting periods.

Capital has been defined by economists as those assets which are used in the production of goods and rendering of services for further production of assets. In accounting, on the other hand, the capital of a business is increased by that portion of the periodic income which has not been consumed by the owner.

The relationship between capital and revenue is that of between a tree and its fruits. It is the tree which produces the fruits, and it is the fruit that can be consumed. If the tree is tendered with care, it will produce more fruits, conversely, if the tree is destroyed, there will be no more fruits. Likewise, revenue comes out of capital and capital is the source of revenue. Capital is invested by a person in the business so that it may produce revenue. Moreover, as a fruit may give birth to another new tree, different revenues may also produce further new capital.

Capital can be brought in by a person into the business in different forms-cash or kind. When capital is brought in the form of cash, it is spent away on various items of assets that make the business a running concern. Capital of the firm is thus, represented by its inventory of assets.

Capital of a business can be increased in a two fold way:

1. When the owner brings in more capital to the business; and/or
2. When the owner does not consume the entire periodic income.

When the owner brings in further capital to his business, the amount is credited to the Capital Account. Likewise, the net income for a period is credited to the Capital Account, and if his drawings are less than that income, the capital is increased by the difference. Example, Capital ₹ 500, Profit ₹ 300, drawings ₹ 350. So the revised capital will be ₹ 450 (₹ 500 + ₹ 300 - ₹ 350)

The difference between the two terms 'revenue' and 'receipt' should be carefully distinguished. A receipt is the inflow of money into business, whereas revenue is the aggregate exchange value received for goods and services provided to the customers.

1.15.1 Capital and Revenue Expenditures

Capital expenditure is the outflow of funds to acquire an asset that will benefit the business for more than one accounting period. A capital expenditure takes place when an asset or service is acquired or improvement of a fixed asset is effected. These assets are expected to provide benefits to the business in more than one accounting period and are not intended for resale in the ordinary course of business. In short, it is an expenditure on assets which is not written off completely against income in the accounting period in which it is acquired.



Revenue expenditure is the outflow of funds to meet the running expenses of a business and it will be of benefit for the current period only. A revenue expenditure is incurred to carry on the normal course of business or maintain the capital assets in a good condition.

It may be pointed out here that an expenditure need not necessarily be a payment made to somebody in cash - it may be made by the exchange of another asset, or by assuming a liability. Expenditure incurrence and expenditure recognition are distinct phenomena. Expenditure incurrence refers to the receipt of goods and services, whereas expenditure recognition is a matter to be decided whether the expenditure is of capital or revenue nature. For example, the buying of an asset is a capital expenditure but charging depreciation against profit is a revenue expenditure, over the entire life of that asset. Most of the capital expenditures made by a business become revenue expenditures. On the application of periodicity, accrual and matching concepts, accountants identify all revenue expenditures for a given period for ascertaining profit. An expenditure which cannot be identified to a particular accounting period is considered of capital nature.

1.15.2 The accounting treatment of capital and revenue expenditure are as under:

Revenue expenditures are charged as an expense against profit in the year they are incurred or recognised. Capital expenditures are capitalised-added to an asset account.

The following are the points of distinction between capital expenditure and revenue expenditure :

Sl. No.	Capital Expenditure	Sl. No.	Revenue Expenditure
1.	The economic benefits of Capital expenditures are enjoyed for more than one accounting period.	1.	The economic benefits of Revenue expenditures are enjoyed within a particular accounting period.
2.	Capital expenditures are of non-recurring in nature.	2.	Revenue expenditures are of recurring in nature.
3.	All capital expenditures eventually become revenue expenditures like depreciation	3.	Revenue expenditures are not generally capital expenditures.
4.	Capital expenditures are not matched with capital receipts.	4.	All revenue expenditures are matched with revenue receipts.

1.15.3 Rules for Determining Capital Expenditure

An expenditure can be recognised as capital if it is incurred for the following purposes :

An expenditure incurred for the purpose of acquiring long term assets (useful life is at least more than one accounting period) for use in business to earn profits and not meant for resale, will be treated as a capital expenditure. For example, if a second hand motor car dealer buys a piece of furniture with a view to use it in business; it will be a capital expenditure. But if he buys second hand motor cars, for re-sale, then it will be a revenue expenditure because he deals in second hand motor cars.

When an expenditure is incurred to improve the present condition of a machine or putting an old asset into working condition, it is recognised as a capital expenditure. The expenditure is capitalised and added to the cost of the asset. Likewise, any expenditure incurred to put an asset into working condition is also a capital expenditure.

For example, if one buys a machine for ₹ 5,00,000 and pays ₹ 20,000 as transportation charges and ₹ 40,000 as installation charges, the total cost of the machine comes upto ₹ 5,60,000. Similarly, if a building is purchased for ₹ 1,00,000 and ₹ 5,000 is spent on registration and stamp duty, the capital expenditure on the building stands at ₹ 1,05,000.

If an expenditure is incurred, to increase earning capacity of a business will be considered as of capital nature. For example, expenditure incurred for shifting 'the 'factory for easy supply of raw materials. Here, the cost of such shifting will be a capital expenditure.

Preliminary expenses incurred before the commencement of business is considered capital expenditure. For example, legal charges paid for drafting the memorandum and articles of association of a company or brokerage paid to brokers, or commission paid to underwriters for raising capital.

Thus, one useful way of recognising an expenditure as capital is to see that the business will own something which qualifies as an asset at the end of the accounting period.

Some examples of capital expenditure:

(i) Purchase of land, building, machinery or furniture; (ii) Cost of leasehold land and building; (iii) Cost of purchased goodwill; (iv) Preliminary expenditures; (v) Cost of additions or extensions to existing assets; (vi) Cost of overhauling second-hand machines; (vii) Expenditure on putting an asset into working condition; and (viii) Cost incurred for increasing the earning capacity of a business.

1.15.4 Rules for Determining Revenue Expenditure

Any expenditure which cannot be recognised as capital expenditure can be termed as revenue expenditure. A revenue expenditure temporarily influences only the profit earning capacity of the business. An expenditure is recognised as revenue when it is incurred for the following purposes :

Expenditure for day-to-day conduct of the business, the benefits of which last less than one year. Examples are wages of workmen, interest on borrowed capital, rent, selling expenses, and so on.

Expenditure on consumable items, on goods and services for resale either in their original or improved form. Examples are purchases of raw materials, office stationery, and the like. At the end of the year, there may be some revenue items (stock, stationery, etc.) still in hand. These are generally passed over to the next year though they were acquired in the previous year.

Expenditures incurred for maintaining fixed assets in working order. For example, repairs, renewals and depreciation.

Some examples of revenue expenditure

(i) Salaries and wages paid to the employees; (ii) Rent and rates for the factory or office premises; (iii) Depreciation on plant and machinery; (iv) Consumable stores; (v) Inventory of raw materials, work-in-progress and finished goods; (vi) Insurance premium; (vii) Taxes and legal expenses; and (viii) Miscellaneous expenses.

1.15.5 Replacement of Fixed Assets

The above rules of capital and revenue expenditure do not hold good when an existing asset is replaced for another. If an asset is replaced with a similar kind of asset, the expenditure incurred is treated as Revenue Expenditure. For example, if a set of weighing machines in a shop becomes defective and is replaced with a similar set, the cost of replacement should be treated as revenue expenditure and it should be charged to the Profit and Loss Account. However, if an asset is replaced with an asset which is superior than the previous one, the expense is partly capital and partly revenue. For example, if a manual typewriter costing ₹ 5,000 is replaced with an electronic typewriter costing ₹ 15,000, then ₹ 5,000 will be revenue expenditure and the excess value of the new typewriter over the old one, ₹ 10,000 will be capital expenditure.

1.15.6 Deferred Revenue Expenditures

Deferred revenue expenditures represent certain types of assets whose usefulness does not expire in the year of their occurrence but generally expires in the near future. These type of expenditures are carried forward and are written off in future accounting periods. Sometimes, we make some revenue expenditure but it eventually becomes a capital asset (generally of an intangible nature). If one undertake substantial repairs to the existing building, the deterioration of the premises may be avoided. We may engage our own employees to do that work and pay them at prevailing wage-rate, which is of a revenue nature. If this expenditure is treated as a revenue expenditure and the current year's-profit is charged with these expenses, we are making the current year to absorb the entire expenses, though the benefit of which will be enjoyed for a number of accounting years. To overcome this difficulty, the entire expenditure is capitalised and is added to the asset account. Another example is an insurance policy. A business can



pay insurance premium in advance, say, for a 3 year period. The right does not expire in the accounting period in which it is paid but will expire within a fairly short period of time (3 years). Only a portion of the total premium paid should be treated as a revenue expenditure (portion pertaining to the current period) and the balance should be carried forward as an asset to be written off in subsequent years.

AS 26 - Intangible Asset does not accept this view. Para 56 states, "Expenditure incurred to provide future economic benefit to an enterprise that can be recognized as an expense when it is incurred. e.g. expenditure incurred on Scientific Research is recognized as an expense when it is incurred". In short, the whole amount of expenditure is treated as expense for the current year only and will not proportionately be transferred as deferred charge.

1.15.7 Capital and Revenue Receipts

A receipt of money may be of a capital or revenue nature. A clear distinction, therefore, should be made between capital receipts and revenue receipts.

A receipt of money is considered as capital receipt when a contribution is made by the proprietor towards the capital of the business or a contribution of capital to the business by someone outside the business. Capital receipts do not have any effect on the profits earned or losses incurred during the course of a year.

Additional capital introduced by the proprietor; by partners, in case of partnership firm, by issuing fresh shares, in case of a company; and, by selling assets, previously not intended for resale.

A receipt of money is considered as revenue receipt when it is received from customers for goods supplied or fees received for services rendered in the ordinary course of business, which is a result of the firm's activity in the current period. Receipts of money in the revenue nature increase the profits or decrease the losses of a business and must be set against the revenue expenses in order to ascertain the profit for the period.

The following are the points of difference between capital receipts and revenue receipts :

Sr. No.	Revenue Receipt	Sr. No.	Capital Receipt
1.	It has short-term effect. The benefit is enjoyed within one accounting period.	1.	It has long-term effect. The benefit is enjoyed for many years in future.
2.	It occurs repeatedly. It is recurring and regular.	2.	It does not occur again and again. It is nonrecurring and irregular.
3.	It is shown in profit and loss account on the credit side, as an income for the year	3.	It is shown in the Balance Sheet on the liability side.
4.	It does not produce capital receipt.	4.	Capital receipt, when invested, produces revenue receipt e.g. when capital is invested by the owner, business gets revenue receipt (i.e. sale proceeds of goods etc.).
5.	This does not increase or decrease the value of asset or liability.	5.	The capital receipt decreases the value of asset or increases the value of liability e.g. sale of a fixed asset, loan from bank etc.
6.	Sometimes, expenses of capital nature are to be incurred for revenue receipt, e.g. purchase of shares of a company is capital expenditure but dividend received on shares is a revenue receipt.	6.	Sometimes expenses of revenue nature are to be incurred for such receipt e.g. on obtaining loan (a capital receipt) interest is paid until its repayment.

1.15.8 Capital and Revenue Profits

While ascertaining the trading profit of a business for a particular period, a proper distinction is to be made between capital and revenue profits. If profit arises out of an ordinary nature, being the outcome of the ordinary function and object of the business, it is termed as 'revenue profit'. But, when a profit arises out of a casual and non-recurring transaction, it is termed as capital profit. Revenue profit arises out of the sale of the merchandise that the business deals in.

Capital Profit arises from :-

- (a) Profit prior to incorporation;
- (b) Premium received on issue of shares;
- (c) Profit made on re-issue of forfeited shares;
- (d) Redemption of Debenture at a discount;
- (e) Profit made on sale or revaluation of a Fixed Asset.

Generally, capital profits arise out of the sale of assets other than inventory at a price more than its book value or in connection with the raising of capital or at the time of purchasing an existing business. For example, if an asset, whose book value is ₹ 5,000 on the date of sale, is sold for ₹ 6,000 then ₹ 1,000 will be considered as capital profit. Likewise, issue of shares at a premium is also a capital profit. Revenue profits are distributed to the owners of the business or transferred to General Reserve Account, being shown in the balance sheet as a retained earning. Capital profits are generally capitalised-transferred to a capital reserve account which can only be utilised for setting off capital losses in future. Capital profits of a small amount (arising out of selling of one asset) is taken to the Profit and Loss Account and added with the revenue profit-applying the concept of materiality.

1.15.9 Capital and Revenue Losses

While ascertaining losses, revenue losses are differentiated from capital losses, just as revenue profits are distinguished from capital profits. Revenue losses arise from the normal course of business by selling the merchantable at a price less than its purchase price or cost of goods sold or where there is a declining in the current value of inventories. Capital losses may result from the sale of assets, other than inventory for less than written down value or the diminution or elimination of assets other than as the result of use or sale (flood, fire, etc.) or in connection with raising capital of the business (issue of shares at a discount) or on the settlement of liabilities for a consideration more than its book value (debenture issued at par but redeemed at a premium). Treatment of capital losses are same as that of capital profits. Capital losses arising out of sale of fixed assets generally appear in the Profit and Loss Account (being deducted from the net profit). But other capital losses are adjusted against the capital profits. Where the capital losses are substantial, the treatment is different. These losses are generally shown on the balance sheet as fictitious assets and the common practice is to spread that over a number of accounting years as a charge against revenue profits till the amount is fully exhausted.

Illustration 9.

State whether the following are capital, revenue or deferred revenue expenditure.

- (i) Carriage of ₹ 7,500 spent on machinery purchased and installed.
- (ii) Heavy advertising costs of ₹ 20,000 spent on the launching of a company's new product.
- (iii) ₹ 200 paid for servicing the company vehicle, including ₹ 50 paid for changing the oil.
- (iv) Construction of basement costing ₹ 1,95,000 at the factory premises.

Solution :

- (i) Carriage of ₹ 7,500 paid for machinery purchased and installed should be treated as a Capital Expenditure.
- (ii) Advertising expenses for launching a new product of the company should be treated as a Revenue Expenditure. (As per AS-26)
- (iii) ₹ 200 paid for servicing and oil change should be treated as a Revenue Expenditure.
- (iv) Construction cost of basement should be treated as a Capital Expenditure.

Illustration 10.

State whether the following are capital or revenue expenditure.

- (i) Paid a bill of ₹ 10,000 of Mr. Kumar, who was engaged as the erection engineer to set up a new automatic machine costing ₹ 20,000 at the new factory site.



- (ii) Incurred ₹ 26,000 expenditure on varied advertisement campaigns under taken yearly, on a regular basis, during the peak festival season.
- (iii) In accordance with the long-term plan of providing a well- equipped Labour Welfare Centre, spent ₹ 90,000 being the budgeted allocation for the year.

Solution :

- (i) Expenses incurred for erecting a new machine should be treated as a Capital Expenditure.
- (ii) Advertisement expenses during peak festival season should be treated as a Revenue Expenditure.
- (iii) Expenses incurred for Labour Welfare Centre should be treated as a Capital Expenditure.

Illustration 11.

Classify the following items as capital or revenue expenditure :

- (i) An extension of railway tracks in the factory area;
- (ii) Wages paid to machine operators;
- (iii) Installation costs of new production machine;
- (iv) Materials for extension to foremen's offices in the factory;
- (v) Rent paid for the factory;
- (vi) Payment for computer time to operate a new stores control system,
- (vii) Wages paid to own employees for building the foremen's offices.

Give reasons for your classification.

Solution :

- (i) Expenses incurred for extension of railway tracks in the factory area should be treated as a Capital Expenditure because it will yield benefit for more than one accounting period.
- (ii) Wages paid to machine operators should be treated as a Revenue Expenditure as it will yield benefit for the current period only.
- (iii) Installation costs of new production machine should be treated as a Capital Expenditure because it will benefit the business for more than one accounting period.
- (iv) Materials for extension to foremen's offices in the factory should be treated as a Capital Expenditure because it will benefit the business for more than one accounting period.
- (v) Rent paid for the factory should be treated as a Revenue Expenditure because it will benefit only the current period.
- (vi) Payment for computer time to operate a new stores control system should be treated as Revenue Expenditure because it has been incurred to carry on the normal business.
- (vii) Wages paid for building foremen's offices should be treated as a Capital Expenditure because it will benefit the business for more than one accounting period.

Illustration 12.

For each of the cases numbered below, indicate whether the income/expenditure is capital or revenue.

- (i) Payment of wages to one's own employees for building a new office extension.
- (ii) Regular hiring of computer time for the preparation of the firm's accounts.
- (iii) The purchase of a new computer for use in the business.
- (iv) The use of motor vehicle, hired for five 'years, but paid at every six months.

Solution :

- (i) Payment of wages for building a new office extension should be treated as a Capital Expenditure.
- (ii) Computer hire charges should be treated as a Revenue Expenditure.

- (iii) Purchase of computer for use in the business should be treated as a Capital Expenditure.
- (iv) Hire charges of motor vehicle should be treated as a Revenue Expenditure.

Illustration 13.

State with reasons whether the following are capital or revenue expenditure :

- (i) Freight and cartage on the new machine ₹ 150, and erection charges ₹ 500.
- (ii) Fixtures of the book value of ₹ 2,500 sold off at ₹ 1,600 and new fixtures of the value of ₹ 4,000 were acquired. Cartage on purchase ₹ 100.
- (iii) A sum of ₹ 400 was spent on painting the factory.
- (iv) ₹ 8,200 spent on repairs before using a second hand car purchased recently, to put it in usable condition.

Solution :

- (i) Freight and cartage totaling ₹ 650 should be treated as a Capital Expenditure because it will benefit the business for more than one accounting year.
- (ii) Loss on sale of fixtures ₹ $(2,500 - 1,600) = ₹ 900$ should be treated as a Capital Loss. The cost of new fixtures and carriage thereon should be treated as a Capital Expenditure because the fixture will be used for a long period. So ₹ $(4,000 + 1,000)$ the cost of new fixture will be ₹ 4,100.
- (iii) Painting of the factory should be treated as a Revenue Expenditure because it has been incurred to maintain the factory building.
- (iii) Repairing cost of second hand car should be treated as a Capital Expenditure because it will benefit the business for more than one accounting year.

Illustration 14.

State the nature (capital or revenue) of the following expenditure which were incurred by Vedanta & Co. during the year ended 30th June, 2012 :

- (i) ₹ 350 was spent on repairing a second hand machine which was purchased on 8th May, 2012 and ₹ 200 was paid on carriage and freight in connection with its acquisition.
- (ii) A sum of ₹ 30,000 was paid as compensation to two employees who were retrenched.
- (iii) ₹ 150 was paid in connection with carriage on goods purchased.
- (iv) ₹ 20,000 customs duty is paid on import of a machinery for modernisation of the factory production during the current year and ₹ 6,000 is paid on import duty for purchase of raw materials.
- (v) ₹ 18,000 interest had accrued during the year on term loan obtained and utilised for the construction of factory building and purchase of machineries; however, the production has not commenced till the last date of the accounting year.

Solution :

- (i) Repairing and carriage totaling ₹ 550 for second hand machine should be treated as a Capital Expenditure.
- (ii) Compensation paid to employees shall be treated as a Revenue Expenditure.
- (iii) Carriage paid for goods purchased should be treated as a Revenue Expenditure.
- (iv) Customs duty paid on import of machinery to be treated as a Capital Expenditure. However, import duty paid for raw materials should be treated as a Revenue Expenditure.
- (v) Interest paid during pre-construction period to be treated as a Capital Expenditure.



Illustration 15.

State with reasons whether the following items relating to Parvati Sugar Mill Ltd. are capital or revenue :

- (i) ₹ 50,000 received from issue of shares including ₹ 10,000 by way of premium.
- (ii) Purchased agricultural land for the mill for ₹ 60,000 and ₹ 500 was paid for land revenue.
- (iii) ₹ 5,000 paid as contribution to PWD for improving roads of sugar producing area.
- (iv) ₹ 40,000 paid for excise duty on sugar manufactured.
- (v) ₹ 70,000 spent for constructing railway siding.

Solution :

- (i) ₹ 40,000 (50,000 – ₹ 10,000) received from issue of shares will be treated as a Capital Receipt. The premium of ₹ 10,000 should be treated as a Capital Profit.
- (ii) Cost of land ₹ 60,000 to be treated as Capital Expenditure and land revenue of ₹ 500 to be treated as Revenue Expenditure.
- (iii) Contribution paid to PWD should be treated as a Revenue Expenditure.
- (iv) Excise duty of ₹ 40,000 should be treated as a Revenue Expenditure.
- (v) ₹ 70,000 spent for constructing railway siding to be treated as a Capital Expenditure.

Illustration 16.

State with reasons whether the following are Capital Expenditure or Revenue Expenditure :

- (i) Expenses incurred in connection with obtaining a licence for starting the factory were ₹ 10,000.
- (ii) ₹ 1,000 paid for removal of stock to a new site.
- (iii) Rings and Pistons of an engine were changed at a cost of ₹ 5,000 to get full efficiency.
- (iv) ₹ 2,000 spent as lawyer's fee to defend a suit claiming that the firm's factory site belonged to the Plaintiff. The suit was not successful.
- (v) ₹ 10,000 were spent on advertising the introduction of a new product in the market, the benefit of which will be effective during four years.
- (vi) A factory shed was constructed at a cost of ₹ 1,00,000. A sum of ₹ 5,000 had been incurred for the construction of the temporary huts for storing building materials.

Solution :

- (i) ₹ 10,000 incurred in connection with obtaining a license for starting the factory is a Capital Expenditure. It is incurred for acquiring a right to carry on business for a long period.
- (ii) ₹ 1,000 incurred for removal of stock to a new site is treated as a Revenue Expenditure because it is not enhancing the value of the asset and it is also required for starting the business on the new site.
- (iii) ₹ 5,000 incurred for changing Rings and Pistons of an engine is a Revenue Expenditure because, the change of rings and piston will restore the efficiency of the engine only and it will not add anything to the capacity of the engine.
- (iv) ₹ 2,000 incurred for defending the title to the firm's assets is a Revenue Expenditure.
- (v) ₹ 10,000 incurred on advertising is to be treated as a Deferred Revenue Expenditure because the benefit of advertisement is available for 4 years, ₹ 2,500 is to be written off every year.
- (vi) Cost of construction of Factory shed of ₹ 1,00,000 is a Capital Expenditure, similarly cost of construction of small huts for storing building materials is also a Capital Expenditure.

Illustration 17.

State clearly how you would deal with the following in the books of a Company :

- (i) The redecoration expenses ₹ 6,000.
- (ii) The installation of a new Coffee-making Machine for ₹ 10,000.
- (iii) The building of an extension of the club dressing room for ₹ 15,000.
- (iv) The purchase of Snacks & food stuff ₹ 2,000.
- (v) The purchase of V.C.R. and T.V. for the use in the club lounge for ₹ 15,000.

Solution :

- (i) The redecoration expenses of ₹ 6,000 shall be treated as a Deferred Revenue Expenditure.
- (ii) The installation of a new Coffee - Making Machine is a Capital Expenditure because it is the acquisition of an asset.
- (iii) ₹ 15,000 spent for the extension of club dressing room is a Capital Expenditure because it creates an asset of a permanent nature.
- (iv) The purchase of snacks & food stuff of ₹ 2,000 is a Revenue Expenditure.
- (v) The purchase of V.C.R. and T.V. for ₹ 15,000 is a Capital Expenditure, because it is the acquisition of assets.

1.16 ACCOUNTING STANDARDS**Comparative Statement of AS & IND AS (Subject- Wise)**

SL.No.	Accounting Standards (AS)	IND AS No.	Name of IND AS
			I. Standards on Presentation
1	AS 1	Ind AS 1	Presentation of Financial Statements
2	AS 3	Ind AS 7	Statement of Cash Flows
3	AS 5	Ind AS 8	Accounting Policies, Changes in Accounting Estimates and Errors
4	AS 4	Ind AS 10	Events after the Reporting Period
5	AS 25	Ind AS 34	Interim Financial Reporting
6	No Corresponding Standard	Ind AS 29	Financial Reporting in Hyperinflationary Economies
			II. Standards on Consolidation
7	AS 21	Ind AS 27	Consolidated and Separate Financial Statements
8	AS 23	Ind AS 28	Investments in Associates
9	AS 27	Ind AS 31	Interests in Joint Ventures
10	AS 14	Ind AS 103	Business Combinations
			III. Standards on Revenue
11	AS 2	Ind AS 2	Inventories
12	AS 7	Ind AS 11	Construction Contracts
13	AS 9	Ind AS 18	Revenue
14	AS 12	Ind AS 20	Accounting for Government Grants and Disclosure of Government Assistance
15	AS 11	Ind AS 21	The Effects of Changes in Foreign Exchange Rates



			IV. Standards on Liabilities and Provisions
16	AS 15	Ind AS 19	Employee Benefits
17	AS 29	Ind AS 37	Provisions, Contingent Liabilities and Contingent Assets
18	Guidance Note	Ind AS 102	Share-based Payment
19	No Corresponding Standard	Ind AS 104	Insurance Contracts
			V. Standards on Disclosures
20	AS 18	Ind AS 24	Related Party Disclosures
21	AS 20	Ind AS 33	Earnings Per Shares
22	AS 17	Ind AS 108	Operating Segments
			VI. Standards on Assets
23	AS 16	Ind AS 23	Borrowing Costs
24	AS 28	Ind AS 36	Impairments of Assets
25	AS 26	Ind AS 38	Intangible Assets
26	No Corresponding Standard	Ind AS 40	Investment Property
27	AS 10 & AS 6	Ind AS 16	Property, Plant and Equipment
28	AS 19	Ind AS 17	Leases
29	AS 24	Ind AS 105	Non-Current Assets Held for Sale and Discontinued Operations
30	Guidance Note	Ind AS 106	Exploration for and Evaluation of mineral Resources
			VII. Standards on Taxes
31	AS 22	Ind AS 12	Income Taxes
			VIII. Standards on Financial Instruments
32	AS 31	Ind AS 32	Financial Instruments: Presentation
33	AS 30	Ind AS 39	Financial Instruments: Recognition and Measurement
34	AS 32	Ind AS 107	Financial Instruments: Disclosures
			IX. Standards on First Time Adoption
35	No Corresponding Standard	Ind AS 101	First Time Adoption of Ind AS

Comparative Statement of AS & IND AS (Ind As – wise)

SL.No.	Accounting Standards (AS)	IND AS No.	Name of IND AS
1	AS 1	Ind AS 1	Presentation of Financial Statements
2	AS 2	Ind AS 2	Inventories
3	AS 3	Ind AS 7	Statement of Cash Flows
4	AS 5	Ind AS 8	Accounting Policies, Changes in Accounting Estimates and Errors
5	AS 4	Ind AS 10	Events after the Reporting Period
6	AS 7	Ind AS 11	Construction Contracts
7	AS 22	Ind AS 12	Income Taxes
8	AS 10 & AS 6	Ind AS 16	Property, Plant and Equipment
9	AS 19	Ind AS 17	Leases
10	AS 9	Ind AS 18	Revenue
11	AS 15	Ind AS 19	Employee Benefits
12	AS 12	Ind AS 20	Accounting for Government Grants and Disclosure of Government Assistance

13	AS 11	Ind AS 21	The Effects of Changes in Foreign Exchange Rates
14	AS 16	Ind AS 23	Borrowing Costs
15	AS 18	Ind AS 24	Related Party Disclosures
16	AS 21	Ind AS 27	Consolidated and Separate Financial Statements
17	AS 23	Ind AS 28	Investments in Associates
18	No Corresponding Standard	Ind AS 29	Financial Reporting in Hyperinflationary Economies
19	AS 27	Ind AS 31	Interests in Joint Ventures
20	AS 31	Ind AS 32	Financial Instruments: Presentation
21	AS 20	Ind AS 33	Earnings Per Shares
22	AS 25	Ind AS 34	Interim Financial Reporting
23	AS 28	Ind AS 36	Impairments of Assets
24	AS 29	Ind AS 37	Provisions, Contingent Liabilities and Contingent Assets
25	AS 26	Ind AS 38	Intangible Assets
26	AS 30	Ind AS 39	Financial Instruments: Recognition and Measurement
27	No Corresponding Standard	Ind AS 40	Investment Property
28	No Corresponding Standard	Ind AS 101	First Time Adoption of Ind AS
29	Guidance Note	Ind AS 102	Share-based Payment
30	AS 14	Ind AS 103	Business Combinations
31	No Corresponding Standard	Ind AS 104	Insurance Contracts
32	AS 24	Ind AS 105	Non-Current Assets Held for Sale and Discontinued Operations
33	Guidance Note	Ind AS 106	Exploration for and Evaluation of mineral Resources
34	AS 32	Ind AS 107	Financial Instruments: Disclosures
35	AS 17	Ind AS 108	Operating Segments

Comparative Statement of AS & IND AS (AS- Wise)

SL.No.	Accounting Standards (AS)	IND AS No.	Name of IND AS
1	AS 1	Ind AS 1	Presentation of Financial Statements
2	AS 2	Ind AS 2	Inventories
3	AS 3	Ind AS 7	Statement of Cash Flows
4	AS 4	Ind AS 10	Events after the Reporting Period
5	AS 5	Ind AS 8	Accounting Policies, Changes in Accounting Estimates and Errors
6	AS 7	Ind AS 11	Construction Contracts
7	AS 9	Ind AS 18	Revenue
8	AS 10 & AS 6	Ind AS 16	Property, Plant and Equipment
9	AS 11	Ind AS 21	The Effects of Changes in Foreign Exchange Rates
10	AS 12	Ind AS 20	Accounting for Government Grants and Disclosure of Government Assistance
11	AS 14	Ind AS 103	Business Combinations
12	AS 15	Ind AS 19	Employee Benefits
13	AS 16	Ind AS 23	Borrowing Costs



14	AS 17	Ind AS 108	Operating Segments
15	AS 18	Ind AS 24	Related Party Disclosures
16	AS 19	Ind AS 17	Leases
17	AS 20	Ind AS 33	Earnings Per Shares
18	AS 21	Ind AS 27	Consolidated and Separate Financial Statements
19	AS 22	Ind AS 12	Income Taxes
20	AS 23	Ind AS 28	Investments in Associates
21	AS 24	Ind AS 105	Non-Current Assets Held for Sale and Discontinued Operations
22	AS 25	Ind AS 34	Interim Financial Reporting
23	AS 26	Ind AS 38	Intangible Assets
24	AS 27	Ind AS 31	Interests in Joint Ventures
25	AS 28	Ind AS 36	Impairments of Assets
26	AS 29	Ind AS 37	Provisions, Contingent Liabilities and Contingent Assets
27	AS 30	Ind AS 39	Financial Instruments: Recognition and Measurement
28	AS 31	Ind AS 32	Financial Instruments: Presentation
29	AS 32	Ind AS 107	Financial Instruments: Disclosures
30	Guidance Note	Ind AS 102	Share-based Payment
31	Guidance Note	Ind AS 106	Exploration for and Evaluation of mineral Resources
32	No Corresponding Standard	Ind AS 29	Financial Reporting in Hyperinflationary Economies
33	No Corresponding Standard	Ind AS 40	Investment Property
34	No Corresponding Standard	Ind AS 101	First Time Adoption of Ind AS
35	No Corresponding Standard	Ind AS 104	Insurance Contracts

Need for Accounting Standards

1. It helps in dissemination of timely and useful financial information to all Stakeholders and users.
2. It helps to provide a set of standard accounting policies, valuation norms and disclosure requirement.
3. It ensures disclosures of accounting principles and treatments, where important information is not otherwise statutorily required to be disclosed.
4. It helps to reduce or totally eliminate, accounting alternatives, thereby it leads to better inter-firm and intra-firm comparison of Financial Statements.
5. It reduces scope of creative accounting, i.e. twisting of accounting policies to produce Financial Statement favourable to a particular interest group.

1.17 DOUBLE ENTRY SYSTEM, BOOKS OF PRIME ENTRY, SUBSIDIARY BOOKS

1.17.1 Double Entry System - This part we have already explained in 1.12 B

1.17.2 Books of Prime Entry

A journal is often referred to as Book of Prime Entry or the book of original entry. In this book transactions are recorded in their chronological order. The process of recording transaction in a journal is called as 'Journalisation'. The entry made in this book is called a 'journal entry'.

1.17.2.1 Functions of Journal

- (i) *Analytical Function* : Each transaction is analysed into the debit aspect and the credit aspect. This helps to find out how each transaction will financially affect the business.
- (ii) *Recording Function* : Accountancy is a business language which helps to record the transactions based on the principles. Each such recording entry is supported by a narration, which explain, the transaction in simple language. Narration means to narrate – i.e. to explain. It starts with the word – Being ...
- (iii) *Historical Function* : It contains a chronological record of the transactions for future references.

1.17.2.2 Advantages of Journal

The following are the advantages of a journal :

- (i) *Chronological Record* : It records transactions as and when it happens. So it is possible to get a detailed day-to-day information.
- (ii) *Minimising the possibility of errors* : The nature of transaction and its effect on the financial position of the business is determined by recording and analyzing into debit and credit aspect.
- (iii) *Narration* : It means explanation of the recorded transactions.
- (iv) *Helps to finalise the accounts* : Journal is the basis of ledger posting and the ultimate Trial Balance. The Trial balance helps to prepare the final accounts.

The specimen of a journal book is shown below.

Date	Particulars	Voucher number	Ledger folio	Debit amount (₹)	Credit amount (₹)
dd-mm-yy	Name of A/c to be debited Name of A/c to be credited (narration describing the transaction)	-----	Reference of page number of the A/c in ledger	-----	-----

Explanation of Journal

- (i) *Date Column* : This column contains the date of the transaction.
- (ii) *Particulars* : This column contains which account is to be debited and which account is to be credited. It is also supported by an explanation called narration.
- (iii) *Voucher Number* : This Column contains the number written on the voucher of the respective transaction.
- (iv) *Ledger Folio (L.F.)* : This column contains the folio (i.e. page no.) of the ledger, where the transaction is posted.
- (v) *Dr. Amount and Cr. Amount* : This column shows the financial value of each transaction. The amount is recorded in both the columns, since for every debit there is a corresponding and equal credit.

All the columns are filled in at the time of entering the transaction except for the column of ledger folio. This is filled at the time of posting of the transaction to 'ledger'. This process is explained later in this chapter.

Example:

As per voucher no. 31 of Roy Brothers, on 10.05.2012 goods of ₹ 50000 were purchased. Cash was paid immediately. Ledger Folios of the Purchase A/c and Cash A/c are 5 and 17 respectively. Journal entry of the above transaction is given below:



In the books of Roy Brothers

Journal Entries

Date	Particulars	Voucher No.	Ledger Folio	Dr.	Cr.
				Amount (₹)	Amount (₹)
10.05.2012	Purchase A/c Dr. To, Cash A/c (Being goods purchased for Cash)	31	5 17	50,000	50,000

Illustration 18.

Let us illustrate the journal entries for the following transactions:

2012

April

- 1 Mr. Vikas and Mrs. Vaibhavi who are husband and wife start consulting business by bringing in their personal cash of ₹ 5,00,000 and ₹ 2,50,000 respectively.
- 10 Bought office furniture of ₹ 25,000 for cash. Bill No. - 2012/F/3
- 11 Opened a current account with Punjab National Bank by depositing ₹ 1,00,000
- 15 Paid office rent of ₹ 15,000 for the month by cheque to M/s Realtors Properties. Voucher No. 3
- 20 Bought a motor car worth ₹ 4,50,000 from Millennium Motors by making a down payment of ₹ 50,000 by cheque and the balance by taking a loan from HDFC Bank. Voucher No. M/12/7
- 25 Vikas and Vaibhavi carried out a consulting assignment for Avon Pharmaceuticals and raise a bill for ₹ 10,00,000 as consultancy fees. Bill No. B12/4/1 raised. Avon Pharmaceuticals have immediately settled ₹ 2,50,000 by way of cheque and the balance will be paid after 30 days. The cheque received is deposited into Bank.
- 30 Salary of one receptionist @ ₹ 5,000 per month and one officer @ ₹ 10,000 per month. The salary for the current month is payable to them.

Solution:

The entries for these transactions in a journal will look like:

In the Books of Vikash & Vaibhavi

Journal Entries

Journal Folio-1

Date	Particulars	Voucher number	L.F	Dr.	Cr.
				Amount (₹)	Amount (₹)
01-04-2012	Cash A/c Dr.		1	7,50,000	
	To Vikas's Capital A/c		2		5,00,000
	To Vaibhavi's capital A/c (Being capital brought in by the partners)		3		2,50,000
10-04-2012	Furniture A/c Dr.	2012/F/3	4	25,000	
	To Cash A/c (Being furniture purchased in cash)		1		25,000
11-04-2012	Punjab National Bank A/c Dr.		5	1,00,000	
	To Cash A/c (Being current account opened with Punjab National Bank by depositing cash)		1		1,00,000

15-04-2012	Rent A/c To Punjab National Bank A/c (being rent paid to Realtors Properties for the month)	Dr.	3	6 5	15,000	15,000
20-04-2012	Motor Car A/c To Punjab National Bank A/c To Loan from HDFC Bank A/c (Being car purchased from Millennium Motors by paying down payment and loan arrangement)	Dr.	M/12/7	7 5 8	4,50,000	50,000 4,00,000
25-04-2012	Punjab National Bank A/c Avon Pharma A/c To Consultancy Fees A/c (Being amount received and revenue recognized for fees charged)	Dr. Dr.	B12/4/1	5 9 10	2,50,000 7,50,000	10,00,000
30-04-2012	Salary A/c To Salary payable A/c (Being the entry to record salary obligation for the month)	Dr.		11 12	15,000	15,000

Illustration 19.

Journalise the following transactions in the books of Mr. Roy

2012

April

- 1 He started business with a capital of – Plant ₹ 10,000, Bank ₹ 8,000, Stock ₹ 12,000
- 2 Bought furniture for resale ₹ 5,000
Bought furniture for Office decoration ₹ 3,000
- 3 Paid rent out of personal cash for ₹ 2,000
- 8 Sold furniture out of those for resale ₹ 6,000
- 12 Paid Salary to Mr. X for ₹ 1,200
- 15 Purchased goods from Mr. Mukherjee for cash ₹ 3,000
- 18 Sold goods to Mr. Sen on credit for ₹ 8,000
- 20 Mr. Sen returned goods valued ₹ 1,000
- 22 Received cash from Mr. Sen of ₹ 6,500 in full settlement
- 28 Bought goods from Mr. Bose on credit for ₹ 5,000
- 30 Returned goods to Mr. Bose of ₹ 500 and paid to Mr. Bose ₹ 4,000 in full settlement.

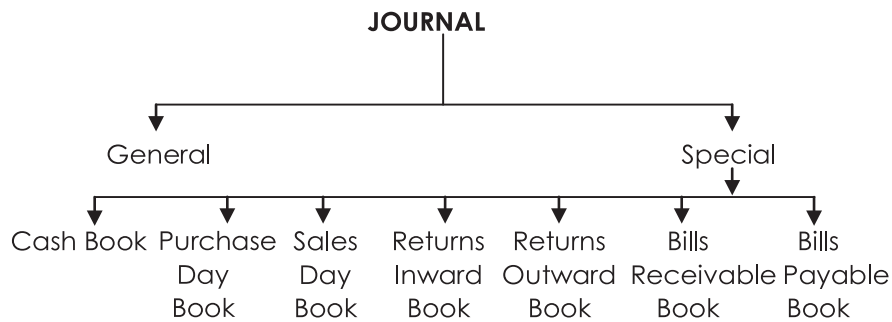
**Solution****In the Books of Mr. Roy
Journal Entries**

Date	Particulars	L. F.	Debit (₹)	Credit (₹)
April, 2012				
1	Plant A/c Dr. Bank A/c Dr. Stock A/c Dr. To, Capital A/c [Being Plant, Bank, Stock introduced to the business]		10,000 8,000 12,000	30,000
2	Purchase A/c Dr. To, Bank A/c [Being furniture purchased for resale]		5,000	5,000
	Furniture A/c Dr. To, Bank A/c [Being furniture purchased for office decoration]		3,000	3,000
3	Rent A/c Dr. To, Capital A/c [Being rent paid out of personal cash]		2,000	2,000
8	Cash A/c Dr. To, Sales A/c [Being furniture out of those meant for resale are sold]		6,000	6,000
12	Salary A/c Dr. To, Bank A/c [Being salary paid to Mr. X]		1,200	1,200
15	Purchase A/c Dr. To, Cash A/c [Being goods purchased]		3,000	3,000
18	Mr. Sen A/c Dr. To, Sales A/c [Being goods sold on credit to Mr. Sen]		8,000	8,000
20	Returns Inward A/c Dr. To, Mr. Sen A/c [Being goods returned from Mr. Sen]		1,000	1,000
22	Cash A/c Dr. Discount Allowed A/c Dr. To, Mr. Sen A/c [Being cash received from Mr. Sen in full settlement]		6,500 500	7,000
28	Purchase A/c Dr. To, Mr. Bose A/c [Being goods purchased from Mr. Bose on credit]		5,000	5,000
30	Mr. Bose A/c Dr. To, Cash A/c To, Returns Outward A/c To, Discount Received A/c [Being goods returned to Mr. Bose and paid cash in full settlement]		5,000	4,000 500 500

Please observe the convention of entry. Accounts to be debited are written first with 'Dr' as a suffix, and accounts to be credited are written subsequently with a prefix 'To'.

1.17.2.3 Sub-division of Journals

Journal is divided into two types - (i) General Journal and (ii) Special Journal.



(i) General Journal

- This is a book of chronological record of transactions.
- This book records those transactions which occur so infrequently that they do not warrant the setting up of special journals.

Examples of such entries : (i) opening entries (ii) closing entries (iii) rectification of errors.

The form of this general journal, is as under :

JOURNAL

Date	Particulars	L.F.	Dr. Amount	Cr. Amount

L.F. : Ledger Folio

Dr : Debit

Cr : Credit

Recording of transactions in this book is called journalising and the record of transactions is known as journal entry.

(ii) Special Journal

It is subdivided into Cash Book, Purchase Day Book, Sales Day Book, Returns Inward Book, Returns Outward Book, Bills Receivable Book and Bills Payable Book. These books are called subsidiary books.

Importance of Sub-division of journals

When the number of transactions is large, it is practically not possible to record all the transactions through one journal because of the following limitations of Journal:

- The system of recording all transactions in a journal requires (a) writing down the name of the account involved as many times as the transaction occurs; and (b) an individual posting of each account debited and credited and hence, involves the repetitive journalizing and posting labour.
- Such a system can not provide the information on a prompt basis.
- Such a system does not facilitate the installation of an internal check system because the journal can be handled by only one person.
- The journal becomes huge and voluminous.
- To overcome the shortcomings of the use of the journal only as a book of original entry, the journal is sub-divided into special journal.

The journal is sub-divided in such a way that a separate book is used for each category of transactions which are repetitive in nature and are sufficiently large in number.



1.17.2.4 Compound Journal

If for a single transaction, only one account is debited and one account is credited, it is known as simple journal.

If the transaction requires more than one account which is to be debited or more than one account is to be credited, it is known as Compound Journal.

The following illustration will make it clear :

Illustration 20.

- (i) Started business with Cash ₹50,000; Plant ₹24,000; Stock ₹4,000
- (ii) Sold Goods for Cash ₹8,000 and to Ms. Agarwal for ₹10,000
- (iii) Ms. Agarwal settled her account less discount ₹ 600

Solution

In the Books of Journal

Date	Particulars	L.F.	Debit ₹	Credit ₹
(i)	Cash A/c Dr. Plant A/c Dr. Stock A/c Dr. To Capital A/c (Being business started with cash, plant and stock as capital)		50,000 24,000 4,000	78,000
(ii)	Cash A/c Dr. Ms. Agarwal's A/c Dr. To Sales A/c (Being goods sold for cash ₹ 8,000 and on credit ₹ 10,000)		8,000 10,000	18,000
(iii)	Cash A/c Dr. Discount Allowed A/c Dr. To Ms. Agarwal's A/c (Being cash received as final settlement and discount allowed)		9,400 600	10,000

1.17.3 Subsidiary Books

Although once understood, the entries are easy to be written, but if transactions are too many, it may become difficult to manage them and retrieve. Imagine there are 25 purchase transactions in a day. Because the journal will record all transaction chronologically, it may be possible that the purchase transactions could be scattered i.e. they may not all come together one after the other. Now, at the end of the day if the owner wants to know the total purchases made during the day, the accountant will spend time first to retrieve all purchase transactions from journal and then take total. This involve time.

This being the greatest limitation of journal, it is generally sub-divided into more than one journal. On what logic is such a sub-division made? It is done on the basis of similar transactions which are clubbed in a single book e.g. purchase transactions, sales transaction etc. The sub-division of journal is done as follows:

Transaction	Subsidiary Book
All cash and bank transactions	Cash Book - has columns for cash, bank and cash discount
All credit purchase of goods – only those Goods that are purchased for resale are covered here.	Purchase Day Book or Purchase register
All credit sale of goods	Sales Day Book or sales register
All purchase returns – i.e. return of goods back to suppliers due to defects	Purchase Return Book or Return Outward Book
All sales returns – i.e. return of goods back from customers	Sales Return Book or Return Inward Book
All bill receivables – these are bills accepted by customers to be honoured at an agreed date. This is dealt with in depth later in the study note	Bills Receivable Book
All bills payable - these are bills accepted by the business to be honoured by paying to suppliers at an agreed date.	Bills Payable Book
For all other transactions not covered in any of the above categories – i.e. purchase or sale of assets, expense accruals, rectification entries, adjusting entries, opening entries and closing entries.	Journal Proper

Let us see the formats for each of these and examples as illustration.

1.17.3.1 Recording of cash and Bank Transactions

1.17.3.1.1 Cash Book

A Cash Book is a special journal which is used for recording all cash receipts and all cash payments. Cash Book is a book of original entry since transactions are recorded for the first time from the source documents. The Cash Book is larger in the sense that it is designed in the form of a Cash Account and records cash receipts on the debit side and cash payments on the credit side. Thus, the Cash Book is both a journal and a ledger.

Cash Book as the only Book of Original Entry

1.17.3.1.2 This Cash Book records all types of transactions even if that are some credit transactions i.e., all transactions are recorded and not like the ordinary Cash Book where only cash transactions are recorded. For non-cash transactions, there will be two entries in the Cash Book, ultimately that will be no effect in cash balance. For example, if goods are sold to Mr. X on credit for ₹5,000, the entries will be—

Journal				
			Dr.	Cr.
Sl. No.	Particulars	L/F	Amount ₹	Amount ₹
(i)	Cash A/c Dr. To Sales A/c		5,000	5,000
(ii)	X A/c Dr. To Cash A/c		5,000	5,000

Although the original entry is

Journal				
			Dr.	Cr.
Sl. No.	Particulars	L/F	Amount ₹	Amount ₹
(i)	X A/c Dr. To Sales A/c		5,000	5,000



Illustration 21:

Write up a Cash Book of Mr. Y for the month of April 2013, which serves as the only book of original entry

April 2013	
1.	Balance in hand ₹5,000
4.	Sold goods to Mr. Z on credit ₹3,000
6.	Sold goods for Cash ₹1,000
8.	Purchased goods on credit from Mr. P for ₹3,000
12.	Paid to Mr. P for ₹2,000 and Received Discount ₹200
15.	Returned goods to Mr. P for ₹800
20.	Goods Returned by Mr. Z for ₹300
25.	Z settled his account for ₹2,500
26.	Paid salary by cheque for ₹1,000
30.	Received interest for ₹1,000

Solution:

In the books of Mr. Y Cash Book (as the only Book of Single Entry)

Dr.				Cr.			
Date	Particulars	L/F	Amount ₹	Date	Particulars	L/F	Amount ₹
2013				2013			
Apr. 1	To Balance b/d		5,000	Apr. 4	By Z A/c		3,000
4	„ Sales A/c		3,000		(Goods sold on credit)		
	(Goods sold to Mr. Z)			8	„ Purchase A/c		3,000
6	„ Sales A/c		1,000		(Goods purchased on credit)		
	(Goods sold for cash)			12	„ P A/c		2,000
8	„ P A/c		3,000		(Paid to P)		
	(Goods purchased on credit)				„ P A/c		200
12	„ Discount Received A/c		200		(Discount Received)		
15	„ Returns Outwards A/c		800	15	P A/c (Goods returned)		800
	(Goods Returned)			20	„ Returns Inwards A/c		300
20	„ Z A/c		300		(Goods returned by Mr. Z)		
	(Goods returned by Z)				„ Discount Allowed A/c		200
25	„ Z A/c		2,500	26	„ Salary A/c		1,000
	(Received from Z)				(Paid Salary)		
	„ Z A/c		200		„ Balance c/d		7,500
	(Discount Allowed)						
26	„ Bank A/c		1,000				
	(Withdrawn by cheque)						
30	„ Interest A/c		1,000				
	(Interest Received)						
			18,000				18,000
May. 1	To Balance b/d		7,500				

1.17.3.1.3 Types of Cash Book

There are different types of Cash Book as follows:

(i) Single Column Cash Book- Single Column Cash book has one amount column on each side. All cash receipts are recorded on the debit side and all cash payments on the payment side, this book is nothing but a Cash Account and there is no need to open separate cash account in the ledger.

(ii) Double Column Cash Book- Cash book with Discount Column has two amount columns, one for cash and other for Discount on each side. All cash receipts and cash discount allowed are recorded on the debit side and all cash payments and discount received are recorded on the credit side.

(iii) Triple Column Cash Book- Triple Column Cash Book has three amount columns, one for cash, one for Bank and one for discount, on each side. All cash receipts, deposits into bank and discount allowed are recorded on debit side and all cash payments, withdrawals from bank and discount received are recorded on the credit side. In fact, a triple-column cash book serves the purpose of Cash Account and Bank Account both. Thus, there is no need to create these two accounts in the ledger.

Dr. Specimen of Single Column Cash Book Cr.

Receipts				Payments			
Date	Particulars	L.F.	Cash	Date	Particulars	L.F.	Cash

Dr. Specimen of Double Column Cash Book Cr.

Receipts					Payments				
Date	Particulars	L.F.	Cash	Disc. Allowed	Date	Particulars	L.F.	Cash	Disc. Received

Dr. Specimen of Triple Column Cash Book Cr.

Receipts						Payments					
Date	Particulars	L.F.	Cash	Bank	Discount Allowed	Date	Particulars	L.F.	Cash	Bank	Discount Received

Double Column Cash Book containing contra transaction and cheque transaction

The double column Cash book has columns on both the sides of the Cash book. This cash book can have two columns on both the sides as under :

- (a) Cash and Discount Columns,
- (b) Cash and Bank columns,
- (c) Bank and Discount columns.



(I) Contra Transactions

Transactions which relates to allowing discount or receiving discount in cash after the settlement of the dues are known as Contra Transactions.

Example:

1. Received ₹ 500 as discount from Mr. Ghosh whose account was previously settle in full.

Cash A/c	Dr.	500
To Discount Received A/c		500

(Being cash received as discount from Mr. Ghosh whose account was previous settled in full)

2. Paid ₹ 400 as discount to Mr. Ghosh Dastidar who settled his account in full previously.

Discount Allowed A/c	Dr.	400
To Cash A/c		400

(Being discount allowed in cash to Mr. Ghosh Dastidar who settled his account in full)

(II) Cheque Transactions

When a cheque is received and no any other information at a later date about the same is given, it will be assumed that the said cheque has already been deposited into bank on the same day when it was received. Then the entry should be as under:

Bank A/c	Dr.
To Debtors/Party A/c	

But if it is found that the said cheque has been deposited into the bank at a later date, then the entry will be:

- (i) When the cheque is received

Cash A/c	Dr.
To Debtors/Party A/c	

- (ii) When the same was deposited into bank at a later date

Bank A/c	Dr.
To Cash A/c	

- (iii) When the said cheque is dishonoured by the bank

Debtors/Party A/c	Dr.
To Bank A/c	

Let us see an illustration for the following cash and bank transactions in the books of Mr. Abhishek

January 1	Opening cash balance was ₹ 3,800 and bank balance was ₹ 27,500
January 4	Wages paid in cash ₹ 1,500
January 5	received cheque of ₹ 19,800 from KBK enterprises after allowing discount of ₹ 200
January 7	Paid to consultancy charges by cheque for ₹ 7,500
January 10	Cash of ₹ 2,500 withdrawn from bank
January 12	Received a cheque for ₹ 4,500 in full settlement of the account of Mr. X at a discount of 10% and deposited the same into the Bank.
January 15	X's cheque returned dishonoured by the Bank

**In the Books of Mr. Abhishek
Cash Book**

Dr.

Cr.

Receipts						Payments					
Date	Particulars	L.F.	Cash (₹)	Bank (₹)	Discount Allowed (₹)	Date	Particulars	L.F.	Cash (₹)	Bank (₹)	Discount received (₹)
1-Jan	Opening Balance		3,800	27,500		4-Jan	Wages paid		1,500		
5-Jan	Recd from KBK			19,800	200	7-Jan	Consultancy fees			7,500	
10-Jan	Cash withdrawn		2,500			10-Jan	Cash withdrawn			2,500	
12-Jan	Mr. X			4,500	500	15-Jan	Mr. X			4,500	500
							Closing balance		4,800	37,300	
			6,300	51,800	700				6,300	51,800	500

Please note that the balance of discount columns is not taken and these are posted directly to the respective ledger account separately. The balance of cash and bank columns are posted into cash and bank accounts periodically. The posting into ledger is explained later in this chapter.

1.17.3.2 Purchase Day Book

The purchase day book records the transactions related to credit purchase of goods only. It follows that any cash purchase or purchase of things other than goods is not recorded in the purchase day book. Periodically, the totals of Purchase day book are posted to Purchase account in the ledger. The specimen Purchase day book is given below:

**In the Books of
Purchase Day Book**

Date	Name of the Suppliers and details of Goods purchased	Invoice reference	L. F.	Amount (₹)	Remarks

The format for Purchase Return is exactly the same; hence separate illustration is not given.

Let us see an illustration for following transactions for a furniture shop:

1. Bought 20 tables @ ₹ 500 per table from Majestic Appliances on credit @ 12% trade discount as per invoice number 22334 on 2nd March.
2. Purchased three dozen chairs @ ₹ 250 each from Metro chairs as per invoice number 1112 on 4th March.
3. Second hand furniture bought from Modern Furnitures on credit as per invoice number 375 for ₹ 1200 on 7th March.
4. Purchased seven book racks from Mayur Furnitures for ₹ 4900 paid for in cash on 6th March.
5. Purchased Machinery for ₹ 30000 from Kirloskar Ltd on 9th March as per invoice number 37.

**In the Books of Furniture Shop
Purchase Day Book**

Date	Name of the Suppliers and Details of goods purchased	Invoice reference	L. F.	Amount (₹)
2nd March	Majestic Appliances 20 tables@ 500 and 12% trade discount (20 * 500) = 10000 less 12% discount	22334		8,800
4th March	Metro Chairs 3 dozen chairs @ 250 per chair	1112		9,000
7th March	Modern Furnitures	375		1,200
	Total			19,000



Please note that the transaction for purchase of book rack will not be entered in the purchase book as it is not purchased on credit. (Where will it go then? it will go to the cash book!). Similarly purchase of machinery will not form part of purchase book. It will be entered in Journal Proper.

1.17.3.3 Sales Day Book

The sales day book records transaction of credit sale of goods to customers. Sale of other things, even on credit, will not be entered in the sales day book but will be entered in Journal Proper. If goods are sold for cash, it will be entered in cash book. Total of sales day book is periodically posted to sales account in the ledger. The specimen of a sales day book is given below.

In the books of

Sales Day Book

Date	Particulars	Invoice reference	L. F.	Amount	Remarks

The format of sales return book is exactly the same; hence a separate illustration is not given.

Let us see how will be the following transaction recorded in the books of a Cloth Merchant.

1st July	Sold Tip Top clothing 50 suits of ₹ 2,200 each on two months credit on invoice number -2
11th July	Sold to New India Woolen 100 sweaters @ ₹ 250 each on invoice number 55
13th July	Received an order from Modern clothing for 100 trousers @ ₹ 500 at trade discount of 10%
17th July	Sold 50 sarees to Lunkad brothers @ ₹ 750 each
25th July	Sold T-shirts at exhibition hall for cash for ₹ 7,500

In the books of Cloth Marchant

Sales Day Book

Date	Particulars	Invoice reference	L. F.	Amount
1st July	Tip Top Clothing 50 suits @ ₹ 2,200	2		1,10,000
11th July	New India Woolen 100 sweaters @ ₹ 250	55		25,000
17th July	Lunkad brother 50 sarees @ ₹ 750			37,500
	Total			1,72,500

Here again, cash sales at exhibition hall are not recorded. Also, merely getting an order for goods is not a transaction to be entered in sales book.

1.17.3.4 Other Subsidiary Books – Returns Inward, Return Outward, Bills Receivable, Bills Payable.

(i) Return Inward Book- The transactions relating to goods which are returned by the customers for various reasons, such as not according to sample, or not up to the mark etc contain in this book. It is also known as Sales Return Book.

Generally when a customer returns good to suppliers he issues a Debit Note for the value of the goods returned by him. Similarly the supplier who receives those goods issues a Credit Note.

Returns Inward Day Book

Date	Particulars	Outward Invoice	L.F.	Details	Totals	Remarks

(ii) Return Outward Book- This book contains the transactions relating to goods that are returned by us to our creditors e.g. goods broken in transit, not according to the sample etc. It's also known as Purchase Return Book.

Return Outward Day Book

Date	Particulars	Debit Note	L.F.	Details	Totals	Remarks

(iii) Bills Receivable Book- It is such a book where all bills received are recorded and therefrom posted directly to the credit of the respective customer's account. The total amounts of the bills so received during the period (either at the end of the week or month) is to be posted in one sum to the debit of Bills Receivable A/c.

Bills Receivable Day Book

No. of Bills	Date of Receipt of Bill	From whom	Name of the Receiver	Name of Drawer	Name of Acceptor	Date of Bill	Due Date	L.F.	Amount of Bill	How disposed off

(iv) Bills Payable Book- Here all the particulars relating to bills accepted are recorded and therefrom posted directly to the debit of the respective creditor's account. The total amounts of the bills so accepted during the period (either at the end of the week or month) is to be posted in one sum to the credit of Bills Payable A/c.

Bills Payable Day Book

No. of Bills	Date of Acceptance	To whom given	Name of Drawer	Name of the Payee	Where Payable	Date of Bill	Term	Due Date	L.F.	Amount of Bill	How disposed off

1.17.3.5 Journal Proper

Credit transactions that cannot be entered in any other subsidiary book are entered in journal proper. It will cover purchase or sale of assets, expense accruals, rectification entries, adjusting entries, opening entries and closing entries. The format of journal proper is exactly the same as given in the section 1.17.2.2. The entries here recorded in the same way as shown in that illustration.

1.17.3.6 Ledger Accounts

Ledger is the main book or principal book of account. The entries into ledger accounts travel through the route of journal and subsidiary books. The ledger book contains all accounts viz. assets, liabilities, incomes or gains, expenses or losses, owner's capital and owner's equity. The ledger is the book of final entry and hence is a permanent record. There is a systematic way in which transactions are posted into a ledger account. Once the transactions are posted for an accounting period, the ledger accounts are balanced (i.e. the difference between debit side and credit side is calculated). These balances are used to ultimately prepare the financial statement like Profit and Loss A/c and Balance sheet. The ledger may also be divided as General ledger and Sub-ledgers. While the General Ledger will have all ledger accounts, the sub-ledgers will have individual accounts of customers and suppliers. If there are 10 customers, the general ledger will not have 10 individual accounts for each customer. Instead, these 10 customer accounts will exist in what is called as 'Receivables or Debtors Ledger' and the general ledger will have only one account that represents the customers. This is named as Debtors Control Account. Similar is the case of supplier accounts. Such sub-ledgers are necessary for better control over individual accounts. Also, this will avoid the general ledger from becoming too big, especially when number of customers and suppliers is large.



The specimen of a typical ledger account is given below.

Dr				Ledger-Account				Cr			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)

1.17.3.6.1 Ledger Posting

As and when the transaction takes place, it is recorded in the journal in the form of journal entry. This entry is posted again in the respective ledger accounts under double entry principle from the journal. This is called ledger posting.

The rules for writing up accounts of various types are as follows :

- Assets : Increases on the left hand side or the debit side and decreases on the credit side or the right hand side.
- Liabilities : Increases on the credit side and decreases on the debit side.
- Capitals : The same as liabilities.
- Expenses : Increases on the debit side and decreases on the credit side.
- Incomes or gain : Increases on the credit side and decrease on the debit side.

To summarise

Dr.	Assets	Cr.	Dr.	Liabilities & Capital	Cr.
Increase		Decrease	Decrease		Increase
Dr.	Expenses or Loses	Cr.	Dr.	Income or Gains	Cr.
Increase		Decrease	Decrease		Increase

The student should clearly understand the nature of debit and credit.

A debit denotes :

- In the case of a person that he has received some benefit against which he has already rendered some service or will render service in future. When a person becomes liable to do something in favour of the firm, the fact is recorded by debiting that person's account : (relating to Personal Account)
- In case of goods or properties, that the value and the stock of such goods or properties has increased, (relating to Real Accounts)
- In case of other accounts like losses or expenses, that the firm has incurred certain expenses or has lost money. (relating to Nominal Account)

A credit denotes :

- In case of a person, that some benefit has been received from him, entitling him to claim from the firm a return benefit in the form of cash or goods or service. When a person becomes entitled to money or money's worth for any reason. The fact is recorded by crediting him (relating to Personal Account)
- In the case of goods or properties, that the stock and value of such goods or properties has decreased. (relating to Real Accounts)
- In case of other accounts like interest or dividend or commission received, or discount received, that the firm has made a gain (relating to Nominal Account)

At a glance :

Dr. (Debit side)	Cr. (Credit side)
DESTINATION Where the economic benefit reaches / is received.	SOURCE of each economic benefits
Receiver	Given
What comes in	What goes out
All expense and losses	All income and gains

Let us now understand the mechanism of posting transaction into the ledger account. Consider the transaction: Rent paid in cash for ₹ 10000. The journal entry for this transaction would be:

Jan 15	Rent A/c	Dr	10,000
	To Cash A/c		10,000

We will open two ledger accounts namely Rent A/c and Cash A/c. Let us see how the posting is made

Rent Account

Dr.				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
Jan15	To Cash A/c		10,000				

Cash Account

Dr.				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
				Jan 15	By Rent A/c		10,000

Please observe the following conventions while posting a transaction into ledger accounts. Note that both the effects of an entry must be recorded in the ledger accounts simultaneously.

- 1) The posting in the account which is debited, is done on the debit side by writing the name of the account or accounts that are credited with the prefix 'To'.
- 2) The posting in the account which is credited, is done on the credit side by writing the name of the account or accounts that are debited with the prefix "By".

Let us now see how we can create ledger account for the seven journal entries that we passed for Illustration 18.

Folio No. 1

Dr.				Cash Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)				
1.4.2012	To Vikas's capital	1	500,000	10.4.2012	By Furniture	1	25,000				
1.4.2012	To Vaibhavi's capital	1	250,000	11.4.2012	By Punjab National Bank	1	1,00,000				
				30.4.2012	By Balance c/d		6,25,000				
			750,000				7,50,000				
1.5.2012	To Balance b/d		625,000								

Folio No. 2

Dr.				Mr. Vikas's Capital Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)				
30.4.2012	To Balance c/d		5,00,000	1.4.2012	By Cash	1	5,00,000				
			5,00,000				5,00,000				
				1.5.2012	By Balance b/d		5,00,000				



Folio No. 3

Dr. Mrs. Vaibhavi's Capital Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
				1.4.2012	By Cash	1	2,50,000

Folio No. 4

Dr. Furniture Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
10.04.2012	To Cash		25,000				

Folio No. 5

Dr. Punjab National Bank Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
11.4.2012	To Cash	1	1,00,000	15.4.2012	By Rent	1	15,000
25.4.2012	To Consultancy Fees	1	2,50,000	20.4.2012	By Motor Car	1	50,000

Folio No. 6

Dr. Rent Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
15.4.2012	To Punjab National Bank	1	15,000				

Folio No. 7

Dr. Motor Car Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
20.4.2012	To Punjab National Bank	1	50,000				
"	To Loan from HDFC Bank	1	4,00,000				

Folio No. 8

Dr. Loan from HDFC Bank Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
				20.4.2012	By Motor Car	1	4,00,000

Folio No. 9

Dr. Avon Pharmaceuticals Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
25.4.2012	To Consultancy Fees	1	7,50,000				

Folio No. 10

Dr. Consultancy Fees Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
				25.4.2012	By Punjab National Bank	1	2,50,000
				25.4.2012	By Avon Pharma	1	7,50,000

Folio No. 11

Dr. Salary Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
30.4.2012	To Salary payable	1	15,000				

Folio No. 12

Dr. Salary Payable Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
				30.4.2012	By Salary	1	15,000

Please carefully observe the posting of journal entries into various ledger accounts. Do you see some further calculation in the cash A/c and Mr. Vikas's Capital A/c? What is done is that after posting all

transactions to these accounts, the difference between the debit and credit sides is calculated. This difference is put on the side with smaller amount in order to tally grand totals of both sides. The convention is to write "To Balance c/d" or "By balance c /d" as the case may be. This procedure is normally done at the end of an accounting period. This process is called as "balancing of ledger accounts".

Once the ledgers are balanced for one accounting period, the balance needs to be carried forward to the next accounting period as a running balance. This is done by writing "To Balance b/d" or "By balance b/d" as the case may be after the grand totals. This is also shown in the Cash A/c and Mr. Vikas's Capital Account.

Could you now attempt to balance the other ledger accounts and carry the balances to the next accounting period?

Important note: Please remember the balances of personal and real accounts only are carried down to the next accounting period as they represent resources and obligations of the business which will continue to be used and settled respectively in future. Balances of nominal accounts (which represent incomes or gains and expenses or losses) are not carried down to the next period. These balances are taken to the Profit and Loss account (or Income statement) prepared for the period. The net result of the P & L Account will show either net income or net loss which will increase or decrease the owner's equity.

In the above example, please note that the balances of Rent A/c, Consultancy Fees Account and Salary Account will not be carried down to the next period, but to the P & L Account of that period. As illustration, we have shown it for Rent A/c.

1.17.3.6.2 Posting to Ledger Accounts from Subsidiary books

In the above section, we explained posting to ledger accounts directly on the basis of journal entries. In practice, however, we know that use of subsidiary books is in vogue. Let us see how the posting to ledger accounts is done based on these records.

For each of the subsidiary books, there is a ledger account e.g. for purchase book, there is Purchase Account, for sales book there's Sales A/c, for cash book there will be Cash A/c as well as Bank A/c and so on.

Let us continue with illustration seen in the section 1.17.3.1.3 above and post the totals into respective ledger accounts.

Dr.				Cash Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)				
1st Jan	To Balance b/d		3,800		By sundries as per cash book		1,500				
	To Miscellaneous Receipts		2,500		By Balance c/d		4,800				
			6,300				6,300				

Dr.				Purchases Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)				
	To sundries as per purchase book		19,000		By transfer to P & L A/c		19,000				

Dr.				Sales Account				Cr.			
Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)				
	To transfer to P & L A/c		1,72,500		By sundries as per sales book		1,72,500				

1.17.3.6.3 Typical Ledger Account Balances

We have seen how to balance various ledger accounts. It can be seen that while some accounts will show debit balance, while the other will show credit balance. Is there any relationship between the



type of account (whether it is the account of asset, liability, capital, owner's equity, incomes or gain, expenses or losses) and the kind of balance (debit or credit) it should show?

The answer is generally 'Yes'. You may test to find the following are typical relationships.

Type of Account	Type of balance
All asset accounts	Debit balance
All liability accounts	Credit balance
Capital & Owner's equity account	Credit balance
Expenses or loss accounts	Debit balance
Incomes or gain accounts	Credit balance

Let us test these possibilities for confirmation. How does one go about testing this? Consider 'Cash A/c'. Whenever business receives cash we debit it, and whenever it is paid we credit it. Is it possible to see a situation that credits to cash are more than debits? In other words could we have negative cash in hand? No. Cash account will therefore always show a debit balance. So is true for all real asset accounts. After solving problems, if the contrary is observed, there is every chance that an error has been made while passing the accounting entries.

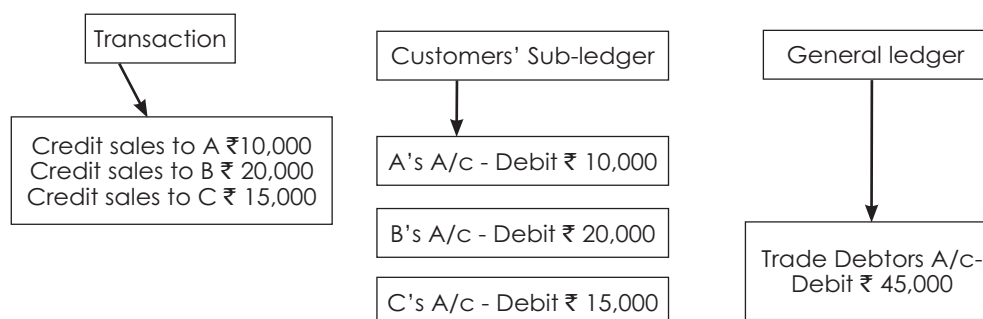
1.17.3.6.4 The Structure of Ledger

In practice, for the sake of convenience and ease of operations, the ledger is subdivided as follows:

- General Ledger:** This contains all main ledger accounts excepting individual accounts of customers, vendors and employees. For these categories there will be only one representative account in the general ledger e.g. for customers – Trade Debtors A/c (or Trade Receivables Control A/c), for suppliers – Trade Creditors A/c (or Trade Payables A/c) etc.
- Sub-Ledgers:** These are primarily, Customers' Ledger, Suppliers Ledger, Employees ledger etc. The customer ledger will have all individual accounts of all customers. Suppliers' ledger will have all individual accounts of all suppliers. Employee ledger will have individual accounts of all employees.

The balances of all individual accounts must tally with the balance reflected in the representative A/c in the general ledger. For this a periodical reconciliation is a must.

For example, if business has 3 customers A, B, and C; then an A/c for each of them is opened in the sub-ledger called Customers ledger and General Ledger will have only one A/c by the name of Trade Debtors A/c. All transactions with each of them will be recorded in the individual accounts as well as the control ledger. See the following:



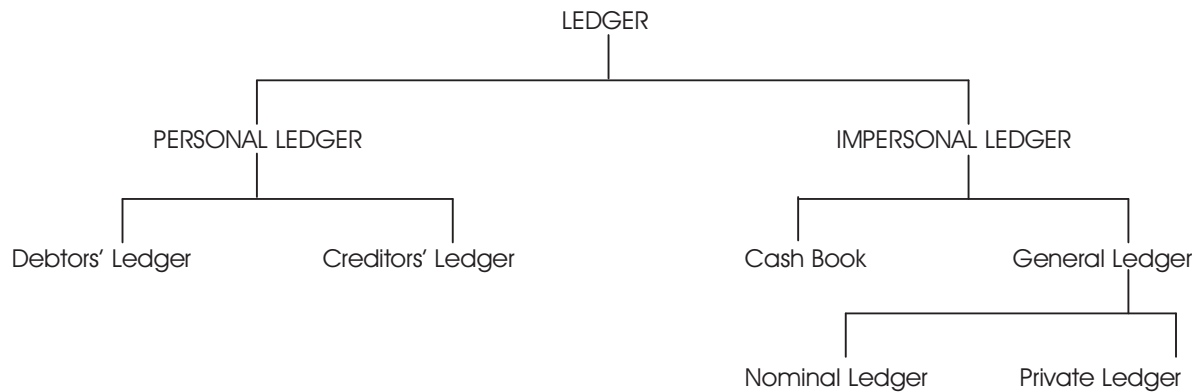
Such separation is made for better control. A person in charge of customer accounting is given responsibility of all individual customer accounting in the Customers sub-ledger, whereas another person be given responsibility for Suppliers' sub-ledger. In bigger organizations this division of labour is an absolute necessity. The person looking after General ledger is different.

Simultaneous posting of transactions into sub-ledgers A/cs and representative A/cs in general ledger may be quite tedious in manual accounting. But computerised accounting automates this process as well.

1.17.3.6.5 Subdivisions of Ledger

Practically, the Ledger may be divided into two groups -

(a) Personal Ledger & (b) Impersonal Ledger. They are again sub-divided as :



Personal Ledger: The ledger where the details of all transactions about the persons who are related to the accounting unit, are recorded, is called the Personal Ledger.

Impersonal Ledger: The Ledger where details of all transactions about assets, incomes & expenses etc. are recorded, is called Impersonal Ledger.

Again, Personal Ledger may be divided into two groups:

Viz. (a) Debtors' Ledger, & (b) Creditors' Ledger.

(a) **Debtors' Ledger:** The ledger where the details of transactions about the persons to whom goods are sold, cash is received, etc. are recorded, is called Debtors' Ledger.

(b) **Creditors' Ledger:** The ledger where the details of transactions about the persons from whom we purchase goods on credit, pay to them etc. are recorded, is called Creditors' Ledger.

Impersonal Ledger may, again be divided into two group, viz, (a) Cash Book; and (b) General Ledger.

(a) **Cash Book:** The Book where all cash & bank transactions are recorded, is called Cash Book.

(b) **General Ledger:** The ledger where all transactions relating to real accounts, nominal accounts, details of Debtors' Ledger and Creditors' Ledger are recorded, is called General Ledger.

General Ledger may, again, be divided into two groups. Viz, Nominal Ledger; & Private Ledger.

(a) **Nominal Ledger:** The ledger where all transactions relating to incomes and expenses are recorded, is called Nominal Ledger.

(b) **Private Ledger:** The Ledger where all transactions relating to assets and liabilities are recorded, is called Private Ledger.

1.17.3.6.6 Advantages of sub-division of Ledger.

The advantages of sub-division of ledger are:

(a) **Easy to Divide work :** As a result of sub-division, the division of work is possible and records can be maintained efficiently by the concerned employee.

(b) **Easy to handle :** As a result of sub-division, the size and volume of ledger is reduced.

(c) **Easy to collect information:** From the different classes of Ledger a particular type of transactions can easily be found out.

(d) **Minimizations of mistakes :** As a result of sub-division chances of mistakes are minimized.

(e) **Easy to compute :** As a result of sub-division, the accounting work may be computed quickly which is very helpful to the management.



- (f) **Fixation of responsibility:** Due to sub-division, allotment of different types of work to different employees is done for which concerned employee will be responsible.

1.18 TRIAL BALANCE

After the transactions are posted to various ledger accounts (either from journal or from subsidiary books) and they are balanced, the next stage is to draw up the list of all balances. We know that some ledger accounts will show 'debit balance' (debit side greater than the credit side), while the other will reflect a 'credit balance' (credit side being higher than debit side). All account balances are listed to ensure that the total of all debit balances equals the total of all credit balances. Why does this happen? Remember the dual aspect concept studied earlier in this study note?. According to this concept, every debit has equal corresponding credit. This list of balances is called Trial Balance.

According to the Dictionary for Accountants by Eric. L. Kohler, Trial Balance is defined as "a list or abstract of the balances or of total debits and total credits of the accounts in a ledger, the purpose being to determine the equality of posted debits and credits and to establish a basic summary for financial statements". According to Rolland, Trial Balance is defined as "The final list of balances, totaled and combined, is called Trial Balance".

As this is merely a listing of balances, this will always be as on a particular date. Further it must be understood that Trial Balance does not form part of books of account, but it is a report prepared by extracting balances of accounts maintained in the books of accounts.

When this list with tallied debit and credit balances is drawn up, the arithmetical accuracy of basic entries, ledger posting and balancing is ensured. However, it does not guarantee that the entries are correct in all respect. This will be explained later in this chapter.

Although it is supposed to be prepared at the end of accounting period, computerized accounting packages are capable of providing instant Trial Balance reports even on daily basis, as the transactions are recorded almost on line.

Let us prepare the trial balance for the ledger accounts from the illustration 18.

Trial Balance as on...

Account name	Debit (₹)	Credit (₹)
Cash A/c	6,25,000	
Vikas's capital A/c		5,00,000
Vaibhavi's capital A/c		2,50,000
Furniture A/c	25,000	
Punjab National Bank A/c	2,85,000	
Rent A/c	15,000	
Motor Car	4,50,000	
Loan from HDFC A/c		4,00,000
Avon Pharmaceuticals	7,50,000	
Consultancy fees A/c		10,00,000
Salary A/c	15,000	
Salary payable A/c		15,000
Total	21,65,000	21,65,000

It can be seen that the totals of debit and credit balances is exactly matching. This is the result of double entry book-keeping wherein every debit has equal corresponding credit. Here you can check for yourself, the relationship between type of account and type of balance explained in section 1.17.3.6.3 above.

1.18.1 Feature's of a Trial Balance

1. It is a list of debit and credit balances which are extracted from various ledger accounts.
2. It is a statement of debit and credit balances.

3. The purpose is to establish arithmetical accuracy of the transactions recorded in the Books of Accounts.
4. It does not prove arithmetical accuracy which can be determined by audit.
5. It is not an account. It is only a statement of account.
6. It is not a part of the final statements.
7. It is usually prepared at the end of the accounting year but it can also be prepared anytime as and when required like weekly, monthly, quarterly or half-yearly.
8. It is a link between books of accounts and the Profit and Loss Account and Balance sheet.

1.18.2 Preparation of Trial Balance:

1. It may be prepared on a loose sheet of paper.
2. The ledger accounts are balanced at first. They will have either "debit-balance" or "credit balance" or "nil-balance".
3. The accounts having debit-balance is written on the debit column and those having credit-balance are written on the credit column.

The sum total of both the balances must be equal, for "Every debit has its corresponding and equal credit".

1.18.3 Purpose of a Trial Balance

It serves the following purposes :

1. To check the arithmetical accuracy of the recorded transactions.
2. To ascertain the balance of any ledger Account.
3. To serve as an evidence of fact that the double entry has been completed in respect of every transaction.
4. To facilitate the preparation of final accounts promptly.

1.18.4 Is Trial Balance indispensable?

It is a mere statement prepared by the accountants for his own convenience and if it agrees, it is assumed that at least arithmetical accuracy has been done although there may be a lot of errors.

Trial Balance is not a process of accounts, but its preparation helps us to finalise the accounts. Since it is prepared on a particular date, as at / as on is stated.

1.18.5 Forms of a Trial Balance

A trial balance may be prepared in two forms, they are –

1. Journal Form
2. Ledger Form

The trial balance must tally irrespective of the form of a trial balance.

1. **Journal Form** : This form of a Trial balance will have a format of Journal Folio. It will have a column for serial number, name of the account, ledger folio, debit amount and credit amount columns in this journal form.

The ledger folio will show the page number on which such account appears in the ledger.



Specimen of Journal Form of Trial Balance :

Trial Balance as on

Sl. No.	Name of the Account	L.F.	Debit Balance ₹	Credit Balance ₹

2. **Ledger Form :** This form of a trial balance have two sides i.e. debit side and credit side. In fact, the ledger form of a trial balance is prepared in the form of an account. Each side of the trial balance will have particulars (name of the account) column, folio column and the amount column.

Specimen of ledger form of Trial Balance

Dr. Trial Balance as on Cr.

Date	Name of the Account	L.F.	Amount ₹	Date	Name of the Account	L.F.	Amount ₹

1.18.6 Method of Preparation

1. Total Method or Gross Trial Balance.
2. Balance Method or Net Trial Balance.
3. Compound Method.

These are explained as under :-

1. **Total Method or Gross Trial Balance :** Under this method, two sides of the accounts are totaled. The total of the debit side is called the "debit total" and the total of the credit side is called the "credit total". Debit totals are entered on the debit side of the Trial Balance while the credit total is entered on the credit side of the Trial Balance.

If a particular account has total in one side, it will be entered either in the debit column or the credit column as the case may be.

Advantages : (a) It facilitates arithmetical accuracy of the accounts.

(b) Extraction of ledger balances is not required at the time of preparation of Trial Balance.

Disadvantages : Preparation of final accounts is not possible.

2. **Balance Method or Net Trial Balance :** Under this method, all the ledger accounts are balanced. The balances may be either "debit-balance" or "credit balance".

Advantages : (a) It helps in the easy preparation of final accounts.

(b) It saves time and labour in constructing a Trial Balance.

Disadvantages : Errors may remain undisclosed irrespective of the agreement of Trial Balance.

3. **Compound Method :** Under this method, totals of both the sides of the accounts are written in the separate columns. Along with this, the balances are also written in the separate columns. Debit balances are written in the debit column and credit balances are written in the credit column of the Trial Balance.

Advantages : It offers the advantage of both the methods.

Disadvantages : Lengthy process and more time consumed in the preparation of a Trial Balance.

Summary of Rules

Debit Balance — All Assets, Drawings, Debtors, Expenses and losses.

Credit Balance — All liabilities, Capital, Creditors, Gains and Incomes.

1.18.7 Trial Balance – Utility and Interpretation

The utility of Trial balance could be found in the following:

- (1) It forms the basis for preparation of Financial statements i.e. Profit and Loss Account and Balance sheet.
- (2) A tallied trial balance ensures the arithmetical accuracy of the entries made. If the trial balance does not tally, the errors can be found out, rectified and then financial statements can be prepared.
- (3) It acts as a quick reference. One can easily find out the balance in any ledger account without actually referring to the ledger.
- (4) If the listing of ledger accounts is systematically done in the trial balance, one can do quick time analysis. Hence, listing is usually done in the sequence of Asset accounts, Liability accounts, Capital accounts, Owner's equity accounts, Income or gain accounts and Expenses or losses accounts in that order.

One can draw some quick inferences from trial balance by interpreting the same. If one plots monthly trial balances side by side, one can analyse the movement of balances in various accounts e.g. one can see how expenses are increasing or decreasing or showing a trend of movements. By comparing the owner's equity balances as on two dates, one can interpret the business result e.g. if the equity has gone up, one can interpret that business has earned net profit and vice versa.

1.18.8 Trial Balance and Errors

We have seen that a tallied Trial Balance (T. B.) ensures arithmetical accuracy. What does it mean? It means entries have been passed as per double entry, that every debit has equal corresponding credit. If the T.B. does not tally, there could be errors in transaction entry. Such errors are called 'Errors affecting trial balance'. These can be:

- (a) Only one effect of a transaction is posted to ledger e.g. for rent paid in cash, if entry is posted to cash but not to rent account, then obviously the T.B. will not match.
- (b) Posting of wrong amount in one of the ledger accounts e.g. rent of ₹ 1,000 is paid in cash. The posting to Rent A/c is done for ₹ 1,000, Cash A/c is recorded at ₹ 10,000. The T.B. will not tally.
- (c) If one of the posting is entered twice, T.B. will not match.
- (d) If the balance in a ledger is not correctly taken to the T.B. e.g. the Rent A/c has a balance of ₹1,000, but while taking it to the T.B. it is taken as ₹ 100, the T.B. will through up difference.
- (e) Taking balance to the wrong side in the T.B. e.g. a debit balance of ₹ 5,00,000 in Debtors A/c is taken as credit balance in the TB, then there will be a mismatch.
- (f) Wrong carry forwards also will result in the T.B. mismatch.

No financial statements can be prepared if the T.B. does not tally. Hence, the errors will have to be rectified before proceeding further. The accountants therefore endeavour to minimize errors by being more careful and by doing periodical scrutiny of the entries.

There are certain type of errors that will not affect tallying of the T.B. i.e. it will tally but still there will be errors. These are as follows:

- (a) **Error of omission:** if any entry is totally missed, the T.B. will tally but will be incorrect and incomplete.
- (b) **Compensating error:** if there are two errors that are compensating each other, still the T.B. will tally but not accurate.



- (c) **Wrong a/c head:** if entry for insurance paid is wrongly debited to Commission A/c, tallying of T.B. will not be affected.
- (d) **Error of duplication:** if a transaction is recorded twice, again the T.B. will match.
- (e) **Error of principle:** if interest received is wrongly entered as debit to interest and credit to cash, there won't be any mismatch in the T.B.

For the above type of errors, the identification process is very time consuming. Only strict vigil and ongoing audit of entries could minimize such errors. Of course, the computerised accounting packages do provide built mechanisms to avoid occurrence of these mistakes.

After preparation of TB, if the difference not major, it is temporarily transferred to "Suspense A/c" until the errors are located and corrected.

1.18.8.1 Errors which are not disclosed by a Trial Balance

The following errors cannot be detected by a Trial Balance :

- (a) **Errors of Omission :** When the transaction is not at all recorded in the books of accounts, i.e. neither in the debit side nor in the credit side of the account – trial balance will agree.
- (b) **Errors of Commission :** Where there is any variation in figure/amount, e.g. instead of ₹ 800 either ₹ 80 or ₹8,000 is recorded, in both sides of ledger accounts – trial balance will agree.
- (c) **Errors of Principal :** When accounts are prepared not according to double entry principle e.g. Purchase of a Plant wrongly debited to Purchase Account – Trial balance will agree.
- (d) **Errors of Misposting :** When wrong posting is made to a wrong account instead of a correct one although amount is correctly recorded, e.g., sold goods to B but wrongly debited to D's Account – trial balance will agree.
- (e) **Compensating Errors :** When one error is compensated by another error e.g. Discount Allowed ₹100 not debited to Discount Allowed Account, whereas interest received ₹100, but not credit to Interest Account – trial balance will agree.

1.18.8.2 Procedure to locate Errors:

If the Trial Balance does not agree, the following procedure should carefully be followed :

- (i) At first, check all ledger account balance one by one.
- (ii) Addition of both the columns (Debit and Credit) should be checked.
- (iii) If any difference comes divide the same by 2 and see whether the said figure appear on the correct side or not.
- (iv) Additions of the subsidiary books, and ledger accounts to be checked up.
- (vi) Posting from subsidiary books to the ledger to be checked up.
- (vii) Opening balance of all account whether brought forward correctly or not to be checked up.
- (viii) Even if the trial balance does not agree upto this level checking should be started again from the journal and book of original entry using tick mark (<).

AT A GLANCE

Trial Balance as at / as on		
Heads of Accounts	Side of Trial Balance	Reasons
Cash in hand	Debit	Assets
Cash at Bank	Debit	Assets
Cash at Bank (overdrawn)	Credit	Liability

Accounting Process

Bank Overdraft	Credit	Liability
Capital	Credit	Liability
Opening stock	Debit	Assets
Wages	Debit	Expenses
Purchase	Debit	Expense/Increase in stock
Carriage Inwards	Debit	Expenses
Freight	Debit	Expenses
Royalty on production	Debit	Expenses
Gas, Water, Fuel	Debit	Expenses
Motive Power	Debit	Expenses
Import Duty	Debit	Expenses
Sales	Credit	Income/Decrease in stock
Discount Allowed	Debit	Losses
Discount Received	Credit	Gains
Bad Debts	Debit	Losses
Reserve /Provision for Bad & Doubtful Debt (Opening)	Credit	Gains
Commission Received	Credit	Incomes
Salaries	Debit	Expenses
Commission paid	Debit	Expenses
Rent, rates, and taxes	Debit	Expenses
Repairs and maintenance	Debit	Expenses
Insurance	Debit	Expenses
Carriage outward	Debit	Expenses
Trade charges	Debit	Expenses
Royalty on sales	Debit	Expenses
Interest paid	Debit	Expenses
Interest received	Credit	Income
Advertisement	Debit	Expenses
Sundry expenses	Debit	Expenses
Miscellaneous expenses	Debit	Expenses
Miscellaneous receipts	Credit	Incomes
Income tax	Debit	Drawings/Assets
L.I.C. Premium	Debit	Drawings/Assets
Office expenses	Debit	Expenses
Export duty	Debit	Expenses
Allowances	Debit	Losses
Rebates	Debit	Losses
Sales tax	Debit	Expenses
Horses and Carts	Debit	Assets
Watch Dog Squad	Debit	Assets
Loan Secured	Credit	Liability
Loans Advanced	Debit	Assets
Reserve Funds	Credit	Liability
Sinking Fund	Credit	Liability
Sinking Fund Investments	Debit	Assets
Ecology Fund	Credit	Liability



Ecology Fund Investments	Debit	Assets
Building Fund	Credit	Liability
Building	Debit	Assets
Land	Debit	Assets
Plant	Debit	Assets
Machinery	Debit	Assets
Furniture & fittings	Debit	Assets
Motor vehicles	Debit	Assets
Computer	Debit	Assets
Office equipments	Debit	Assets
Goodwill	Debit	Assets
Patent rights	Debit	Assets
Copyrights	Debit	Assets
Trade marks	Debit	Assets
Investments	Debit	Assets
Shares & Securities	Debit	Assets
G. P. Notes	Debit	Assets
Sundry debtors	Debit	Assets
Sundry creditors	Credit	Liability
General Reserve	Credit	Liability
Bill Receivable	Debit	Assets
Bills Payable	Credit	Liability
Provision for Discount on Debtors	Credit	Liability
Provision for Discount on Creditors	Debit	Assets
Lighting and Heating	Debit	Expense
Drawings	Debit	Assets
Contribution to Provident Fund	Debit	Assets
Prize Fund	Credit	Liability
Depreciation	Debit	Losses
Provision for Depreciation	Credit	Liability
Returns Inwards	Debit	Losses
Returns Outwards	Credit	Gains
Freehold Property	Debit	Assets
Premises	Debit	Assets
Leasehold Property	Debit	Assets
Loose Tools	Debit	Assets
Petty Cash	Debit	Assets
Provident Fund	Credit	Liability
Debentures Purchased	Debit	Assets
Debentures (from Public)	Credit	Liability
Loan on Mortgage	Credit	Liability
Prepaid Expenses	Debit	Assets
Outstanding Expenses	Credit	Liability
Bad Debts Recovered	Credit	Gains
Accrued Incomes	Debit	Assets
Apprenticeship Premium received	Credit	Income
Books	Debit	Assets
Newspaper and Magazine	Debit	Expenses

Profit and Loss A/c (Dr.)	Debit	Losses
Profit and Loss A/c (Cr.)	Credit	Gains
Accumulated Depreciation	Credit	Liability
Postage and Telegram	Debit	Expense
Travelling & Conveyance	Debit	Expenses

Illustration 22.

From the following ledger account balances, prepare a Trial Balance of Mr. Sen for the year ended 31st March, 2013.

Capital ₹ 80,000 ; Sales ₹10,00,000; Adjusted Purchase ₹ 8,00,000; Current A/c(cr) ₹ 10,000; Petty Cash ₹ 10,000; Sales Ledger Balance ₹ 1,20,000; Purchase Ledger Balance ₹ 60,000; Salaries ₹24,000; Carriage Inwards ₹ 4,000; Carriage Outward ₹ 6,000; Discount Allowed ₹ 10,000; Building ₹ 80,000; Outstanding Expenses ₹ 10,000; Prepaid Insurance ₹ 2,000 ; Depreciation ₹ 4,000 ; Cash at Bank ₹ 80,000 ; Loan A/c (cr) ₹ 66,000; Profit & Loss A/c(cr) ₹ 20,000; Bad Debts Recovered ₹ 2,000 ; Stock at 31.03.2013 ₹ 1,20,000; Interest Received ₹ 10,000; Accrued Interest ₹ 4,000; Investment ₹ 20,000; Provision for Bad Debts (01.04.2012) ₹ 6,000 ; General Reserve ₹ 20,000.

Solution.

Trial Balance of Mr. Sen as on 31st March, 2013			
Dr.			Cr.
Heads of Accounts	Amount (₹)	Heads of Accounts	Amount (₹)
Adjusted Purchase	8,00,000	Capital	80,000
Petty Cash	10,000	Sales	10,00,000
Sales Ledger Balance	1,20,000	Current A/c	10,000
Salaries	24,000	Purchase Ledger Balance	60,000
Carriage Inward	4,000	Outstanding Expenses	10,000
Discount Allowed	10,000	Loan A/c	66,000
Building	80,000	Profit & Loss A/c(cr)	20,000
Prepaid Insurance	2,000	Bad Debts Recovered	2,000
Depreciation	4,000	Interest Received	10,000
Cash at Bank	80,000	Provision for Bad debts	6,000
Stock (31.03.2013)	1,20,000	General Reserve	20,000
Accrued Interest	4,000		
Investment	20,000		
Carriage outward	12,84,000		12,84,000

Note: closing Stock will appear in Trial Balance since there is adjusted purchase.

Adjusted purchase = Opening Stock + Purchase - Closing Stock.

It may be noted that if only adjusted purchase is considered then the matching concept is affected. Hence, to satisfy the matching concept, closing stock is also considered in Trial Balance.

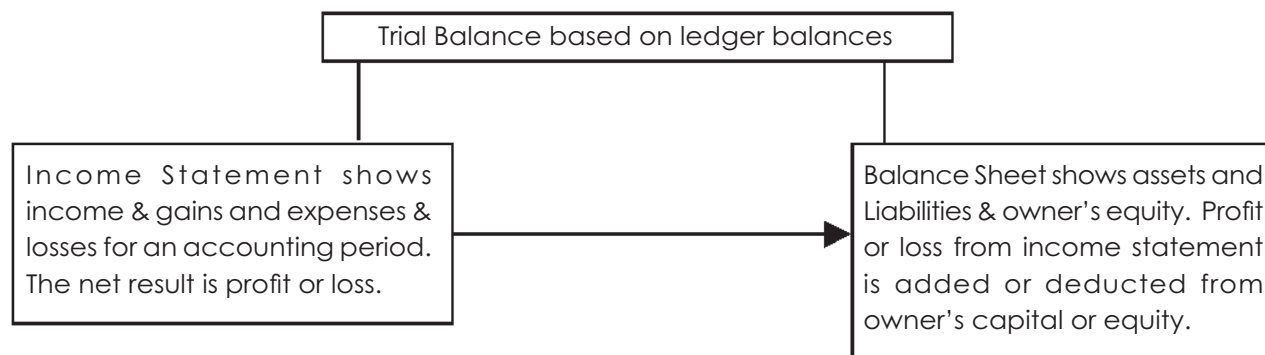
1.19 MEASUREMENT, VALUATION AND ACCOUNTING ESTIMATES

At the end of the last section, it was stated that Trial Balance forms the basis for preparing financial statements. However, there are certain other tasks that have to be completed before these final accounts are prepared. You know that accounting entries are made on the basis of actual transactions carried out during an accounting period. These are all included in the trial balance. However, there could be certain other business realities which are to be recognized as either asset, liability, income, gain, expense, loss or a combination thereof. As we know the matching concept necessitates the consideration of all aspects which may affect the financial result of the business. Technically these are called as adjustments



for which entries need to be passed, without which the financial statements will not give a true and fair view of business activity. We discuss some of these entries and adjustments in the following sections.

Before discussing these, let us understand the meaning of Income Statement and Balance Sheet.



Depending on the nature of business, the income statement is prepared in different forms like:

- a) In case of manufacturing concern, a manufacturing, trading and P & L A/c is prepared
- b) In case of a trading or service organization, a trading and P & L A/c is prepared

The manufacturing or trading accounts show Gross margins (or gross losses) and the P & L A/c shows Net Profit or net loss.

The Balance Sheet exhibits the list of assets (which indicate resources owned) and the liabilities & owners' capital and equity (which shows how the resources are funded).

For company type of organizations, standard formats for P & L and Balance Sheet are given in the Companies Act that is to be adhered to. The accounting should be as per the prescribed Accounting Standards.

1.19.1 Closing Stock

We know when goods are purchased for resale we include them in Purchases A/c, while goods sold are shown in Sales A/c. At the end of accounting period, some of these goods may remain unsold. If we show the entire cost of purchases in income statement, it will not be as per the matching concept. We should only show the cost of those goods that are sold during the period. The balance cost should be carried forward to the next accounting period through the balance sheet. How should the closing stock be valued? According to the conservative principle, the stock is valued at lower of cost or market price. If cost of stock is ₹ 125000 and its realizable market price is only ₹ 115000, then the value considered is ₹ 115000 only. What it means is the difference of ₹ 10000 is charged off to the current periods profits.

Students are advised to refer to Accounting Standard 2 - 'Valuation of Inventories' to get thorough knowledge.

Please remember the closing stock figure does not appear in the trial balance, but is valued and directly taken to the P & L A/c. The entry passed for this is:

Closing Stock A/c Dr
 To Trading and P & L A/c

In solving the examination problem, this entry is not actually passed, but the effect of its outcome is given. Here, one effect is "show closing stock as asset in balance sheet" and second effect is "show it on the credit side of trading a/c".

Note : But, if the closing stock appears in the debit side of Trial Balance, it means it has already been adjusted against purchases. In that case, the closing stock will appear only in the asset side of the Balance Sheet.

1.19.2 Depreciation

When the business uses its assets to earn income, there is wear and tear of the asset life. Assets will have limited life and as we go on using it, the value diminishes. Again the question to be asked is – at what value should the asset be shown in the balance sheet? Consider a machine was bought on 1st April 2011 for ₹ 200000. It's used for production activity throughout the year. When the final accounts are being prepared, at what value should it be shown in balance sheet as on 31st March 2012?

Well, according to cost principle initial entry for purchase of machine is shown at cost paid for it e.g. ₹200000 in this case. But the fact that the machine is used must be recognized in financials. Hence the value in the balance sheet must be brought down to the extent of its use. This is called as Depreciation. How is it calculated? While there are different methods of calculating depreciation (explained in subsequently), the simple idea is to spread it over the useful life of the asset, so that at the end of its life the value is zero. In our example, if useful life of the machine is taken as 10 years, the depreciation will be simply $\text{₹ } 200000 \div 10$ i.e. ₹ 20000 every year. So a depreciation of ₹ 20000 will be charged to the profit of every year and value of asset will be brought down by the same value.

Students are advised to refer to Accounting Standard 6 issued by ICAI to get thorough knowledge on Depreciation accounting.

The entry passed for this is:

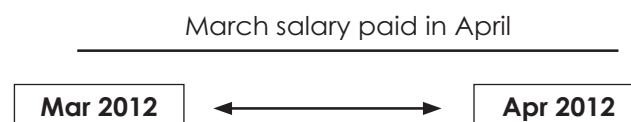
Depreciation A/c Dr
To Fixed Asset A/c

The effect given is one – include in the P & L A/c as expense for the period and two – reduce from asset value in the balance sheet.

Please refer study Note 3 for further explanation.

1.19.3 Accrued Expenses or Outstanding Expenses

There may be expenses incurred for the current accounting period, but not actually paid for. The matching concept, however, necessitates that this expense must be recognized as expense for the current year and should not be deferred till its actual payment. Typically, we know salary for the month is normally paid in the 1st week of the next month. Imagine the accounting period close on 31st March. The salary for the month of March is not paid till 31st March. But is it is related to this month, it must be booked as expense for the current month and also as a liability payable in the next month (which is in next accounting period). This can be shown as follows:



The entry for this is:

Expense A/c Dr
To Outstanding Expense A/c or Expense payable A/c

The two effects when preparing the final accounts are:

One – add in respective expense in P & L A/c and two – show as a liability in the balance sheet.

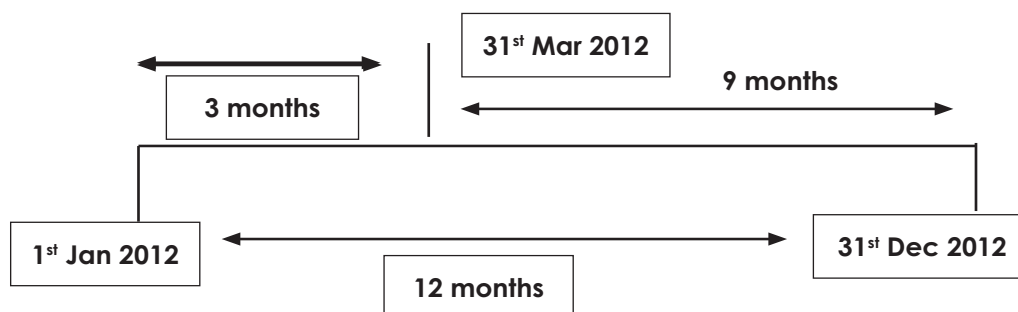
1.19.4 Prepaid Expenses

At times we may pay for certain expenses which are period related. For example, the business has taken an insurance policy against fire on which the annual premium payable is ₹ 75000. The policy is taken on 1st January 2012 valid till 31st December 2012. But the company's accounting period ends on 31st March 2012. When considering the insurance expense for the accounting year, what amount should be considered? See the following.



As can be seen, out of the total premium period of 12 months, only 3 months are related to the current accounting period and the remaining 9 months' premium is related to the next accounting period. Hence only 3 months' premium is to be considered as expense for the current year i.e. ₹ 18750 ($75000 \div 4$).

The entry for this is:



Prepaid Insurance A/c Dr

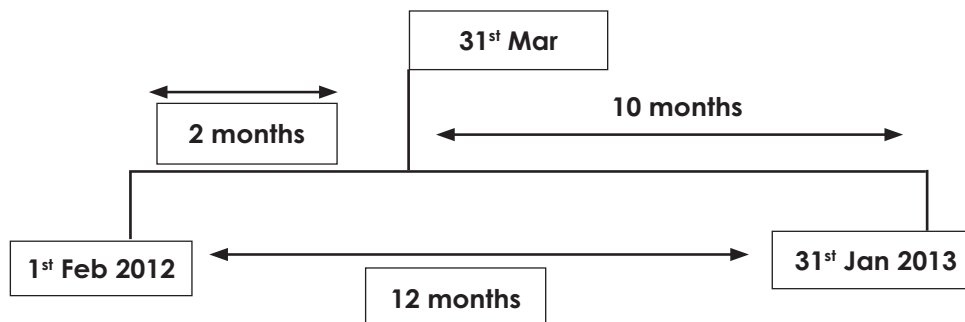
To Insurance A/c

The two effects while preparing final accounts are:

One – Reduce from respective expense in P & L A/c and two – show as an asset in the balance sheet

1.19.5 Accrued Incomes

Just as expenses accrue, there are instances of income getting accrued at the end of accounting period. The extent to which it accrues, it must be booked as income for the current accounting period. Consider, the business has put a One year fixed deposit of ₹ 100000 with Citi Bank at a fixed interest of 9 % p.a. on 1st February 2012 and the interest is credited by the bank on a semi-annual basis. Also, consider that the accounting period ends on 31st March 2012. The Citi bank will credit the 1st semi-annual interest on 31st July 2012 and the next on 31st January 2013. Now, consider the following :



It can be noticed that interest for the 2 months will be considered as accrued as on 31st of March 2012 and must be taken as income for the current accounting year.

The entry for this is:

Accrued Interest A/c Dr

To Interest A/c

The two effects while preparing final accounts are:

One – Show as income in the P & L A/c and two – show as an asset in the balance sheet

1.19.6 Income Received in Advance

If an income is received which is not related to the current accounting period, it cannot be included in the current year's P & L A/c. So, if it's already included as income it must be reduced. The entry for this is:

Respective Income A/c Dr
To Income received in advance A/c

The effects while preparing final account are:

One – Reduce from respective income and two – show it as liability in balance sheet

1.19.7 Accounting In Practice

These are days of computerised accounting. Even smaller firms like sole proprietors use accounting packages like Tally 9.0 which are very strong. At this stage it is necessary to understand the practical aspects of how accounting is actually done by these packages. Based on years of experience, they come with a standard chart of account. The chart of account is nothing but master ledger accounts and they are numerically coded for quick and easy identification and reporting. There are customized screens made to enter different transactions. Hence, the user can not by mistake put a purchase transaction into sales book. The customers and vendors are also alpha-numerically coded for ease of identification. Once the basic documents are entered, the job of posting, balancing and trial balance is all automated. So actually, most of the potential errors can be avoided.

There is an increased feeling among students that when there are automated systems available, why should one go through the study of manual processes. This is absolutely essential for grasping basic concepts. Once, you thoroughly understand them, it will be easy to operate any computerised accounting package in practice.

Comprehensive Illustrations

To enable the students to get complete grasp of this process, comprehensive examples are given below.

Illustration 23.

Journalize the following transactions in the books of Gaurav, post them into ledger and prepare trial balance for June 2012 :

- June 1: Gaurav started business with ₹ 10,00,000 of which 25% amount was borrowed from wife.
- June 4: Purchased goods from Aniket worth ₹ 40,000 at 20% TD and 1/5th amount paid in cash.
- June 7: Cash purchases ₹ 25,000.
- June 10: Sold goods to Vishakha ₹ 30,000 at 30% TD and received 30% amount in cash.
- June 12: Deposited cash into bank ₹ 20,000.
- June 15: Uninsured goods destroyed by fire ₹ 5,500.
- June 19: Received commission ₹ 3,500.
- June 22: Paid to Aniket ₹ 25,500 in full settlement of A/c.
- June 25: Cash stolen from cash box ₹ 1,000.
- June 27: Received from Vishakha ₹ 14,500 and discount allowed ₹ 200.
- June 30: Interest received ₹ 2,400 directly added in our bank account.



Solution:

**In the books of Gaurav
Journal**

Date 2012	Particulars	L.F.	Dr. Amount (₹)	Cr. Amount (₹)
1-Jun	Cash A/c Dr To Capital A/c To Loan from Wife A/c (Being capital brought into business)		1,000,000	750,000 250,000
4-Jun	Purchases A/c Dr To Cash A/c To Aniket's A/c (Being goods purchased at 20% TD & 1/5th amount paid in cash)		32,000	6,400 25,600
7-Jun	Purchases A/c Dr To Cash A/c (Being cash purchases)		25,000	25,000
10-Jun	Cash A/c Dr Vishakha's A/c Dr To Sales A/c (Being goods sold at 30% TD & 30% amount received in cash)		6,300 14,700	21,000
12-Jun	Bank A/c Dr To Cash A/c (Being cash deposited in bank)		20,000	20,000
15-Jun	Loss by Fire A/c Dr To Purchases A/c (Being uninsured goods lost by fire)		5,500	5,500
19-Jun	Cash A/c Dr To Commission A/c (Being commission received)		3,500	3,500
22-Jun	Aniket's A/c Dr To Cash A/c To Discount A/c (Being paid to Aniket in full settlement & discount received)		25,600	25,500 100
25-Jun	Loss by Theft A/c Dr To Cash A/c (Being cash stolen)		1,000	1,000
27-Jun	Cash A/c Dr Discount A/c To Vishakha's A/c (Being amount received from Vishakha & discount allowed)		14,500 200	14,700
30-Jun	Bank A/c To Interest A/c (Being interest received directly added into bank account)		2,400	2,400
			1,150,700	1,150,700

Dr. Cash Account				Cr.			
Date	Particulars	J.F.	Amount (₹)	Date	Particulars	J.F.	Amount (₹)
1/6/12	To Capital A/c		7,50,000	4/6/12	By Purchases A/c		6,400
1/6/12	To Loan from Wife A/c		2,50,000	7/6/12	By Purchases A/c		25,000
10/6/12	To Sales A/c		6,300	12/6/12	By Bank A/c		20,000
19/6/12	To Commission A/c		3,500	22/6/12	By Aniket's A/c		25,500
27/6/12	To Vishakha's A/c		14,500	25/6/12	By Loss by Theft A/c		1,000
				30/6/12	By Balance c/d		9,46,400
			10,24,300				10,24,300
1/7/12	To Balance b/d		9,46,400				

Dr. Capital Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/6/12	To Balance c/d		7,50,000	1/6/12	By Cash A/c		7,50,000
			7,50,000				7,50,000
				1/7/12	By Balance b/d		7,50,000

Dr. Loan from Wife Account				Cr.			
Date	Particulars	J.F.	Amount (₹)	Date	Particulars	J.F.	Amtoun (₹)
30/6/12	To Balance c/d		2,50,000	1/6/12	By Cash A/c		2,50,000
			2,50,000				2,50,000
				1/7/12	By Balance b/d		2,50,000

Dr. Purchases Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
4/6/12	To Cash A/c		6,400	15/6/12	By loss by fire		5,500
4/6/12	To Aniket's A/c		25,600	30/6/12	By Bal c/d		51,500
7/6/12	To Cash A/c		25,000				57,000
			57,000				
1/7/12	To Balance b/d		51,500				

Dr. Aniket's Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
22/6/12	To Cash A/c		25,500	4/6/12	By Purchases A/c		25,600
22/6/12	To Discount A/c		100				25,600
			25,600				

Dr. Vishakha's Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
10/6/12	To Sales A/c		14,700	27/6/12	By Cash A/c		14,500
			14,700	27/6/12	By Discount A/c		200
							14,700

Dr. Sales Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/6/12	To Balance c/d		21,000	10/6/12	By Cash A/c		6,300
			21,000	10/6/12	By Vishakha's A/c		14,700
							21,000
				1/7/12	By Balance b/d		21,000



Dr. Bank Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
12/6/12	To Cash A/c		20,000	30/6/12	By Balance c/d		22,400
30/6/12	To Interest A/c		2,400				
			22,400				22,400
1/7/12	To Balance b/d		22,400				

Dr. Loss by Fire Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
15/6/12	To Purchases A/c		5,500	30/6/12	By Balance c/d		5,500
			5,500				5,500
1/7/12	To Balance b/d		5,500				

Dr. Commission Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/6/12	To Balance c/d		3,500	19/6/12	By Cash A/c		3,500
			3,500				3,500
				1/7/12	By Balance b/d		3,500

Dr. Discount Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
27/6/12	To Vishakha's A/c		200	22/6/12	By Aniket's A/c		100
				30/6/12	By Balance c/d		100
			200				200
1/7/12	To Balance b/d		100				

Dr. Loss by Theft Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
25/6/12	To Cash A/c		1,000	30/6/12	By Balance c/d		1,000
			1,000				1,000
1/7/12	To Balance b/d		1,000				

Dr. Interest Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/6/12	To Balance c/d		2,400	30/6/12	By Bank A/c		2,400
			2,400				2,400
				1/7/12	By Balance b/d		2,400

Trial Balance as on 30.6.12

Name of Account	Dr. (₹)	Cr. (₹)
Cash A/c	9,46,400	----
Capital A/c	----	7,50,000
Loan from Wife A/c	----	2,50,000
Purchases A/c	51,500	----
Aniket's A/c	----	----
Vishakha's A/c	----	----
Sales A/c	----	21,000
Bank A/c	22,400	----
Loss by Fire A/c	5,500	----

Name of Account	Dr. (₹)	Cr. (₹)
Commission A/c	-----	3500
Discount A/c	100	-----
Loss by Theft A/c	1,000	-----
Interest A/c	-----	2,400
Total	10,26,900	10,26,900

Illustration 24.

Journalize the following transactions in the books of M/s Kothari & Sons, post them into ledger and prepare trial balance for April 2012:

- Apr. 1: Commenced business with ₹ 40,000.
 Apr. 4: Bought goods for cash ₹ 4,000
 Apr. 7: Sold goods ₹ 700
 Apr. 10: Bought goods from M/s Bhandari Bros. ₹ 3,000 at 10% trade discount.
 Apr. 14: Purchased machinery of ₹ 5,000 from M/s Kirloskar Bros.
 Apr. 16: Paid for transportation of machinery ₹ 500 & installation charges ₹ 300 on it.
 Apr. 20: Paid quarterly interest on borrowed amount of ₹ 5,000 at 12% p.a.
 Apr. 24: Supplied goods to M/s Kunal & Sons ₹ 3,500.
 Apr. 27: Paid to M/s Bhandari Bros. ₹ 2600 in full settlement of account.
 Apr. 28: M/s Kunal & Sons returned goods worth ₹ 300 & paid for ₹ 1,200 on account.
 Apr. 29: Received commission ₹ 250.
 Apr. 30: Paid conveyance to manager ₹ 450.

Solution:

In the books of M/s Kothari and Sons
Journal

Date	Particulars	L.F.	Dr. Amt. ₹	Cr. Amt. ₹
2012 1-Apr	Cash A/c Dr To Capital A/c (Being cash introduced as capital)		40,000	40,000
4-Apr	Purchases A/c Dr To Cash A/c (Being bought goods for cash)		4,000	4,000
7-Apr	Cash A/c Dr To Sales A/c (Being sold goods for cash)		700	700
10-Apr	Purchases A/c Dr To M/s Bhandari Bros. A/c (Being purchased goods at 10% TD)		2,700	2,700
14-Apr	Machinery A/c Dr To M/s Kirloskar Bros. A/c (Being purchased machinery on credit)		5,000	5,000
16-Apr	Machinery A/c Dr To Cash A/c (Being transportation & installation charges on machinery paid)		800	800



Date	Particulars	L.F.	Dr. Amt. ₹	Cr. Amt. ₹
20-Apr	Interest A/c Dr To Cash A/c (Being paid quarterly interest on borrowed amt. of ₹ 5000 at 12% p.a.)		150	150
24-Apr	M/s Kunal & Sons A/c Dr To Sales A/c (Being goods sold on credit)		3,500	3,500
27-Apr	M/s Bhandari Bros. A/c Dr To Cash A/c To Discount A/c (Being paid in full settlement & discount received)		2,700	2,600 100
28-Apr	Return Inwards A/c Dr Cash A/c Dr To M/s Kunal & Sons A/c (Being goods returned & received on account)		300 1,200	1,500
29-Apr	Cash A/c Dr To Commission A/c (Being commission received)		250	250
30-Apr	Conveyance A/c Dr To Cash A/c (Being conveyance paid to manager)		450	450
	Total		61,750	61,750

Ledger

Dr. Cash Account				Cr.			
Date	Particulars	J.F	Amt. (₹)	Date	Particulars	J.F	Amt. (₹)
1/4/12	To Capital A/c		40,000	4/4/12	By Purchases A/c		4,000
7/4/12	To Sales A/c		700	16/4/12	By Machinery A/c		800
28/4/12	To M/s Kunal & Sons A/c		1200	20/4/12	By Interest A/c		150
29/4/12	To Commission A/c		250	27/4/12	By M/s Bhandari Bros. A/c		2,600
				30/4/12	By Conveyance A/c		450
				30/4/12	By Balance c/d		34,150
			42,150				42,150
1/5/12	To Balance b/d		34,150				

Dr. Capital Account				Cr.			
Date	Particulars	J.F	Amt. (₹)	Date	Particulars	J.F	Amt. (₹)
30/4/12	To Balance c/d		40,000	1/4/12	By Cash A/c		40,000
			40,000				40,000
				1/5/12	By Balance b/d		40,000

Dr. Purchases Account				Cr.			
Date	Particulars	J.F	Amt. (₹)	Date	Particulars	J.F	Amt. (₹)
4/4/12	To Cash A/c		4,000	30/4/12	By Balance c/d		6700
10/4/12	To M/s Bhandari Bros. A/c		2,700				
			6,700				6,700
1/5/12	To Balance b/d		6,700				

Sales Account							
Dr.				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/4/12	To Balance c/d		4,200	7/4/12	By Cash A/c		700
			4,200	24/4/12	By M/s Kunal & Sons A/c		3,500
							4,200
				1/5/12	By Balance b/d		4,200

M/s Bhandari Bros. Account							
Dr.				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
27/4/12	To Cash A/c		2,600	10/4/12	By Purchases A/c		2,700
27/4/12	To Discount A/c		100				
			2,700				2,700

Machinery Account							
Dr.				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
14/4/12	To M/s Kirloskar Bros. A/c		5,000	30/4/12	By Balance c/d		5,800
16/4/12	To Cash A/c		800				
			5,800				5,800
1/5/12	To Balance b/d		5,800				

M/s Kirloskar Bros. Account							
Dr.				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/4/12	To Balance c/d		5,000	14/4/12	By Machinery A/C		5,000
			5,000				5,000
				1/5/12	By Balance b/d		5,000

Interest Account							
Dr.				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
20/4/12	To Cash A/c		150	30/4/12	By Balance c/d		150
			150				150
1/5/12	To Balance b/d		150				

M/S Kunal & Sons Account							
Dr.				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
24/4/12	To Sales A/c		3,500	28/4/12	By Return Inwards A/c		300
				28/4/12	By Cash A/c		1,200
				30/4/12	By Balance c/d		2,000
			3,500				3,500
1/5/12	To Balance b/d		2,000				

Discount Account							
Dr.				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/4/12	To Balance c/d		100	27/4/12	By M/s Bhandari Bros. A/c		100
			100				100
				1/5/12	By Balance b/d		100



Dr. Return Inwards Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
28/4/12	To M/s Kunal & Sons A/c		300	30/4/12	By Balance c/d		300
			300				300
1/5/12	To Balance b/d		300				

Dr. Commission Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/4/12	To Balance c/d		250	29/4/12	By Cash A/c		250
			250				250
				1/5/12	By Balance b/d		250

Dr. Conveyance Account				Cr.			
Date	Particulars	J.F.	Amt. (₹)	Date	Particulars	J.F.	Amt. (₹)
30/4/12	To Cash A/c		450	30/4/12	By Balance c/d		450
			450				450
1/5/12	To Balance b/d		450				

Trial Balance as on 30.4.12

Name of Account	Dr.	Cr.
	(₹)	(₹)
Cash A/c	34,150	-----
Capital A/c	-----	40,000
Purchases A/c	6700	-----
Sales A/c	-----	4,200
M/s Bhandari Bros. A/c	-----	-----
Machinery A/c	5,800	-----
M/s Kirloskar Bros. A/c	-----	5,000
Interest A/c	150	-----
M/s Kunal & Sons A/c	2,000	-----
Discount A/c	-----	100
Return Inwards A/c	300	-----
Commission A/c	-----	250
Conveyance A/c	450	-----
Total	49,550	49,550

Illustration 25.

Enter the following transactions in the proper subsidiary books and post them to ledger accounts. Also prepare Trial Balance:

2012

- Jan. 1: Purchased goods worth ₹ 6,000 from M/s Akshaykumar & Sons.
- Jan. 5: Sold goods to M/s Vinaykumar ₹ 2,000.
- Jan. 7: Purchased goods from M/s Vinod Bros. ₹ 4,000 at 5% TD.
- Jan. 9: Sold goods to Pravinkumar on cash ₹ 500.
- Jan. 12: Bought goods from Jayant Kumar ₹ 3,500 at 10% TD.
- Jan. 17: Supplied goods to M/s Rajnikant ₹ 2,500 at 5% TD.
- Jan. 20: Sold furniture to M/s Narendrakumar worth ₹ 1,200.
- Jan. 22: Returned goods to M/s Vinod Bros. ₹ 500 gross.
- Jan. 25: M/s Vinaykumar returned goods worth ₹ 500.
- Jan. 27: Sent debit note to M/s Akshaykumar for ₹ 200.
- Jan. 30: Sold goods to Narendrakumar worth ₹ 9,000 and received half amount on the spot.

Solution:**Purchases Book**

Date	Name of Supplier	Inward Invoice No.	L.F	Amt (₹)
1/1/12	M/s Akshaykumar			6,000
7/1/12	M/s Vinod Bros. (4000 - 5% TD)			3,800
12/1/12	Jayant Kumar (3500 - 10% TD)			3,150
				12,950

Sales Book

Date	Name of Customer	Outward Invoice No.	L.F	Amt (₹)
5/1/12	M/s Vinaykumar			2,000
17/1/12	M/s Rajnikant (2500 - 5% TD)			2,375
30/1/12	M/s Narendrakumar			4,500
				8,875

Return Inwards Book

Date	Name of Customer	Credit Note No.	L.F	Amt (₹)
25/1/12	M/s Vinaykumar			500
				500

Return Outwards Book

Date	Name of Supplier	Debit Note No.	L.F	Amt (₹)
22/1/12	M/s Vinod Bros. (500 - 5% TD)			475
27/1/12	M/s Akshaykumar			200
				675

Dr.**Cash Book****Cr.**

Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
9/1/12	To Sales A/c (Being cash sales)		500	31/1/12	By Balance c/d		5,000
30/1/12	To Sales A/c (Being cash sales)		4,500				
			5,000				5,000
1/2/12	To Balance b/d		5,000				

Dr.**Purchases Account****Cr.**

Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
31/1/12	To Sundries as per purchases book		12,950	31/1/12	By Balance c/d		12,950
1/2/12	To Balance b/d		12,950				12,950

Dr.**Sales Account****Cr.**

Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
31/1/12	To Balance c/d		13,875	9/1/12	By Cash A/c		500
				30/1/12	By Cash A/c		4,500
				31/1/12	By Sundries as per Sales Book		8,875
			13,875				13,875
				1/2/12	By Balance b/d		13,875



Dr. Return Inwards Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
31/1/12	To Sundries as per return inwards book		500	31/1/12	By Balance c/d		500
1/2/12	To Balance b/d		500				500

Dr. Return Outwards Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
31/1/12	To Balance c/d		675	31/1/12	By Sundries as per return outwards book		675
			675	1/2/12	By Balance b/d		675

Dr. M/s Akshaykumar Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
27/1/12	To Return Outwards A/c		200	1/1/12	By Purchases A/c		6000
31/1/12	To Balance c/d		5,800				6,000
			6,000	1/2/12	By Balance b/d		5,800

Dr. M/s Vinod Bros Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
22/1/12	To Return Outwards A/c		475	7/1/12	By Purchases A/c		3800
31/1/12	To Balance c/d		3,325				3800
			3,800	1/2/12	By Balance b/d		3325

Dr. Jayant Kumar Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
31/1/12	To Balance c/d		3,150	12/1/12	By Purchases A/c		3,150
				1/2/12	By Balance b/d		3,150

Dr. M/s Vinaykumar Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
5/1/12	To Sales A/c		2,000	25/1/12	By Return Inwards A/c		500
			2,000	31/1/12	By Balance c/d		1,500
1/2/12	To Balance b/d		1,500				2,000

Dr. M/s Rajnikant Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
17/1/12	To Sales A/c		2,375	31/1/12	By Balance c/d		2,375
1/2/12	To Balance b/d		2,375				

Dr. M/s Narendrakumar Account				Cr.			
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)
20/1/12	To Furniture A/c		1,200	31/1/12	By Balance c/d		5,700
30/1/12	To Sales A/c		4,500				5,700
			5,700				
1/2/12	To Balance b/d		5,700				

Dr.				Furniture Account				Cr.	
Date	Particulars	J.F.	Amt (₹)	Date	Particulars	J.F.	Amt (₹)		
31/1/12	To Balance c/d		1,200	20/1/12	By M/s Narendra kumar A/c		1,200		
				1/2/12	By Balance b/d		1,200		

Trial Balance as on 31.1.12

Name of Account	Dr. (₹)	Cr. (₹)
Cash A/c	5,000	-----
Purchases A/c	12,950	-----
Sales A/c	-----	13,875
Return Inwards A/c	500	-----
Return Outwards A/c	-----	675
M/s Akshaykumar A/c	-----	5,800
M/s Vinod Bros. A/c	-----	3,325
Jayant Kumar A/c	-----	3,150
M/s Vinaykumar A/c	1,500	-----
M/s Rajnikant A/c	2,375	-----
M/s Narendrakumar A/c	5,700	-----
Furniture A/c	-----	1,200
Total	28,025	28,025

Illustration 26.

The total of debit side of Trial Balance of a larger boot and shoe repairing firm as on 31.12.2012 is ₹ 1,66,590 and that of the credit side is ₹ 42,470. After several checking and re-checking the mistakes are discovered :

Items of Account	Correct Figure (as it would be)	Figures as it appear in the Trial Balance
Opening Stock	₹ 14,900	₹ 14,800
Repairs	₹ 61,780	₹ 61,780 (appear in the Debit side)
Rent & Taxes	₹ 2,160	₹ 2,400
Sundry Creditors	₹ 6,070	₹ 5,900
Sundry Debtors	₹ 8,060	₹ 8,310

Ascertain the correct total of the Trial Balance.

Solution:

Particulars	Debit (₹)	Credit (₹)
Total as per Trail Balance	1,66,590	42,470
Opening Stock understated (14,900-14,800)	+100	-
Repairs being credit balance, but shown as debit balance	-61,780	+61,780
Rent & Taxes overstated (2,400-2,160)	-240	-
Sundry Creditors understated (6,070-5,900)	-	+170
Sundry Debtors overstated (8,310-8,060)	-250	-
Total	1,04,420	1,04,420



1.20 OPENING ENTRIES, CLOSING ENTRIES, TRANSFER ENTRIES AND RECTIFICATION ENTRIES

(i) Opening Entries: The opening entry is an item which is passed in the Journal proper or General Ledger. The purpose of passing this entry is to record the opening balances of the accounts transferred from the previous year to the new year. The accounts which are appearing on the assets side of balance sheet are debited in the opening entry while which accounts are appearing in the liabilities side are credited.

At the end of each accounting period, the books of accounts need to be closed for preparation of final accounts. Also, in the beginning of the new accounting period, new books of accounts are to be opened. For this purpose, opening and closing entries need to be passed. These entries are passed in journal proper.

The opening entries are passed only for those ledger A/c balances which are carried forward from earlier period to the current accounting period. In other words, the balances of assets, liabilities and owners' capital and equity accounts are only considered for such opening entries. The opening entry is passed with the closing balances of assets and liabilities & capital accounts in the last year's balance sheet.

The entry can be given as:

All Asset A/cs Dr
To All Liabilities A/c
To Owners' Capital A/cs

Illustration 27.

Consider the following balances in the Balance Sheet as on 31st March 2012. Pass the opening entry on 1st April 2012.

Subodh's Capital A/c	2,75,000
Loan from HDFC bank	4,25,000
Plant and machinery	3,30,000
Cash in hand	20,000
Balance at Citi bank	1,75,000
Trade Debtors	3,55,000
Closing stock	1,35,000
Trade Payables	2,95,000
Outstanding Expenses	40,000
Prepaid Insurance	20,000

Solution:

The opening entry will be as follows:

Plant and machinery A/c	Dr	3,30,000	
Cash in hand A/c	Dr	20,000	
Balance at Citi bank A/c	Dr	1,75,000	
Trade Debtors A/c	Dr	3,55,000	
Closing stock A/c	Dr	1,35,000	
Prepaid Insurance	Dr	20,000	
To Subodh's Capital A/c			2,75,000
To Loan from HDFC bank A/c			4,25,000
To Trade Payables A/c			2,95,000
To Outstanding Expenses A/c			40,000

(ii) Closing Entries: All the expenses and gains or income related nominal accounts must be closed at the end of the year. In order to close them, they are transferred to either Trading A/c or Profit and Loss A/c. Journal entries required for transferring them to such account is called a 'closing entry'.

The Closing Entries are passed on the basis of trial balance for transferring the balances to Trading and profit and loss A/c. These entries are mainly for:

- a) For transferring purchases and direct expenses (goods related) to Trading A/c

Trading A/c	Dr
To Opening stock A/c	
To Purchases A/c	
To Factory expenses A/c	
To Freight & carriage inward A/c	
- b) For transferring sales and closing stocks

Sales A/c	Dr
Closing Stock A/c	Dr
To Trading A/c	
- c) For transferring gross profit or gross loss to P & L A/c

<u>For Gross Profit</u>	
Trading A/c	Dr
To P & L A/c	
<u>For Gross Loss</u>	
P & L A/c	Dr
To Trading A/c	
- d) For transferring expenses

P & L A/c	Dr
To Respective expense A/c	
- e) For transferring Incomes

Respective income A/cs	Dr
To P & L A/c	
- f) For transferring Net profit or Net loss

<u>For Net Profit</u>	
P & L A/c	Dr
To Capital A/c	
<u>For Net Loss</u>	
Capital A/c	Dr
To P & L A/c	

Illustration 28.

Pass closing entries for the following particulars as on 31st March 2013 presented by X Ltd.

Particulars	Amount (₹)
Opening stock	10,000
Purchases	50,000
Wages	5,000
Returns outward	5,000
Sales	1,00,000
Returns inward	10,000
Salaries	8,000



Particulars	Amount (₹)
Insurance	1,000
Bad debts	3,000
Interest received	3,000
Discount allowed	4,000
Discount received	3,000
Closing stock	15,000

Solution:

**In the Books of X Ltd.
Journal**

Date 2013	Particulars	LF	Dr.	Cr.
			Amount (₹)	Amount (₹)
March 31 st	Trading A/c Dr. To, Opening Stock A/c To, Purchases A/c To, Wages A/c Returns inward A/c (Transfer to balances for closing the latter accounts)		75,000	10,000 50,000 5,000 10,000
	Sales A/c Dr. Returns outward A/c Dr. Closing Stock A/c Dr. To, Trading A/c (Transfer of balances for closing the former accounts)		1,00,000 5,000 15,000	1,20,000
	Trading A/c Dr. To, Profit and Loss A/c (Gross profit transferred)		45,000	45,000
	Profit and Loss A/c Dr. To, Salaries A/c To, Insurance A/c To, Bad Debts A/c To, Discount allowed A/c (Transfer of balances for closing the latter accounts)		16,000	8,000 1,000 3,000 4,000
	Interest received A/c Dr. Discount received A/c Dr. To, Profit and Loss A/c (Transfer of balances for closing the former accounts)		3,000 3,000	6,000
	Profit and Loss A/c Dr. To, Capital A/c (Net profit transferred to Capital A/c)		35,000	35,000

(iii) Transfer Entries: When it is necessary for an amount or balance of one account to be transferred to some other account, it is done by means of a transfer journal entry in the Journal Proper.

i.e. Transfer of Total Drawings A/c. to Capital A/c

Capital A/c Dr.
To, Drawings A/c

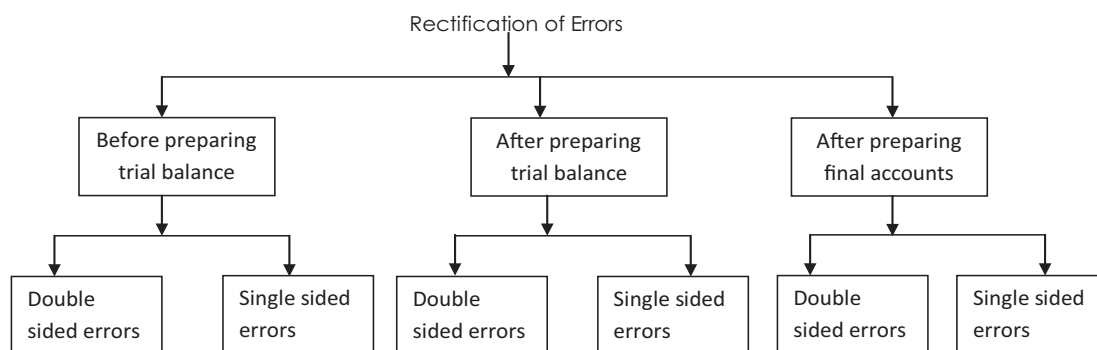
(iv) Rectification Entries (Rectification of errors): These entries are passed when errors or mistakes are discovered in accounting records. These entries are also known as Correction Entries. These entries are also passed in Journal Proper.

In this study note, you were introduced to the reasons why errors could occur and to the fact that while some errors affect trial balance and some errors do not affect it. In this section, we will see in depth how the corrections are made to the wrong entries.

When the errors affecting the T.B. are made, the normal practice is to put the difference to an A/c called as 'Suspense A/c' till the time errors are located. On identification of errors, the one effect goes to the correct A/c and the other effect to the Suspense A/c. This is done for one sided errors e.g. if sales book total is wrongly taken, but individual customers are correctly debited. Such error will cause difference in trial balance as only Sales A/c is wrongly credited. In such cases the rectification entry will be passed through Suspense A/c. In all other cases the rectification is done by debiting or crediting the correct A/c head and by crediting or debiting the wrong A/c head.

Let us recapitulate the types of errors and the ways to rectify them in the following table.

Type of error	Rectification
a) Error of principle – entering revenue expense as capital expense or vice versa or entering revenue receipt as capital receipt or vice versa.	A journal entry is passed to give correct effect.
b) Error of Omission – transaction forgotten to be entered in books of accounts.	Simply, the correct entry is passed.
c) Errors of commission – entering to wrong head of account.	Debit or credit wrong A/c head and post it to correct head.
d) Compensating errors – more than one error that could compensate effect of each other.	Pass correcting entry
e) Wrong totaling of subsidiary books	As it affects T.B., pass through Suspense A/c
f) Posting on wrong side of an A/c	Pass an entry with double effect – one to cancel wrong side and other to give effect on correct side
g) Posting of wrong amount	Pass entry with differential amount



A. Before Preparation of Trail Balance

If errors are detected before the preparation of Trail Balance, the effect of each error should be known.

The errors are of two types: viz

(a) Double Sided Error; (b) Single Sided Error

(a) Double Sided Error:

The following principles should be followed for the purpose.

- (i) What was the correct entry?
- (ii) What entry had been done?
- (iii) Rectifying entry.



Example: Purchased a Building for ₹ 3,00,000 wrongly passed through purchase account.

Solutions:

- (i) Building A/c Dr. 3,00,000
To Cash A/c 3,00,000
- (ii) Purchase A/c Dr. 3,00,000
To Cash A/c 3,00,000
- (iii) Building A/c Dr. 3,00,000
To Purchase A/c 3,00,000

(b) Single Sided Error

Under the circumstances, no separate entry is required but the affected account should be rectified by appropriate posting.

Example: Purchase account was overcast by ₹ 10,000.

Solution:

The correction to be made in Purchase Account in the following manner.

Dr.		Purchase Account		Cr.
Particulars	₹	Particulars	₹	
To		By Error - Wrong posting	10,000	

So, purchase account should be credited by ₹ 10,000.

B. After Preparation of Trial Balance

If the errors are detected after the preparations of trial balance, the following procedure should be followed:

(a) Double Sided Errors; and (b) Single Sided Errors.

(a) **Double Sided Errors:**

- Same as method (a) above i.e., before preparation of Trial Balance.

(b) **Single Sided Errors:**

- In case of Single side errors, relevant account to be rectified by applying Suspense Account.

Suspense Account

If the Trial Balance does not agree we cannot prepare final accounts. In order to prepare final account, the difference so appeared in trial balance is to be passed through Suspense Account. When the errors will be located and rectified suspense account will automatically be Nil or closed. The suspense account will appear in the Balance Sheet. When it appears in the debit side of trial balance, the same will appear in the assets side of the Balance Sheet and vice-versa.

Example: Sales Day Book was overcast by ₹ 1,000.

	₹	₹
Sales A/c	Dr. 1,000	
To Suspense A/c		1,000

C. After Preparation of Final Accounts

If the errors are detected after the preparation of final accounts the following steps should carefully be followed.

(a) For Double Sided Errors

- (i) Same as (A) before preparation of Trial Balance or (B) after preparation of Trail Balance. But all the nominal accounts are to be replaced by Profit and Loss Adjustment Account. And the rest one will be same as (A) or (B) stated earlier.
- (ii) Suspense Account will be carried forward to the next year; and
- (iii) Real and Personal Accounts are to be carried forward to the next year.

Example: Purchase a Plant wrongly debited to Purchase Account for ₹ 10,000

Solution:**(i) If after Trial Balance**

Plant A/c	Dr.
To Purchase A/c	

(ii) If after Final Account

Plant A/c	Dr.
To Profit and Loss Adjustment A/c	

(b) for Single Sided Errors:

Same principle is to be followed like (B) after preparation of Trial Balance and all the nominal accounts are to be preplaced by Profit and Loss Adjustment Account.

Example – Discount allowed was not posted to discount Account for ₹ 500.

Solution:**(i) If after Trial Balance**

Discount Allowed A/c	Dr.
To Suspense A/c	

(ii) If after Final Account

Profit and Loss Adjustment A/c	Dr.
To Suspense A/c	

Illustration 29.

Rectify the following errors assuming that the errors were detected (a) Before the Preparation of Trial Balance; (b) After the preparation of Trial Balance and (c) After the preparation of Final Accounts.

- (i) Purchase Plant for ₹ 10,000 wrongly passed through Purchase Account.
- (ii) Sales Day Book was cast short by ₹ 1,000.
- (iii) Cash paid to Mr. X for ₹ 1,000 was posted to his account as ₹ 100.
- (iv) Purchase goods from Mr. T for ₹ 3,500 was entered in the Purchase Day Book as ₹ 500.
- (v) Paid salary for ₹ 3,000 wrongly passed through wages account.



Solution:

In the Books of

Journal (without narration)

Date	Before preparation of Trial Balance	After preparation of Trial Balance	After preparation of Final Accounts
	Dr. Cr.	Dr. Cr.	Dr. Cr.
(i)	Plant A/c 10,000 To Purchase A/c. 10,000	Plant A/c 10,000 To Purchase A/c. 10,000	Plant A/c 10,000 To P&L Adjustment A/c 10,000
(ii)	Sales account will be credited with ₹ 1,000	Suspense A/c Dr. 1,000 To Sales A/c. 1,000	Suspense A/c Dr. 1,000 To P&L Adjustment A/c 1,000
(iii)	X Account will be debited when ₹ 900	X A/c Dr. 900 To Suspense A/c. 900	X A/c Dr. 900 To Suspense A/c 900
(iv)	Purchase A/c Dr. 3,000 To T A/c 3,000	Purchase A/c Dr. 3,000 To T A/c 3,000	P&L Adjustment A/c Dr. 3,000 To T's A/c. 3,000
(v)	Salary A/c Dr. 3,000 To Wages A/c 3,000	Salary A/c Dr. 3,000 To wages A/c. 3,000	P&L Adjustment A/c Dr. 3,000 To P&L Adjustment A/c 3,000

Illustration 30.

A merchant, while balancing his books of accounts notices that the T.B. did not tally. It showed excess credit of ₹ 1,700. He placed the difference to Suspense A/c. Subsequently he noticed the following errors:

- Goods brought from Narayan for ₹ 5,000 were posted to the credit of Narayan's A/c as ₹ 5,500
- An item of ₹ 750 entered in Purchase returns book was posted to the credit of Pandey to whom the goods had been returned.
- Sundry items of furniture sold for ₹ 26,000 were entered in the sales book.
- Discount of ₹ 300 from creditors had been duly entered in creditor's A/c but was not posted to discount A/c.

Pass necessary journal entries to rectify these errors. Also show the Suspense A/c.

Solution:

- Goods bought from Narayan are posted to credit of his A/c as ₹ 5,500 instead of ₹ 5,000. Here, it is correct to credit Narayan's A/c. But the mistake is extra credit of ₹ 500. This is one sided error, as posting to purchases A/c is correctly made. So the rectification entry will affect the suspense A/c. This needs to be reversed by the rectification entry:

Narayan's A/c	Dr.	500	
To Suspense A/c			500

- Goods bought from Pandey were returned back to him. It should have appeared on the debit side of his A/c. For rectifying we will need to debit his A/c with double the amount i.e. ₹ 1500 (₹ 750 to cancel the wrong credit and another ₹ 750 to give effect for correct debit) and the effect will go to Suspense A/c. The correction entry is:

Pandey A/c	Dr.	1,500	
To Suspense A/c			1,500

- Sale of furniture was recorded in sales book. What's wrong here? Remember that sales book records sale of goods only and nothing else. Sale of furniture will appear in either cash book (if sold for cash) or journal proper (if sold on credit). Hence, wrong credit to Sales A/c must be removed and credit should be given to Furniture A/c. It's important to note that this rectification entry will not affect the Suspense A/c. The correction entry is:

Sales A/c	Dr.	26,000	
To Furniture A/c			26,000

- (d) The discount received from creditor is not entered in discount A/c but was correctly recorded in creditors' A/c. This is one sided error and will therefore be routed through suspense for correction. A discount is received; it must be credited being an income.

Suspense A/c	Dr	300
To Discount received A/c		300

Let us now see how suspense A/c will Look like. Excess credit of ₹ 1,700 in Trial Balance will be shown on the debit side of suspense A/c. This will bring in total debit equal to total credit.

Dr				Suspense Account				Cr			
Date	Particulars	J. F.	Amount ₹	Date	Particulars	J. F.	Amount ₹				
	To Balance b/d		1,700		By Narayan		500				
	To Discount received		300		By Pandey		1,500				
			2,000				2,000				

Please observe that after correcting passing all rectification entries, the Suspense A/c tallies automatically.

Illustration 31.

Pass necessary journal entries to rectify the following errors:

- An amount of ₹ 200 withdrawn by owner for personal use was debited to trade expenses.
- Purchase of goods of ₹ 300 from Nathan was wrongly entered in sales book.
- A credit sale of ₹ 100 to Santhanam was wrongly passed through purchase book.
- ₹ 150 received from Malhotra was credited to Mehrotra.
- ₹ 375 paid as salary to cashier Dhawan was debited to his personal A/c.
- A bill of ₹ 2,750 for extension of building was debited to building repairs A/c
- Goods of ₹ 500 returned by Akashdeep were taken into stock, but returns were not posted.
- Old furniture sold for ₹ 200 to Sethi was recorded in sales book.
- The period end total of sales book was under cast by ₹ 100
- Amount of ₹ 80 received as interest was credited to commission.

Solution:

Sl No.		Particulars		Debit (₹)	Credit (₹)
(a)	Wrong Entry	Trade Expenses	Dr	200	
		To Cash			200
	Correct entry	Drawings	Dr	200	
		To cash			200
	Rectification entry	Drawings	Dr	200	
		To Trade Expenses			200
(b)	Wrong Entry	Nathan	Dr	300	
		To Sales			300
	Correct entry	Purchases	Dr	300	
		To Nathan			300
	Rectification entry	Purchases	Dr	300	
		Sales	Dr	300	
		To Nathan			600
(c)	Wrong Entry	Purchases	Dr	100	
		To Santhanam			100
	Correct entry	Santhanam	Dr	100	
		To Sales			100
	Rectification entry	Santhanam	Dr	200	



SI No.		Particulars		Debit (₹)	Credit (₹)
		To Sales			100
		To Purchases			100
(d)	Wrong Entry	Cash	Dr	150	
		To Mehrotra			150
	Correct entry	Cash	Dr	150	
		To Malhotra			150
	Rectification entry	Mehrotra	Dr	150	
		To Malhotra			150
(e)	Wrong Entry	Dhawan	Dr	375	
		To cash			375
	Correct entry	Salary	Dr	375	
		To cash			375
	Rectification entry	Salary	Dr	375	
		To Dhawan			375
(f)	Wrong Entry	Building Repairs	Dr	2,750	
		To Cash			2,750
	Correct entry	Buildings	Dr	2,750	
		To Cash			2,750
	Rectification entry	Buildings	Dr	2,750	
		To Building Repairs			2,750
(g)	Wrong Entry	No entry passed			
	Correct entry	Sales Returns	Dr	500	
		To Akashdeep			500
	Rectification entry	Sales Returns	Dr	500	
		To Asashdeep			500
(h)	Wrong Entry	Sethi	Dr	200	
		To Sales			200
	Correct entry	Sethi	Dr	200	
		To Furniture			200
	Rectification entry	Sales	Dr	200	
		To Furniture			200
(i)	Wrong Entry	No entry passed			
	Correct entry	Suspense	Dr	100	
		To Sales			100
	Rectification entry	Suspense	Dr	100	
		To Sales			100
(j)	Wrong Entry	Cash	Dr	80	
		To Commission			80
	Correct entry	Cash	Dr	80	
		To Interest			80
	Rectification entry	Commission	Dr	80	
		To Interest			80

EFFECT OF ERRORS ON PROFIT OR LOSS

Some errors may affect the profit or loss for the period while other won't. How to find it out? Remember, the P & L A/c reflects items of incomes, gains, expenses and losses. All these accounts are nominal accounts. When an error occurs which affects a nominal account, it will affect profit or loss otherwise not. So, errors that affect real and personal accounts will not affect profit or loss.

Illustration 32.

Rectifying the following errors by way of journal entries and work out their effect on profit or loss of the concern:

- Return inward book was cast short by ₹ 500.
- ₹ 300 received from Ram has been debited to Mr. Shyam.
- Wages paid for the installation of a machine debited to wages account for ₹ 1,000.
- A purchase made for ₹ 1,000 was posted to purchase account as ₹ 100.
- Purchase of furniture amounting to ₹ 3,000 debited to purchase account.
- Goods purchased for proprietor's use for ₹ 1,000 debited to purchase account.

Solution:

In the Books of
Journal

Date	Particulars	L.F	Dr. (₹)	Cr. (₹)
?	(a) Return Inward A/c Dr. To, Suspense A/c (Return Inward Book was cast short, now rectified.)		500	500
	(b) Suspense A/c Dr. To, Ram A/c To Shyam A/c (Received from Mr. Ram has been debited to Mr. Shyam A/c, now rectified.)		600	300 300
	(c) Machinery A/c Dr. To, Wages/c (Wages paid for maintenance of machinery debited to Wages A/c, now rectified.)		1,000	1,000
	(d) Purchase A/c Dr. To, Suspense A/c (Purchase account was short by ₹ 900, now rectified.)		900	900
	(e) Furniture A/c Dr. To, Purchase A/c (Furniture purchased wrongly debited to purchase account, now rectified)		3,000	3,000
	(f) Drawings A/c Dr. To, Purchase A/c (Goods purchased for proprietor's use, debited to purchase account, now rectified.)		1,000	1,000

Effect on Profit

Items	Particulars	Increase (₹)	Decrease (₹)
(a)	Decrease in Profit		500
(b)	No Effect in Profit	-	-
(c)	Increase in Profit	1,000	-
(d)	Decrease in Profit		900
(e)	Increase in Profit	3,000	-
(f)	Increase in Profit	1,000	-
	Total	5,000	1,400
	Increase in Profit	-	3,600
		5,000	5,000



Illustration 33.

The books of M/s Shakti trading for the year ended 31st march 2012 were closed with a difference that was posted to Suspense A/c. The following errors were found subsequently:

- (a) Goods of ₹ 12,500 returned to Thick & Fast Corporation were recorded in Return Inward book as ₹ 21,500 and from there it was posted to the debit of Thick & Fast Corporation.
 - (b) A credit sale of ₹ 7,600 was wrongly posted as ₹ 6,700 to customer's A/c in sales ledger.
 - (c) Closing stock was overstated by ₹ 5,000 being totaling error in the schedule of inventory.
 - (d) ₹ 8900 paid to Bala was posted to the debit of Sethu as ₹ 9,800
 - (e) Goods purchased from Evan Traders for ₹ 3,250 was entered in sales book as ₹ 3,520
 - (f) ₹ 1,500, being the total of discount column on the payment side of the cash book was not posted.
- Rectify the errors and pass necessary entries giving effects to Suspense A/c and P & L Adjustment A/c.

Solution:

- a) There are 2 errors: one – return outward is wrongly recorded as return inward and two – amount is also recorded wrongly. First, we need to remove extra debit to Thick & Fast corporation i.e. ₹ 9,000 (21,500-12,500) by crediting it. Also we need to remove wrong credit of ₹ 21500 in sales return by debiting it and credit ₹ 12,500 to Purchase returns A/c.

The rectification entry will be:

Suspense A/c	Dr	21,500	
To Thick & Fast Corp			9,000
To P & L Adjustment A/c		12,500	

- b) In this case, error has occurred only in customer's A/c. hence, profit or loss won't be affected and the P & L Adjustment A/c will not be in picture. As customer's A/c is debited for ₹ 6,700 instead of ₹ 7,600, it needs to be corrected.

The rectification entry will be:

Sundry Debtors A/c	Dr	900	
To Suspense A/c			900

- c) Over casting of closing stock had affected profit which must be reduced through P & L Adjustment A/c.

The rectification entry is:

P & L Adjustment A/c	Dr	5,000	
To Suspense A/c			5,000

- d) As only personal accounts are affected, there won't be an effect on Profits. So rectification will be done through Suspense A/c only. The rectification entry is:

Bala A/c	Dr	8,900	
Suspense A/c	Dr	900	
To Sethu A/c			9,800

- e) This transaction involves correction of purchase as well as sales, and hence will affect profit. As the purchases were booked as sales, we will need to cancel sales by debiting and freshly debit purchase. So overall effect on profit will be 3,250 + 3,520 i.e. 6,770. The rectification entry will be:

P & L Adjustment A/c	Dr	6,770	
To Evan Traders			6,770

- f) If discount is appearing on payment side of cash book, it indicates discount received while making payment and is an item of income. Hence, it will affect profit. The accounting entry will be:

Suspense A/c	Dr	1,500	
To P & L Adjustment A/c			1,500

Illustration 34.

You are presented with a trial balance of S Ltd as on 30.06.2012 showing the credit is in excess by ₹ 415 which was been carried to Suspense Account. On a close scrutiny of the books, the following errors were revealed:

- A cheque of ₹ 3,456 received from Sankar after allowing him a discount of ₹ 46 was endorsed to Sharma in full settlement for ₹ 3,500. The cheque was finally dishonored but no entries are passed in the books.
- Goods of the value of ₹ 230 returned by Sen were entered in the Purchase Day Book and posted therefrom to Das as ₹ 320.
- Bad debts aggregating ₹ 505 written off during the year in the Sales Ledger but were not recorded in the general ledger.
- Bill for ₹ 750 received from Mukherjee for repairs to Machinery was entered in the Inward Invoice Book as ₹ 650.
- Goods worth ₹ 1,234 Purchased from Mr. Y on 28.6.2012 had been entered in Day Book and credited to him but was not delivered till 5 th June 2012. Stock being taken by the purchase on 30.06.12. The title of the goods was, however, passed on 28.06.2012.
- ₹ 79 paid for freight on Machinery was debited to freight account as ₹ 97.

You are required to pass the necessary journal entries for correcting the books.

Solution:

**In the books of S Ltd.
Journal**

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
(a)	Sankar A/c Dr. Discount Received A/c Dr. To, Sharma A/c To Discount Allowed A/c (Cheque received from Sankar was endorsed to Sharma after allowing discount ₹46 , it was dishonored, now rectified)		3,502 44	3500 46
(b)	Return Inward A/c Dr. Das A/c Dr. To, Purchase A/c To, Sen A/c To Suspense A/c (Goods returned by sen for ₹ 230 wrongly recorded in Purchase Day Book as an credit to Das as ₹ 320, now rectified.)		230 320	230 230 90
(c)	Bad debts A/c Dr. To Suspense A/c (Bad debts written off but not recorded, now rectified)		505	505
(d)	Repairs A/c Dr. To, Purchase A/c To, Mukherjee A/c (Repairs of machinery for ₹ 750, wrongly recorded as ₹ 650 on Purchase A/c, now rectified.)		750	650 100
(e)	Goods- in- Transit A/c Dr. To Trading A/c (Goods were in Transit which were not considered, now rectified)		1,234	1,234
(f)	Machinery A/c Dr Suspense A/c To Freight A/c (amount paid for freight on machinery was wrongly debited to freight account, now rectified)		79 18	97



Illustration 35.

The books of accounts of A Co. Ltd. for the year ending 31.3.2013 were closed with a difference in books carried forward. The following errors were detected subsequently:

- (a) Return outward book was under cast by ₹ 100.
- (b) ₹ 1,500 being the total of discount column on the credit side of the cash book was not posted.
- (c) ₹ 6,000 being the cost of purchase of office furniture was debited to Purchase A/c.
- (d) A credit sale of ₹ 760 was wrongly posted as ₹ 670 to the customers A/c. in the sales ledger.
- (e) The Sales A/c. was under casted by ₹ 10,000 being the carry over mistakes in the sales day book.
- (f) Closing stock was over casted by ₹ 10,000 being casting error in the schedule or inventory.

Pass rectification entries in the next year.

Prepare suspense account and state effect of the errors in determination of net profit of last year.

Solution:

In the Books of A Co. Ltd. Journal

Date	Particulars	L/F	Dr. Amount (₹)	Cr. Amount (₹)
(a) 2013 April 1	Suspense A/c Dr. To Profit & Loss Adjustment A/c (Returns outward book was under cast now rectified).		100	100
(b)	Suspense A/c Dr. To Profit & Loss Adjustment A/c (Discount received was not recorded, now rectified).		1,500	1,500
(c)	Office Furniture A/c Dr. To Profit & Loss Adjustment A/c (Office furniture purchased wrongly debited to Purchase A/c. not rectified.)		6,000	6,000
(d)	Debtors' A/c Dr. To Suspense A/c. (Debtors account was posted ₹ 670 in place of ₹ 760, now rectified.)		90	90
(e)	Suspense A/c. Dr. To Profit & Loss Adjustment A/c. (Sales account was under casted, now rectified)		10,000	10,000
(f)	Profit & Loss Adjustment A/c. Dr. To Opening Stock A/c. (Closing Stock was overcasted, now rectified.)		10,000	10,000

Dr.			Suspense Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)			
2013 April 1	To Profit & Loss Adjustment A/c	100	2013 April 1	By Difference in Trial Balance	21,510			
	“ “	1,500		“ Debtors A/c.	90			
	“ “	10,000						
	“ “	10,000						
		21,600			21,600			

Effect on Profit

	<u>Increase (+)</u> ₹	<u>Decrease (-)</u> ₹
Item (a).....	-	100
(b).....	-	1,500
(c).....	-	6,000
(d) No effect	-	-
(e).....	-	10,000
(f).....	10,000	-
	10,000	17,600
Profit will be decreased by	7,600	-
	17,600	17,600

Illustration 36.

The Trial Balance of a concern has agreed but the following mistakes were discovered after the preparation of final Accounts.

- No adjustment entry was passed for an amount of ₹ 2,000 relating to outstanding rent.
- Purchase book was overcast by ₹ 1,000.
- ₹ 4,000 depreciation of Machinery has been omitted to be recorded in the book.
- ₹ 600 paid for purchase of stationary has been debited to Purchase A/c.
- Sales books was overcast by ₹ 1,000.
- ₹ 5,000 received in respect of in respect of Book Debt had been credited to Sales A/c.

Show the effect of the above errors in Profit and Loss Account & Balance Sheet.

Solution:**Effects of the errors in profit and loss A/c. and Balance Sheet**

Profit & Loss A/c.	Balance Sheet
(a) Profit was overstated by ₹ 2,000	(a) Capital overstated by ₹ 2,000 & outstanding Liability was understated by 2,000.
(b) Gross profit was understated by ₹ 1,000 & also the Net Profit.	(b) Capital was understates by ₹ 1,000.
(c) Net Profit was overstated by ₹ 4,000.	(c) Machinery was overstated by ₹ 4,000 & so the Capital A/c. was also overstated by ₹ 4,000.
(d) No effect on Net Profit.	(d) No effect in Balance Sheet.
(e) Gross Profit & Net Profit were overstated by ₹ 1,000.	(e) Capital was overstated by ₹ 1,000.
(f) Gross Profit & Net Profit were overstated by ₹ 5,000.	(f) Capital & Sundry Debtors were overstated by ₹ 5,000.

Thus,

Effect in Profit			Effect in Balance Sheet		
Item	<u>Increase (+)</u> ₹	<u>Decrease (-)</u> ₹		Assets ₹	Liabilities ₹
(a).....	2,000	-	(a).....	-	(+) 2,000
(b).....	-	1,000	(b).....	-	(-) 2,000
(c).....	4,000	-	(c).....	-	(-) 1,000
(d) No effect	-	-	(d) No effect	(+) 4,000	(+) 4,000
(e).....	1,000	-	(e).....	-	-
(f).....	5,000	-	(f).....	-	(+) 1,000
	12,000	1,000		(+) 5,000	(+) 5,000
Profit will be increased by	-	11,000		9,000	9,000
	12,000	12,000			

Adjusting Entry

Adjusting Entries are passed in the journal to bring into the books of accounts certain unrecorded items like closing stock, depreciation on fixed assets, etc. These are needed at the time of preparing the final accounts.

E.g. Depreciation A/c Dr.
To, Fixed Assets A/c

Study Note - 2

RECONCILIATION STATEMENTS



This Study Note includes

- 2.1 Bank Reconciliation
- 2.2 Receivable Reconciliation
- 2.3 Payable Reconciliation
- 2.4 Stock Reconciliation

2.1 BANK RECONCILIATION

We have studied the Cash Book which has two columns viz. Cash and Bank. The majority of transactions get settled through cash or Bank. For cash received or paid, the effect in the cash box is instant. The transactions settled through the medium of Bank (i.e. by way of cheque, pay order, draft etc) take a little longer time. If customer pays by cheque, it is deposited in the Bank who will send it for clearance and then only it will be credited by the Bank into the A/c of business entity. This may take about a week. Similarly, when a cheque is issued to supplier, he will deposit in his Bank which in turn will clear it. Because of such time lag, there would be difference in the records.

The records here would mean Cash Book (in books of business entity) and Pass Book (maintained by the Bank). The contents of Bank Pass Book (or Bank statement) are exactly the same as that of Cash Book with a mirror image effect. When cheques are received the entry in books of accounts of business is

Bank A/c Dr
 To customer A/c

For the Bank, this amount is collected through the clearing system and payable to the Business Entity's A/c. The entry in their books will be

Clearing A/c Dr
 To Business Entity's A/c

Hence they will show it as payable i.e. as a credit. Thus all debits in the Bank column of the Cash Book will correspond to the credit entries in the Bank Passbook and all credits in the Bank column of the Cash Book will correspond to the debit entries in the Bank Passbook. Due to the time differences, these entries may not exactly match at a given point of time. This necessitates that these two statements are reconciled regularly:

- 1) To identify differences
- 2) To know reasons for differences
- 3) To ensure the required entries are made in the books of accounts
- 4) To ensure that entries are made by the Bank in time.

A statement which is prepared to reconcile the causes of difference between Bank Balance as per Cash Book and Bank Balance as per Pass Book/ Bank Statement is known as a Bank Reconciliation statement.

It may be noted that before the final accounts are prepared, Bank Reconciliation is a must. It is a very important preparatory step. If an entity has A/c with more than one Bank, all such A/cs must be reconciled regularly i.e. weekly or monthly. In these days of internet Banking where the Bank statements are available online, the reconciliation also can be an online activity. In fact, modern accounting packages are equipped with automatic reconciliations. A Bank statement is entered in the computer system (or a soft copy is uploaded) and then a programme is run which will throw up the transactions leading to the differences.

Features of a Bank Reconciliation statement

1. It is a statement.
2. It is not a part of the process of Accounts.
3. It is prepared to reconcile the causes of difference between the Bank balance as per Cash Book and the Bank balance as per Pass Book.
4. It can be prepared at any time during the financial year, as and when it is required.
5. Since it is prepared on a particular date, it is written as Bank Reconciliation statement as at/ as on

It is necessary for a beginner to understand the mechanism of how to prepare the Bank Reconciliation statement. The first milestone on this journey is to understand the various reasons for differences between the two records.

2.1.1 Reasons for Differences between Cash Book and Pass Book

The differences are basically of two types:

- (A) Items appear in Cash Book but not appearing in Pass Book and
- (B) Items appear in Pass Book but not appearing in the Cash Book

Let us understand these reasons:

(A) Items not appearing in Bank Pass Book

- (1) **Cheques issued by business entity not debited by the Bank** – This may be because they might not have been Banked by the payee or it may still be under clearance. The entry in Cash Book will be made immediately when the cheque is issued thereby reducing the Bank balance in the books of entity's books of A/cs. Here, Bank balance as per Cash Book will be less, but as per Bank Pass Book it will be more. This is also termed as unrepresented cheques.
- (2) **Cheques deposited but not credited by the Bank** – The business entity may receive cheques or draft which is deposited into the Bank for collecting the payment. Again entry in Cash Book will be instant thereby increasing the balance. Here, Bank balance as per Cash Book will be more than the balance as per Bank passbook. This is also called as outstanding cheques.
- (3) **Errors** – The Bank may by mistake miss out entering the debit or credit which results in the difference.
- (4) **Standing Instructions** – The entity may give standing instruction to the Bank for certain regular payments like loan repayment installment, transfer of funds etc. This may get entered in the Cash Book immediately, but Pass Book entry may be delayed.

(B) Items not appearing in the Cash Book

- (1) **Bank interest, Bank charges etc.** – The Bank will charge interest on overdraft or also charges for services, issue of demand draft, pay orders etc. Here, being the source of transaction, the Bank will record in the Pass Book immediately and send the debit advice slips to the business entity. The entry in the Cash Book may be delayed. Similarly the Bank could credit interest on fixed deposits, which may get entered in business books at a later date.
- (2) **Direct deposits in Bank account** – Sometimes customers or others may directly deposit an amount in the Bank for goods or services rendered. The Bank will enter it immediately, but entry in Cash Book will appear later.
- (3) **Bills for collection** – The Business Entity may send bills of exchange for collection. The Bank will collect the payment and credit the same in the passbook. The entry in Cash Book will be made only after receipt of information from the Bank.
- (4) **Errors** – The records may be missed out by the book-keeper of the Business Entity.



Need of Bank Reconciliation Statement

1. It helps to understand the actual Bank balance.
2. It helps to identify the mistakes in the Cash Book and the Pass Book.
3. It helps to detect and prevent frauds and errors in recording the Banking transactions.
4. It helps to incorporate certain expenditures/income debited/credited by Bank in the books of accounts.

Methods of preparation of Bank Reconciliation Statement

1. Rules of Addition and Subtraction.
2. Debit and Credit Method.

2.1.2 Steps in Preparing Bank Reconciliation Statement

One has to have a systematic approach towards preparation of the reconciliation. To avoid a lengthy reconciliation, one must ensure that the entries in the Cash Book are absolutely online. One also must obtain the Bank statements at regular intervals. Once this checking is done, Bank reconciliation could be done by following these steps:

- (a) Identify the balances and the character thereof. Remember, a debit balance in Cash Book means asset where as a credit balance means a Bank overdraft. In Bank passbook, it's reverse. A debit balance in Pass Book means overdraft and a credit balance is a favourable balance. This must be carefully understood.
- (b) Based on the above, start with the balance (or overdraft) as per one book and arrive at the balance (or overdraft) as per the other book. The items of differences will be added to or deducted from the balance (or overdraft) with which the reconciliation is started.
- (c) The end result should be the balance (or overdraft) as per the other book e. g. if you start with balance as per Cash Book, then after adding or deducting items of differences, you should arrive at the balance (or overdraft) as per the Pass Book.
- (d) One has to make sure that all the items of differences from Cash Book as well as Bank book are taken into account in the reconciliation statement.
- (e) Whether the items of differences should be added or deducted will depend on the sequence you follow. This is shown in following table:

When reconciliation is started with →	Bal. as per CB	OD as per CB	Bal as per PB	OD as per PB
Cheques deposited in Bank, but not cleared	Less	Add	Add	Less
Cheques issued, but not presented in Bank	Add	Less	Less	Add
Bank charges debited in PB only	Less	Add	Add	Less
Interest debited in PB only	Less	Add	Add	Less
Payments by Bank debited in PB only	Less	Add	Add	Less
Direct payment by customer in PB only	Add	Less	Less	Add
Bills discounted & dishonoured in PB only	Less	Add	Add	Less
Cheques deposited, dishonoured in PB only	Less	Add	Add	Less
Interest, Dividend, Commission collected by Bank not recorded in the Cash Book	Add	Less	Less	Add
Overcasting of payment side of Cash Book or Undercasting of Receipt side of Cash Book	Add	Less	Less	Add
Undercasting of Payment side of Cash Book or overcasting of Receipts side of Cash Book	Less	Add	Add	Less

When reconciliation is started with →	Bal. as per CB	OD as per CB	Bal as per PB	OD as per PB
Deposits recorded twice in the Cash Book or excess amount recorded in the Cash Book	Less	Add	Add	Less
Undercasting of credit side of the Pass Book or overcasting of the debit side of the Pass Book	Less	Add	Add	Less
Cheques deposited into Bank and credited without recording in the Cash Book	Add	Less	Less	Add
Wrong debit in the Pass Book for issue of cheque, Bank charges, etc.	Less	Add	Add	Less
Wrong credit in the Pass Book for deposit of cheque, interest, etc.	Add	Less	Less	Add
Cheques drawn but not actually issued to the suppliers/ creditors	Add	Less	Less	Add
Bank charges recorded twice in the Cash Book	Add	Less	Less	Add
Amount withdrawn from Bank not recorded in the Cash Book	Less	Add	Add	Less

Please note the abbreviations CB – Cash Book, PB – Pass Book, OD – Overdraft

Illustration 1.

On 31.12.12, P. Roy's Bank Balance as shown by the Cash Book was ₹ 75,000. On receipt of Bank Statement it was found that :-

- Three cheques of ₹3,000, ₹4,000 and ₹1,500 drawn in favour of suppliers respectively on 28th, 29th and 30th December, 2012 had been debited in the Bank Statement on 2nd January 2013.
- The Bank had credited ₹8,000 on 30th December, 2012, in respect of collection made by Bank directly from a customer, the intimation not having yet been received.
- Two cheques of ₹5,000 and ₹6,000 were deposited into Bank on 30th December, 2012 had been credited in the Bank statement on 4th January, 2013.
- The Bank had debited ₹30 as incidental charges on 30th December, 2012 but not entered in the Cash Book.

Show the reconciliation of the Bank Balance as per Cash Book with the Bank Balance as per Bank Statement as on 31st December, 2012.

Solutions:

Bank Reconciliation Statement of Mr. P. Roy as on 31st December, 2012.

Particulars		Amount (₹)	Amount (₹)
Add:	Bank Balance as per Cash Book (Dr.)		75,000
	(i) Cheques issued but not presented for payment ₹3,000, ₹4,000 & ₹1500 respectively.	8,500	
	(ii) Collection by Bank from a Customer not recorded in the Cash Book	8,000	16,500
Less:			91,500
	(i) Cheques deposited but not credited in the Pass Book on 31.12.12 ₹5,000 + ₹6,000 respectively.	11,000	
	(ii) Bank charges not recorded in the C.B.	30	11,030
Balance as per Pass Book (Cr.)			<u>80,470</u>



Illustration 2.

The Bank statement of Mr. J. White dated 31.12.2012 showed a balance with his Bank of ₹ 924, when checked with his Cash Book the following were noted :

- (a) During December, the Bank had paid ₹200 for a yearly contribution of Mr. White, made to a local charity, as per his standing order. This amount appeared in the Bank statement but not in the Cash Book.
- (b) The Bank had credited his account with ₹28 interest and had collected on his behalf ₹ 230 as dividends. No corresponding entries were made in the Cash Book.
- (c) A cheque of ₹ 65 deposited into the Bank on 28.12.2012 was not cleared by the Bank till after 31.12.2012.
- (d) A cheque of ₹150 deposited into and cleared by the Bank before 31.12.2012 was not entered in the Cash Book, through an oversight.
- (e) Cheques drawn by and posted to parties by Mr. White on 31.12.2012 for ₹73, ₹119 and ₹ 46 were presented for payment to the Bank only on 3.1.2013.

Solution

Bank Reconciliation Statement as on 31st December, 2012

Particulars	Amount (₹)	Amount (₹)
Bank balance as per Pass Book (Cr.)		924
Add: (i) Payment of contribution by the Bank not entered in the Cash Book	200	
(ii) Cheque deposited but not cleared	65	265
		1,189
Less: (i) Interest and dividend collected by the Bank not entered in the Cash Book - Interest	28	
- Dividend	230	
(ii) Cheque deposited and cleared but not entered in the Cash Book	150	
(iii) Cheques issued but not presented ₹ (73+119+46)	238	646
Bank balance as per Cash Book (Dr.)		543

Illustration 3.

Mr. Suresh request you to ascertain the Bank balance as per the Pass Book for January 2013, as his cash clerk reported a figure of ₹11,515 (credit) as on 31.1.2013. Scrutiny revealed the following discrepancies :

- (i) Cheques issued and deposited by the cash clerk in January 2013, were ₹ 15,000 and ₹ 7,000 respectively. However, against the above, the Bank had paid out and debited cheques worth ₹9,000 only and cleared and credited cheques worth ₹ 4,000 only, by 31.1.2013.
- (ii) A customer had paid in ₹ 6,400 directly into Suresh's Bank account, the effect of which was missing in the Cash Book.
- (iii) Bank commission of ₹ 45 charged and interest earned ₹ 1,400 on investments of Mr. Suresh, where only recorded in the Pass Book.
- (iv) Total cash withdrawals of ₹ 3,000 by self and bearer cheques for office use, were recorded erroneously as ₹ 5,000 in the Cash Book.

Solution**Mr. Suresh****Bank Reconciliation Statement as on 31st January, 2013**

Particulars	Amount (₹)	Amount (₹)
Overdraft as per Cash Book		11,515
Add: (i) Cheques deposited but not cleared (7,000 - 4,000)	3,000	
(ii) Bank commission charged by the Bank	45	3,045
		14,560
Less: (i) Cheques issued but not presented for payment (15,000 - 9,000)	6,000	
(ii) Direct deposit by a customer	6,400	
(iii) Interest on investment credited in the Pass Book only	1,400	
(iv) Withdrawals of ₹ 3,000 recorded in the Cash Book as ₹ 5,000	2,000	15,800
Bank balance as per Pass Book (Cr.)		1,240

Illustration 4.

The Bank Pass Book of Mr. Anil showed an overdraft of ₹ 6,000 on 31.12.2012. Prepare the Bank Reconciliation Statement based on the following details:

- Cheques issued but not presented upto 31.12.2012, ₹ 5,500
- Cheques deposited but not credited upto 31.12.2012, ₹ 9,000
- Bank commission ₹ 30/- was entered only in the Pass Book.
- A cheque for ₹ 6,500/- issued in settlement of a debt was encashed on 28.12.2012 but entered in the Cash Book as ₹ 8,500/-

Solution**Mr. Anil****Bank Reconciliation Statement as on 31st December, 2012**

Particulars	Amount (₹)	Amount (₹)
Overdraft as per Pass Book		6,000
Add: (i) Cheques issued but not presented for payment	5,500	
(ii) Cheque for ₹ 6,500 issued and encashed but entered in the Cash Book at ₹ 8,500 (8,500 - 6,500)	2,000	7,500
		13,500
Less: (i) Cheques deposited but not credited	9,000	
(ii) Bank commission entered in the Pass Book only	30	9,030
Overdraft as per Cash Book		4,470

**Illustration 5.**

From the following particulars of M/s Suresh enterprises, prepare a Bank reconciliation statement:

- 1) Bank overdraft as per Pass Book as on 31st March 2012 was ₹ 8,800
- 2) Cheques deposited in Bank for ₹ 5,800 but only ₹ 2,000 were cleared till 31st March
- 3) Cheques issued were ₹ 2,500, ₹ 3,800 and ₹ 2,000 during the month. The cheque of ₹ 5,800 is still with supplier.
- 4) Dividend collected by Bank ₹ 1,250 was wrongly entered as ₹ 1,520 in Cash Book.
- 5) Amount transferred from fixed deposit A/c into the current A/c ₹ 2,000 appeared only in Pass Book
- 6) Interest on overdraft ₹ 930 was debited by Bank in Pass Book and the information was received only on 3rd April 2012.
- 7) Direct deposit by M/s Rajesh Traders ₹ 400 not entered in Cash Book.
- 8) Corporation tax ₹ 1,200 paid by Bank as per standing instruction appears in PB only.

Solution:**Bank Reconciliation Statement as on 31st March, 2012**

Particulars	Amount (₹)	Amount (₹)
Overdraft as per Pass Book		8,800
Add: (i) Cheques issued but not presented till 31st March	5,800	
(ii) Transfer from fixed deposit	2,000	
(iii) Direct deposit by M/s Rajesh Traders	400	8,200
		17,000
Less: (i) Cheques deposited but not cleared (5,800 - 2,000)	3,800	
(ii) Dividend collected excess recorded in CB (1,520 - 1,250)	270	
(iii) Interest on overdraft debited in PB only	930	
(iv) Corporation tax paid appeared in PB only	1,200	6,200
Overdraft as per Cash Book		10,800

Illustration 6.

Mr. Narayan has given extract of his HDFC Bank statement for the month of December 2012 as follows:

Details	Withdrawal ₹	Deposit (₹)	Balance (₹)	
Balance as on 1-12-2012			12,500	Cr
Deposits realized:				
Cash		60,000	72,500	Cr
Customers' cheques : deposited in Nov 12		5,000	77,500	Cr
: deposited in Dec 12		1,70,000	2,47,500	Cr
Bank charges	400		2,47,100	Cr
Cash paid	10,000		2,37,100	Cr
Cheques honoured : issued before Dec 12	68,100		1,69,000	Cr
: issued in Dec 12	1,56,000		13,000	Cr

His Cash Book showed cash balance of ₹ 3,000 and Bank OD of ₹ 53,450 as on 1st December 2012. His transactions during December 2012 were as follows:

- (a) Cash collected on sales ₹ 60,000 which was Banked on a daily basis. Credit sales were ₹ 1,90,000
- (b) Cheques received from customers for ₹ 1,50,000 in full settlement of the invoices of ₹ 1,53,000

Reconciliation Statements

- (c) Credit purchases were ₹ 1,55,000
- (d) Cheques of ₹ 1,32,000 were issued against the November purchases of ₹ 1,34,000
- (e) Advances received from customers ₹ 30,000 & advances paid to suppliers ₹ 25,000
- (f) Amount withdrawn from Bank ₹ 10,000 of which ₹ 4,000 was for personal use of Mr. Narayan and balance was for business expenses.
- (g) Expenses ₹ 9,000 of which ₹ 5,000 was by cheque and the rest by cash
- (h) Cash paid on behalf of customer ₹ 4,500
- (i) Bank charges ₹ 150 debited by Bank in November were recorded in Cash Book in December on receipt of Bank statement.

It was noticed that cheques ₹ 2,500 deposited and cheques ₹ 5,500 issued before 1st December were not cleared by 31st December. Prepare Cash Book for December 2012 with discount, cash and Bank columns. Also prepare Bank reconciliation statement as on 30th November and as of 31st December 2012.

Solution

Dr. Cash Book of Mr. Narayan for the month of December 2012 Cr.								
Particulars	Disc ₹	HDFC ₹	Cash ₹	Particulars	Disc ₹	HDFC ₹	Cash ₹	
Balance b/d			3,000	Balance b/d (OD)		53,450		
Cash sales			60,000	Cash deposited in Bank (contra)			60,000	
Cash deposited in Bank (contra)		60,000		Cheques issued to suppliers	2,000	1,32,000		
Customers cheques deposited	3,000	1,50,000		Advances to suppliers by cheque		25,000		
Advance cheques from Customers		30,000		Cash withdrawn (contra)		6,000		
Cash withdrawn (contra)			6,000	Drawings		4,000		
				Expenses paid		5,000	4,000	
				Cash paid on behalf of Customer			4,500	
				Bank charges		150		
				Balance c/d		14,400	500	
	3,000	2,40,000	69,000		2,000	2,40,000	69,000	

Please note here, the reconciliation statements are asked for 2 different dates. We must find out items of differences between Cash Book and Bank statement as on both dates and then should prepare the reconciliation statements. Transactions of credit sales and credit purchases for the month will have no relevance of posting in Cash Book.

HDFC Bank reconciliation as on 30th November 2012

Particulars	Amount ₹	Amount ₹
Balance as per Bank statement (credit)		12,500
Add: (i) cheques deposited but not cleared (5,000 + 2,500)	7,500	
(ii) Bank charges not recorded in CB	150	7,650
		20,150
Less: (i) Cheques issued not presented (68,100 + 5,500)		73,600
Balance as per Cash Book (Overdraft)		(53,450)



HDFC Bank reconciliation as on 31st December 2012

Particulars	Amount ₹	Amount ₹
Balance as per Cash Book		14,400
Add: (i) Cheques issued but not presented		
(ii) Issued in November	5,500	
(iii) Issued in December (162000 – 156000)	6,000	11,500
		25,900
Less: (i) Cheques deposited but not cleared		
Deposited in November	2,500	
Deposited in December (1,80,000 – 1,70,000)	10,000	
(ii) Bank charges for December not entered in CB	400	
		12,900
Balance as per Pass Book		13,000

2.1.3 Amendment in Cash Book

Sometimes, in order to find out the correct balance at Bank or cash we are to amend the Cash Book before the preparation of Bank Reconciliation statement. In short, Bank Reconciliation Statement should be prepared by taking the balance shown by the amended Cash Book. The students should remember that usually two types of transactions are recorded in amended Cash Book i.e., (i) Items which were not at all recorded in Cash Book. (ii) Any error made by Cash Book. The transactions which are already recorded in Cash Book i.e., the rest of the transactions will go Bank reconciliation statement.

But it must be remembered that preparation of amended Cash Book is possible only when the balance as per Cash Book is given.

Step to be followed for preparation:

- Open the Cash Book with the Balance as per Cash Book, whether favourable or unfavourable,
- Adjust the items (i.e., which are not recorded in Cash Book and any other error made by Cash Book.)
- Close the Cash Book and find out the balance,
- Prepare Bank Reconciliation Statement by taking the Cash Book balance and rest of the transaction which are not adjusted against amended Cash Book.

Illustration 7.

The Bank column of the Cash Book showed an overdraft of ₹ 5,000 on 31-03-2012, whereas as per Bank statement the overdraft is ₹ 4,200. The following differences were noticed between the two records:

- Cheques of ₹ 2,400 issued but not encashed by customers
- Cheques deposited but not cleared ₹ 1,200
- Collection charges debited by Bank not recorded in CB ₹ 100
- Bank interest charged by the Bank not recorded in CB ₹ 300
- Cheques dishonoured debited by Bank not in CB ₹ 400
- Interest directly received by Bank not entered in CB ₹ 400

Prepare Bank reconciliation statement after amending the CB.

Solution

Here, please note that amended CB is asked. What it actually means is to record all revenue (expense or income) items of differences and those items that are recorded in PB only must first be recorded in the CB and then the reconciliation statement should be prepared by taking the revised balance as per CB. Here is the amended CB.

Reconciliation Statements

Dr.	Cash Book (Bank column only)		Cr.
Particulars	Amount ₹	Particulars	Amount ₹
To Interest received	400	By Balance b/d (OD)	5,000
		By collection charges	100
		By Bank interest	300
To Balance c/d (OD)	5,400	By customer (chq dishonoured)	400
	5,800		5,800

Bank reconciliation statement as on 31-03-2012	₹
Bank OD as per CB	5,400
Add: Cheques deposited, but not cleared	1,200
Less: cheques issued but not encashed	(2,400)
Bank OD as per PB	4,200

Illustration 8.

The following is a summary from Cash Book of M/s Adarsh Trading for the month of Sept 2012

	₹		₹
Balance b/d	1,407	Payments	15,520
Receipts	15,073	Balance c/d	960
	16,480		16,480

On investigation it was found that

- Bank charges of ₹ 35 were not entered in the Cash Book
- A cheque of ₹ 47 issued to supplier was entered by mistake as a receipt in the Cash Book.
- A cheque of ₹ 18 was returned by the Bank marked as 'refer to drawer' but it's not entered in Cash Book
- The balance brought forward in Sept 2012 should have been ₹ 1,470
- Cheques paid to suppliers ₹ 214, ₹ 370 and ₹ 30 have not been presented for payment.
- Deposits of ₹ 1542 on 30th Sept were cleared by the Bank on 2nd October.
- The Bank charged a cheque wrongly to Adarsh trading ₹ 72
- Bank statement shows overdraft of ₹ 124 as on 30th Sept 2012.

Show what adjustments will you make in the Cash Book and prepare a Bank reconciliation statement as on 30-09-2012.

Solution

As we know, the errors in the Cash Book must first be corrected and entries that have been missed out in the CB should be recorded.

Dr.	Cash Book for Sept 2012		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To Original balance b/d	960	By Bank charges not recorded earlier	35
To Error in balance carried (1,470 - 1,407)	63	By Cheques issued recorded as receipt	94
		By Now corrected (2*47)	
		By Cheque returned	18
		By Revised balance c/d	876
	1,023		1,023

Now we can prepare the Bank reconciliation statement.



Bank Reconciliation from member as on 30.9.2012

Particulars	Amount (₹)	Amount (₹)
Balance as per Cash Book		876
Add: Cheques issued but not presented (214 + 370 + 30)	614	614
		1,490
Less: (i) Deposits not cleared	1542	
(ii) Cheques charged by mistake	72	
		1,614
Overdraft as per Pass Book		(124)

Illustration 9.

D's Cash Book shows an overdrawn position of ₹ 3,630 on 31.3.2013, though the Bank Statement shows only ₹ 3,378 overdrawn. Detailed examination of two records revealed the following:

- A cheque for ₹ 1,560 in favour of Rath Associates has been omitted by the Bank from its statement, thus, cheque having been debited to another customer's account.
- The debit side of owned book has been under cast by ₹ 300.
- A cheque for ₹ 182 drawn in payment of electricity account had been entered in the Cash Book on ₹ 128 & was shown correctly in the Bank statement.
- A cheque for ₹ 210 from S. Gupta having been paid into Bank, was dishonoured & shown as such on Bank statement, although no entry relating to dishonour had been made in Cash Book.
- The Bank had debited a cheque for ₹ 126 to D's A/c. in error. It should have been debited to Sukhla's A/c.
- A dividend of ₹ 90 on D's holding of equity shares has been duly shown by Bank, no entry has been made in Cash Book.
- A lodgement of ₹ 1,080 on 31.3.2013 had not been credited by Bank.
- Interest on ₹ 228 had been directly debited by Bank not recorded in Cash Book.
- You are required to prepare a Bank Reconciliation Statement after necessary amendment in Cash Book as on 31.3.2013.

Solution

In the Books of Mr. D					
Dr			Cr		
Cash Book (Bank Column only)					
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2013	To Dividend A/c.	90	2013	By Balance b/d.	3,630
March	" Error	300	March	" Electric Charges A/c.	54
31	(under casting in debit side)		31	Cheque drawn for [₹ 182 wrongly recorded as ₹ 128 (₹ 182 – ₹ 128)]	
	" Balance c/d.	3,732		" S. Gupta's A/c.	
				-Cheque dishonoured	210
				" Bank Interest	228
		4,122	April		4,122
			1	By Balance b/d.	3,732

Bank Reconciliation Statement as at 31st March 2013

Particulars	Amount (₹)	Amount (₹)
Overdraft as per Cash Book		3,732
Add: (i) A cheque for ₹ 126 wrongly debited by Bank.	126	
(ii) A lodgement not credited by Bank	1,080	
		1,206
Less: (i) A cheque was issued in favour of Rath Associates not debited by Bank		4,938
		1,560
Overdraft as per Pass Book.		3,378

Illustration 10.

Perfect Pvt. Ltd. has two accounts with Ever Bank Ltd. The accounts were known as 'Account-I' and Account-II'. As at Dec. 31, 2011, the balance as per A/c books reflected the following:

Account-I ₹ 1,25,000 Regular balance.

Account-II ₹ 1,11,250 Overdraft balance.

The accountant failed to tally the balance with the Pass Book and the following information was available :

- The Bank has charged Interest on Account-II ₹ 11,375 and credited Interest on Account-I ₹ 1,250. These were not recorded by the accountant.
- ₹ 12,500 drawn on Dec.10, 2011, from Account-I was recorded in the books of Account-II.
- Bank charges of ₹ 150 and ₹ 1,125 for Account-I and Account-II were not recorded in the books.
- A deposit of ₹ 17,500 in Account-I was wrongly entered in Account-II in the books.
- Two cheques of ₹ 12,500 and ₹ 13,750 deposited in Account-I, but entered in Account-II in the books, were dishonoured. The entries for dishonoured cheques were entered in Account-II.
- Cheques issued for ₹ 1,50,000 and ₹ 15,000. from Account-I and Account-II, respectively, were not presented until Jan. 5, 2012
- Cheques deposited ₹ 1,25,000 and ₹ 1,17,500 in Account-I and II, respectively, were credited by Bank on Feb. 2, 2012.

You are required to prepare the Bank Reconciliation Statement for Account-I and II.

Solution.

**In the books of Perfect Pvt. Ltd.,
Bank Reconciliation Statement, Account-I
as at 31st December 2011**

Particulars	Amount (₹)	Amount (₹)
Bank Balance as per account book		1,25,000
Add : (i) Interest earned but not recorded in Cash Book	1,250	
(ii) Deposits not entered in Cash Book	17,500	
(iii) Cheques deposited but not entered (₹ 12,500 + ₹13,750)	26,250	
(iv) Cheques issued but not presented for payment	1,50,000	
		1,95,000
Less : (i) Withdrawals not entered in Cash Book	12,500	
(ii) Bank charges debited in Pass Book but not entered in Cash Book	150	
(iii) Cheques dishonoured but not recorded in Cash Book (₹ 12,500 + ₹ 13,750)	26,250	
(iv) Cheques deposited but not credited by the Bank	1,25,000	
		3,20,000
		1,63,900
Bank Balance as per Pass Book		1,56,100.



**Bank Reconciliation Statement, Account-II
as at 31st December 2011**

Particulars	Amount (₹)	Amount (₹)
Overdraft Balance as per Account Book		1,11,250
Add : (i) Interest charges on overdraft but not entered in Cash Book	11,375	
(ii) Bank charges debited by Bank but not entered in Cash Book	1,125	
(iii) Deposits wrongly entered	17,500	
(iv) Cheques deposited but not credited by the Bank	1,17,500	1,47,500
		2,58,750
Less : (i) Withdrawals wrongly recorded	12,500	
(ii) Cheques issued but not presented	15,000	
		27,500
Overdraft balance as per Pass Book		2,31,250

2.1.4 Where both Cash Book and Pass Book are given

(a) The book relates to the same period

When Cash Book and Pass Book of the identical period are given the following steps are needed.

1st step- Deposits sides of the Pass Book (Debit Side) and Cash Book (Credit side) should be checked thoroughly and put an asterisk mark on all the matching items. All the items without any signs in the Cash Book is an indication that it is required to be entered by the Bank. Separate the items under the heading "Cash / Cheques deposited but yet to be credited by the Bank" and in the same way , items without any sign in the Pass Book is indicating that deposits are yet to be entered in the Cash Book. Separate the items under the heading "Cheques/ Cash credited by the Bank are needed to be included in the Cash Book."

2nd Step- All the matching withdrawals on the Pass Book (Debit side) with the payments of the Cash Book (Credit side) should be marked with an asterisk one by one. All the items without any signs in the Cash Book indicate payments are needed to be included by the Bank. Separate the items under the heading "Cheques issued/ drawn and required to be presented in the Bank for payment" and in the same way, Items without any sign in the Pass Book is an indication that withdrawals yet to be entered in the Cash Book. Separate the items under the heading "Cheques/ Cash debited by the Bank yet to be entered in the Cash Book".

3rd Step- Separate list should be maintained for any other item under appropriate heading , e.g , errors in Cash Book, or, Pass Book, etc, which may cause any difference.

4th Step - after considering the separate listed items and closing balances of Pass Book and Cash Book Bank Reconciliation Statement should be prepared.

Procedure for Preparation of Bank Reconciliation Statement

1. Selection of a date : The last date of the month or accounting period is selected to reconcile the balances of Cash Book and Pass Book.
2. Comparison of entries : The transactions recorded in the Pass Book and Cash Book (Bank column) are compared. In most cases, the pay-in-slips (i.e. for deposits) and the counterpart of cheques are considered to find out the causes of discrepancies.
3. Selection of base : To select the starting point. To decide what balance to start with, Cash Book balance or Pass Book balance.

Illustration 11.

The following are the Cash Book and Bank Pass Book of Sri N for the month of April, 2012.

Dr.			Cash Book (Bank Column only)			Cr.					
Date		Particulars		Amount (₹)		Date		Particulars		Amount (₹)	
2012						2012					
April, 1		To Balance b/d		12,500		April, 1		By Salaries A/c		4,000	
4		" Sales A/c"		8,000				(Cheque No. 183)			
8		P A/c		1,500		6		" Purchase A/c		3,200	
13		" M A/c		3,400				(Cheque No. 184)			
18		" Kamal A/c		4,600		11		" Machinery A/c		6,000	
21		" Furniture A/c		1,200				(Cheque No. 185)			
25		" Sales A/c		3,800		15		" Omprakash A/c		1,000	
30		" F A/c		3,000				-(Cheque No. 186)			
						19		" Drawings A/c		800	
								(Cheque No. 187)			
						23		" K A/c		2,000	
								(Cheque No. 188)			
						-		" S A/c		1,000	
								(Cheque No. 189)			
						27		" Printing A/c		500	
								(Cheque No. 190)			
						30		" Balance c/d		19,500	
				38,000						38,000	

Pass Book

Date	Particulars	Cheque No.	Debit (Withdrawals)	Credit (Deposits)	Dr. or Cr.	Balance
2012			₹	₹		₹
April, 1	By Balance bld				Cr.	12,500
2	To Cheque	183	4,000		Dr.	8,500
6	By Cheque			8,000	Cr.	16,500
6	To Cheque	184	3,200		Dr.	13,300
10	By Cheque			1,500	Cr.	14,800
16	" Cheque			3,400	Cr.	18,200
17	To Cheque	187	800		Dr.	17,400
20	By Cheque			4,600	Cr.	22,000
24	" Cheque			3,800	Cr.	25,800
28	To Cheque	185	6,000		Dr.	19,800
28	" Cheque	189	1,000		Dr.	18,800
30	By Interest			100	Cr.	18,900
30	" Deposit (K.Sen)			3,000	Cr.	21,900
30	" Charges		10		Dr.	21,890

Yes are required to prepare a Bank Reconciliation Statement as at 30th April 2012..



Solution .

**Bank Reconciliation Statement of Sri N
as at 30th April, 2012**

Particulars	Amount (₹)	Amount (₹)
Bank Balance as per Cash Book		19,500
Add : Cheques issued but not presented (₹ 1,000 + ₹ 2,000 + ₹ 500)	3,500	
Direct deposit made by the customer, Sri K. Sen	3,000	
Interest credited by Bank, but not entered in Cash Book	100	
		6,600
		26,100
Less : Cheques deposited but not credited (₹ 1,200 + ₹ 3,000)	4,200	
Bank charges debited by Bank but not entered in Cash Book	10	
		4,210
Bank Balance as per Pass Book		21,890

Illustration 12.

Following are the extracts of Cash Book and Pass Book of Mr. Sunil. Prepare a Bank reconciliation statement.

Cash Book (Bank column only)					
Dr.					Cr.
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
1-Jan-12	To Balance b/d	1,080	2-Jan-12	By Wages A/c	850
2-Jan-12	To Interest A/c	52	6-Jan-12	By Investments A/c	1,000
5-Jan-12	To Kamdar A/c	900	8-Jan-12	By Purchases A/c	306
8-Jan-12	To Sales A/c	609	9-Jan-12	By Self A/c	160
10-Jan-12	To Rent A/c	56	10-Jan-12	By Bapat A/c	210
12-Jan-12	To Ganpat A/c	1,252	10-Jan-12	By Drawings A/c	80
13-Jan-12	To Ram A/c	888	14-Jan-12	By Fakir A/c	1,822
			15-Jan-12	By Mustafa A/c	810
15-Jan-12	To Balance c/d (OD)	401			
		5,238			5,238

Pass Book					
Dr.					Cr.
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2-Jan-12	To Wages A/c	850	1-Jan-12	By Balance b/d	1,132
6-Jan-12	To Investments A/c	1,000	6-Jan-12	By Kamdar A/c	900
7-Jan-12	To Purchases A/c	306	8-Jan-12	By Sales A/c	609
9-Jan-12	To Self A/c	160	10-Jan-12	By Rent A/c	56
10-Jan-12	To Self A/c	80	10-Jan-12	By Jamdar A/c	200
13-Jan-12	To Bills Payable A/c	100			
15-Jan-12	To Balance c/d	401			
		2,897			2,897

Solution

The reconciliation period is 1st Jan to 15th Jan 2012. From comparison of both the extracts it can be found that:

- (a) Cheques issued to Bapat, Fakir and Mustafa are not encashed till 15th Jan 2012 and will appear in reconciliation.

Reconciliation Statements

- (b) Direct deposit by Jamdar is not appearing in Cash Book is also a reconciliation item
- (c) Interest received of ₹ 52 is appearing in Cash Book only. This has to be dealt with carefully. Interest is normally credited by Bank first and then on the basis of credit advice an entry is made in Cash Book. Hence, it's probable that the interest must have been credited by Bank before 1st Jan and it would have appeared in the reconciliation statement of December. This item is thus not considered.
- (d) Cheques received from Ganpat and Ram not cleared till 15th Jan and hence will appear in the reconciliation statement.
- (e) Bills payable cleared by Bank not recorded in Cash Book will appear as item of reconciliation.

Bank Reconciliation Statement as on 15-1-12

Particulars	Amount (₹)	Amount (₹)
Overdraft as per Cash Book		401
Less: Cheques issued not presented till 15th Jan (210+1822+810)	2,842	
Less: Direct deposit by Jamdar	200	3,042
		2,641
Add: Cheques deposited but not cleared (1252+888)	2,140	
Add: Bills payable not recorded in CB	100	2,240
Balance as per Pass Book		401

- (b) The book relates to the succeeding period

Under this method, we are to see that the transactions which appear in both the Cash Book and the Bank Statement but not in the same month. Thus, put a tick mark (□) on the transactions which appeared on the debit side of Cash Book and debit side of the Pass Book or Bank Statement and vice-versa which need reconciliation.

Illustration 13.

In the books of Mr. P. Mukherjee

Dr Cr
Cash Book (Bank Column only)

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2013 March 1	To Balance b/d.	5,000	2013 March 2	By Salaries A/c	3,000
3	“ A. Bose A/c	500	4	“ Drawings A/c	3,000
5	“ B. Banerjee A/c	1,000	8	“ P. Sen A/c	1,000
7	“ C. Sur A/c	4,000	12	“ S. Kumar A/c	2,000
9	“ D. Sen A/c	2,000	15	“ D. Saha A/c	1,000
20	“ P. Pal A/c	3,000	18	“ Wages A/c	3,000
			24	“ Rent A/c	500
			30	“ T. Koley A/c	1,500
			31	“ Balance c/d.	500
		15,500			15,500



Bank Pass Book

Dr **Mr. P Mukherjee in Account Current with Bank** Cr

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2013 April 1.	To Balance b/d.	1,500	2013 April	By A. Bose A/c	
3	`` P. Sen A/c	1,000	1	`` C. Sur A/c	500
5	`` S. Kumar A/c	2,000	3	`` D. Sen A/c	4,000
	`` T. Koley A/c	1,500	5	`` P. Paul A/c	2,000
6	`` D. Saha A/c	1,000	8		3,000
	`` B. Saha A/c	3,000			

Prepare a Bank Reconciliation Statement as on 31st March, 2013.

Solution:

Bank Reconciliation Statement as at 31st March, 2013

Particulars	Amount (₹)	Amount (₹)
Balance as per Cash Book		500
Add: Cheques issued but not passed:		
P. Sen	1,000	
S. Kumar	2,000	
D. Saha	3,000	
T. Koley	1,500	7,500
		8,000
Less: Cheques deposited but not credited:		
A. Bose	500	
C. Sur	4,000	
D. Sen	2,000	
P. Paul	3,000	9,500
Overdraft as per Pass Book		1,500

2.2 RECEIVABLE RECONCILIATION

A business enterprise apart from cash sales, also provides/offers credit to its customers. During the number of transactions taking place on a daily basis, there is a need to reconcile the balance receivable from the customers/debtors. The process of reconciliation may be detailed as under:

Step 1: Ascertain total credit sales to customer

Step 2: Ascertain total collections – in cash, cheque or any other mode received

Step 3: Identify whether there is any Bills Receivable (B/R) accepted by the customer

Step 4: Identify any cheque return/ goods returned/ bills dishonoured during the accounting period

Reconciliation Statements

Step 5: Check whether any credit note is raised against the customer for short-supply of goods or for excess payment or allowing special discount

Illustration 14.

Mr.B sold goods on credit to various customers. Details related to one of the customer, Mr.Z, is as under:

- (i) Goods sold on credit Rs.5,00,000
- (ii) Goods returned by the customer Rs.30,000 due to defective quality, credit note raised but not recorded.
- (iii) Payment received from customer in cash ₹1,00,000 and by cheques ₹ 2,30,000. Out of cheques received, a cheque of ₹ 38,000 was dishonoured by bank.
- (iv) Customer accepted two Bills of ₹19,000 and ₹ 56,000 for 2 months and 3 months respectively.
- (v) Credit note raised against the customer ₹ 3,400 for excess payment charged against one of the consignment.

Mr.Z, the customer is in need to ascertain the actual balance due to Mr.B. Prepare a Reconciliation Statement.

Solution:

Receivable from Mr.Z - Reconciliation Statement

Particulars	Amount (₹)
Credit Sales during the period	5,00,000
Less: Goods returned by the Customer, adjustment of credit note	30,000
Less: Payment received in cash	1,00,000
Less: Payment received by cheque less dishonored cheque (2,30,000 -38,000)	1,92,000
Less: Bills Receivable accepted by Customer, yet to be matured (19,000 +53,000)	72,000
Less : Adjustment of Credit Note raised	3,400
Net Receivable from Customer	1,02,600

Note: This reconciliation statement can be made against gross block of customers/debtors. However, it is advisable to ascertain individual reconciliation statements.

2.3 PAYABLE RECONCILIATION

A business enterprise apart from cash purchases also makes credit purchases from its vendors/suppliers. During the number of transactions taking place on a daily basis, there is a need to reconcile the balance payable to the vendors/suppliers. The process of reconciliation may be detailed as under:

Step 1: Ascertain total credit purchases made from different vendors/suppliers

Step 2: Ascertain total payments – in cash, cheque or any other mode remitted

Step 3: Identify whether there is any Bills Payable (B/P) accepted

Step 4: Identify any cheque return/ goods returned/ bills payable accepted but dishonoured during the accounting period

Step 5: Check whether any debit note is raised against the vendor/supplier for short-supply of goods or for excess payment or claiming special discount

Illustration 15:

Amaranth purchases goods on credit from various suppliers. However, there is a difference of opinion which has arisen with one of its suppliers. While the Supplier claims that the amount receivable from Amarnath is ₹ 2,53,000, on the other hand, Amarnath claims that the amount payable is ₹ 2,35,000. On evaluation of records the following were identified:

- (i) A purchase of ₹ 71,000 was recorded by the supplier as ₹ 78,000.
- (ii) Goods returned by Amarnath amounting to ₹ 5,000, but the stock is in transit and has not reached the supplier/vendor.
- (iii) Cheques issued to vendor for ₹ 28,000, in transit.



- (iv) Bills raised for goods purchased from the supplier, amounting ₹ 22,000, but goods are yet to reach the warehouse/godown of Amarnath

Prepare a suitable Reconciliation statement.

Solution:

Amount due to Supplier – Payable Reconciliation Statement

Particulars	Amount (₹)
Amount due to supplier (as per books of the Supplier)	2,53,000
Less: Overstatement of sales figure in the books of supplier (i.e. goods sold by supplier to Amarnath for ₹ 71,000 but recorded as ₹ 78,000)	7,000
Less: Goods returned to supplier, now in transit	5,000
Less: Cheques issued to vendor, now in transit	28,000
Add: Bills raised against goods purchased, not stock-in-transit, i.e. not yet reached the warehouse of the supplier	22,000
Amount due to supplier (as per books of Amarnath)	2,35,000

Note: This reconciliation statement can be made against gross block of vendors/suppliers. However, it is advisable to ascertain individual reconciliation statements.

2.4 STOCK RECONCILIATION STATEMENT

It is the usual practice of all business houses that their stocks are valued at the closing date of the financial year. But this is not always happened. Sometimes stocks are valued either before the closing date of the financial year or after the closing date of the financial year. However, in all the cases we are to prepare a reconciliation statement in order to ascertain the actual cost of stock at the closing date of the financial year. Otherwise, the financial statement which will be prepared will not show the true and fair view of statement of affairs of the concern. For example, if stocks are valued at after the closing date of the financial year, in that case, the goods which are purchased, sold or returned are to be adjusted, i.e., in case of purchase, the same is to be deducted and in case of sales the same in to be added to the value of sock.

(A) Where stocks are valued after the closing date of the Financial Year

If stocks are valued after the closing date of the financial year, in that case the method of preparing of Stock Reconciliation Statement will be:

Stock Reconciliation Statement as on

Value of Stock at the date of physical stock taking		
Add: Goods Sold (i.e., adjusted sales)	XXX	XXX
Return outward	XXX	
Goods-in-transit etc.	XXX	
		XXX XXX
Less: Goods purchased (i.e., adjusted purchase)	XXX	
Return inward	XXX	
Goods sent on consignment basis etc.	XXX	
		XXX
Value of stock at the closing date of the financial year		XXX

Illustration 16.

Determine the value of stock on 31st March, 2013 from the following particulars:

Stock was valued on 15th April 2013 and the amount came to ₹ 1,00,000.

- Sales ₹ 82,000 (including cash sales ₹ 20,000)
- Purchase ₹ 10,068 (including cash purchase ₹ 3,980)
- Returns inward ₹ 2,000
- On 15th March, goods of the sale value of ₹ 20,000 were sent on sale or return basis to a customer, the period of approval being four weeks. He returned 40% of the goods on 10th April approving the rest, the customer was billed on 16th April.
- Goods received valued ₹ 16,000 in March for sale on consignment basis 20% of the goods has been sold by 31st March, and another 50% by 15th April. These sales are not included in above sales.

Goods are sold at a profit of 20% on sales.

Solution:**Stock Reconciliation Statement as on 31st March 2013**

Particulars	Amount (₹)	Amount (₹)
Value of Stock as on 15 th April 2013		1,00,000
Add: Cost of Goods Sold from 31 st March to 15 th April		
Net Sales (₹ 82,000 – ₹ 2,000)	80,000	
Less: Gross Profit @ 20%	16,000	64,000
Add: Cost of goods sent on approval basis (80% of ₹ 20,000)		16,000
		1,80,000
Less: Purchase from 31 st March 2013 to 15 th April 2013	10,068	
Less: Stock of Consigned goods (30% of ₹ 16,000)	4,800	14,868
Value of stock as on 31 st March 2013		1,65,132

Illustration 17.

Mr. Sen closes his account on 30th June every year. Due to some unavoidable reasons he could not take his stock on 30th June 2012, and physical stock was taken on 7th July 2012 which was valued at ₹ 22,500.

Determine the value of stock on 30th June 2012. The following transactions took place from 1st July to 7th July 2012.

- Sales amounting to ₹ 1,250 made on 6th July has been delivered on 9th July.
- Sales during the period amounted to ₹ 5,100. These goods were sold a profit of 25% on cost with the exceptions of one sale of ₹ 600 which has been sold at a profit of 20% on cost.
- Purchase during the period were ₹ 4,000 of which goods costing ₹ 3,500 were delivered on or before 7th July.
- Return Inwards during the period amounted to ₹ 400 including ₹ 300 out of sales prior to 30th June 2012 at a profit of 25% on cost.
- Goods sold on sale or return basis for ₹ 2,250 on 7th July were not included in the sales stated above.
- Mr. Sen received goods on consignment basis which was invoiced at ₹ 2,500 for Mr. Dey to be sold on his behalf on 6th July.

**Solution: Stock Reconciliation Statement as on 30th June 2012**

Particulars	Amount (₹)	Amount (₹)
Value of Stock as on 7 th July 2012		22,500
Add: Cost of sales from 1.7.2012 to 7.7.2012:		
Sales	5,100	
Less: Goods sold on 6 th July but delivered on 9 th July	1,250	
	3,850	
Less: Sales at lesser price rate @20% on cost	600	
	3,250	
Less: G.P. @ 25% on C.P. or 20% on S.P.	650	2,600
		25,100
Add: Cost of goods sold at lesser price rate ($₹ 600 \times \frac{100}{120}$)	500	
Add: Cost of Goods sent on sale or Return basis ($₹ 2,250 \times \frac{100}{125}$)	1,800	2,300
		27,400
Less: Goods purchased from 1.7.2012 to 7.7.2012:	3,500	
Less: Returns inward ($₹ 300 \times \frac{100}{125}$)	240	
	2,500	6,240
Less: Goods received on consignment basis		
Value of stock as on 30 th June 2012		21,160

(B) Where Stocks are valued before the closing date of the financial year

Under the circumstances the treatment will be reversed. Besides, in case any error appears, the same also must be rectified.

Illustration 18.

Determine the value of stock to be taken for Balance Sheet as at 31.03.2013 for the following information –

The stock was periodically verified on 23rd March 2013, and was valued at ₹ 6,00,000 between 23rd March and 31st March 2013, the following transactions had taken place.

- (a) Purchase ₹ 50,000 worth of goods of which ₹ 20,000 was delivered on 5th April, 2013.
- (b) Out of goods sent on consignment, goods worth ₹ 30,000 (at cost) were unsold.
- (c) Sales amounted to ₹ 1,70,000. This includes goods worth ₹ 40,000 sent on approval, half of this were returned before 31st March. As regards, remaining no intimation is received.
- (d) Normally firm sells goods on cost plus 25%. However, at cost of goods costing ₹ 30,000 were sold for ₹ 15,000.

Solution:**Statement Showing the Value of Physical Stock as on 31st March, 2013**

Particulars	Amount (₹)	Amount (₹)	Amount (₹)
Stock as on 23 rd March 2013			6,00,000
Add: Purchase between 23 rd March to 31 st March (₹ 50,000 – ₹ 20,000)	30,000		
Add: Stock-In-Transit	20,000	50,000	
Add: Goods in the hands of Consignee at cost		30,000	
Add: Goods sent on Approval basis (at cost) Goods sent	40,000		
Less: $\frac{1}{2}$ Returned	20,000		
	20,000		
Less: G.P. @ 20% on sales or 25% of cost	4,000	16,000	96,000
			6,96,000
Less: Cost of goods sold between 23.03.13 – 31.03.13			
Goods sold	1,70,000		
Less: Sent on approval	20,000		
	1,50,000		
Less: Abnormal Sales	15,000		
	1,35,000		
Less: G. P. @ 20% on sales	27,000	1,08,000	
Less: Cost of abnormal sales		30,000	1,38,000
Value of stock as on 31 st March 2013			5,58,000

Study Note - 3

ACCOUNTING FOR DEPRECIATION



This Study Note includes

- 3.1 Introduction
- 3.2 Certain Useful Terms
- 3.3 Nature of Depreciation
- 3.4 Causes of Depreciation
- 3.5 Characteristics of Depreciation
- 3.6 Objective of and Necessity for providing Depreciation
- 3.7 Measurement of Depreciation
- 3.8 Methods of Charging Depreciation
- 3.9 Provision for Depreciation Account
- 3.10 Disposal of an asset
- 3.11 Profit or Loss on sale of assets - Method of Depreciation Calculation
- 3.12 Change of Method - Prospective and Retrospective
- 3.13 Application of AS 6 - Depreciation Accounting
- 3.14 Application of AS 10 - Accounting for Fixed Asset

3.1 INTRODUCTION

A business or concern holds fixed assets for regular use and not for resale. The capability of a fixed asset to render service cannot be unlimited. Except land, all other fixed assets have a limited useful life. The benefit of a fixed asset is received throughout its useful life. So its cost is the price paid for the 'Series of Services' to be received or enjoyed from it over a number of years and it should be spread over such years.

Depreciation means gradual decrease in the value of an asset due to normal wear and tear, obsolescence etc. In short, depreciation means the gradual diminution, loss or shrinkage in the utility value of an asset due to wear and tear in use, effluxion of time or introduction of technology in the market. A certain percentage of total cost of fixed assets which has expired and as such turned into expense during the process of its use in a particular accounting period.

Indian Accounting Standard (AS 6) states that "Depreciation is allocated so as to charge a fair proportion of the depreciable amount in each accounting period during the expected useful life of the asset."

"Depreciation accounting is a system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner. It is a process of allocation, not of valuation. Depreciation for the year is the portion of the total charge under such a system that is allocated to the year. Although the allocation may properly take into account occurrences during the year, it is not intended to be the measurement of the effect of all such occurrences."

The above definition may be criticized as under:

- i. It does not classify properly what is meant by systematic and rational manner. The word 'rational' may mean that it should reasonably be related to the expected benefits in any case.
- ii. Historical cost and any other kind of cost should be allocated or not to be does not defined by this definition.
- iii. Some Accountants are in a belief that depreciation is nothing but an arbitrary allocation of cost. According to them, all the conventional methods say allocation of historical cost over a number of years arbitrarily.

3.2 CERTAIN USEFUL TERMS:

Amortization - Intangible assets such as goodwill, trademarks and patents are written off over a number of accounting periods covering their estimated useful lives. This periodic write off is known as *Amortization* and that is quite similar to depreciation of tangible assets. The term amortization is also used for writing off leasehold premises. Amortization is normally recorded as a credit to the asset account directly or to a distinct provision for depreciation account; Though the write off of intangibles that have no limited life is not approved by some Accountants, some concerns do amortize such assets on the ground of conservatism.

Depletion - This method is specially suited to mines, oil wells, quarries, sandpits and similar assets of a wasting character. In this method, the cost of the asset is divided by the total workable deposits of the mine etc. And by following the above manner rate of depreciation can be ascertained. Depletion can be distinguishable from depreciation in physical shrinkage or lessening of an estimated available quantity and the latter implying a reduction in the service capacity of an asset.

Obsolescence – The term 'Obsolescence' refers to loss of usefulness arising from such factors as technological changes, improvement in production methods, change in market demand for the product output of the asset or service or legal or medical or other restrictions. It is different from depreciation or exhaustion, wear and tear and deterioration in that these terms refer to functional loss arising out of a change in physical condition.

Dilapidation - In one sentence Dilapidation means a state of deterioration due to old age or long use. This term refers to damage done to a building or other property during tenancy.

3.3 NATURE OF DEPRECIATION:

Depreciation is a term applicable in case of plant, building, equipment, machinery, furniture, fixtures, vehicles, tools. These long-term or fixed assets have a limited useful life, i.e. they will provide service to the entity (in the form of helping in the generation of revenue) over a limited number of future accounting periods. Depreciation implies gradual decrease in the value of an asset due to normal wear and tear, obsolescence etc. In short, depreciation means the gradual diminution, loss or shrinkage in the utility value of an asset due to wear and tear in use, effluxion of time or introduction of technology in the market. It makes a part of the cost of assets chargeable as an expense in profit and loss account of the accounting periods in which the assets helped in earning revenue.

Thus, **International Accounting Standard (IAS)-4** provides that "Depreciation is the allocation of the depreciable amount of an asset over its estimated useful life."

In Accounting Research Bulletin No. 22, **AICPA** observed that "Depreciation for the year is the portion of the total charge under such a system that is allocated to the year. Although the allocation may properly take into account occurrences during the year, it is not intended to be the measurement of the effect of all such occurrences."

3.4 CAUSES OF DEPRECIATION

A. Internal Causes

- (i) **Wear and tear** : Plant & machinery, furniture, motor vehicles etc. suffer from loss of utility due to vibration, chemical reaction, negligent handling, rusting etc.
- (ii) **Depletion (or exhaustion)** : The utility or resources of wasting assets (like mines etc.) decreases with regular extractions.

B. External or Economic Causes

- (i) **Obsolescence** : Innovation of better substitutes, change in market demand, imposition of legal restrictions may result into discarding an asset.
- (ii) **Inadequacy** : Changes in the scale of production or volume of activities may lead to discarding an asset.



- C. Time element :** With the passage of time some intangible fixed assets like lease, patents, copy-rights etc., lose their value or effectiveness, whether used or not. The word “amortization” is a better term to speak for the gradual fall in their values.
- D. Abnormal occurrences :** An accident, fire or natural calamity can damage the service potential of an asset partly or fully. As a result the effectiveness of the asset is affected and reduced.

3.5 CHARACTERISTICS OF DEPRECIATION

The Characteristics of Depreciation are :

- i. It is a **charge against profit**.
- ii. It indicates **diminution in service potential**.
- iii. It is an **estimated loss** of the value of an asset. It is not an **actual loss**.
- iv. It depends upon different **assumptions**, like effective life and residual value of an asset.
- v. It is a process of allocation and not of valuation.
- vi. It arises mainly from an **internal cause** like wear and tear or depletion of an asset. But it is treated as any expense charged against profit like rent, salary, etc., which arise due to an **external transaction**.
- vii. Depreciation on any particular asset is **restricted** to the working life of the asset.
- viii. It is charged on **tangible fixed assets**. It is not charged on any current asset. For allocating the costs of intangible fixed assets like goodwill, etc., a certain amount of their total costs may be charged against periodic revenues. This is known as **amortization**.

3.6 OBJECTIVE OF AND NECESSITY FOR PROVIDING DEPRECIATION

Eric Kohler defined depreciation as “the lost usefulness, expired utility, the diminution in service yield.” Its measurement and charging are necessary for cost recovery. It is treated as a part of the expired cost for an asset. For determination of revenue, that part or cost should be matched against revenue. The objects or necessities of charging depreciation are :

- (i) **Correct calculation of cost of production:** Depreciation is an allocated cost of a fixed asset. It is to be calculated and charged correctly against the revenue of an accounting period. It must be correctly included within the cost of production.
- (ii) **Correct calculation of profits:** Costs incurred for earning revenues must be charged properly for correct calculation of profits. The consumed cost of assets (depreciation) has to be provided for correct matching of revenues with expenses.
- (iii) **Correct disclosure of fixed assets at reasonable value:** Unless depreciation is charged, the depreciable asset cannot be correctly valued and presented in the Balance Sheet. Depreciation is charged so that the Balance Sheet exhibits a true and fair view of the affairs of the business.
- (iv) **Provision of replacement cost:** Depreciation is a non-cash expense. But net profit is calculated after charging it. Through annual depreciation cash resources are saved and accumulated to provide replacement cost at the end of the useful life of an asset.
- (v) **Maintenance of capital:** A significant portion of capital has to be invested for purchasing fixed assets. The values of such assets are gradually reduced due to their regular use and passage of time. Depreciation on the assets is treated as an expired cost and it is matched against revenue. It is charged against profits. If it is not charged the profits will remain inflated. This will cause capital erosion.
- (vi) **Compliance with technical and legal requirements:** Depreciation has to be charged to comply with the relevant provisions of the Companies Act and Income Tax Act.

Note: As per Companies Act 1956, a company have to provide for depreciation on fixed assets before declaration of dividends.

3.7 MEASUREMENT OF DEPRECIATION

Measurement of depreciation is quite difficult to calculate the exact amount of depreciation since they depend on a number of factors. Some of the factors are;

- i. The actual cost of asset.
- ii. The additions, if any, made to the assets during the year taking into consideration the date of purchase.
- iii. The expected amount of interest of opportunity loss.
- iv. The estimated life of the asset.
- v. The scrap, break-up or the residual value of asset.
- vi. Obsolescence, i.e. the chance of the asset going out of fashion.
- vii. The renewals and repairment of the asset.
- viii. The legal provisions relating to the depreciation. (Provision of Companies Act, Income Tax Act and others)

All the above said factors should be taken into consideration at the time of determining the amount of depreciation in such a way that a proper and reasonable estimate can be provided against the amount of depreciation.

3.8 METHODS OF CHARGING DEPRECIATION

There are different concepts about the nature of depreciation. Moreover, the nature of all fixed assets cannot be the same. As a result, different methods are found to exist for charging depreciation. A broad classification of the methods may be summarized as follows :

Capital/Source of Fund

- (i) Sinking Fund Method
- (ii) Annuity Method
- (iii) Insurance Policy Method

Time Base

- (i) Fixed Installment Method
- (ii) Reducing Balance Method
- (iii) Sum of Years' Digit Method
- (iv) Double Declining Method

Use Base

- (i) Working Hours Method
- (ii) Mileage Method
- (iii) Depletion Service Hours Method Unit method

Price Base

- (i) Revaluation Method
- (ii) Repairs Provision Method



Some important Methods of Charging Depreciation are discussed as below :

I. Fixed/Equal Installment OR Straight Line Method

Features :

- (i) A fixed portion of the cost of a fixed asset is allocated and charged as periodic depreciation.
- (ii) Such depreciation becomes an equal amount in each period.
- (iii) The formula for calculation of depreciation is :

$$\text{Depreciation} = (V-S)/n$$

Where,

V= Cost of the Asset

S= Residual value or the expected scrap value

n= estimated life of the asset

Illustration 1.

Calculate the Rate of Depreciation under Straight Line Method (SLM) in each of the following:-

Machine No.	Cost of Machine (₹)	Expenses incurred at the time of purchase to be capitalized (₹)	Estimated Residual Value (₹)	Expected Useful Life in years
1	90,000	10,000	20,000	8
2	24,000	7,000	1,000	6
3	95,000	15,000	20,000	3
4	2,20,000	80,000	50,000	5

Solution

Machine No	Cost of Machine (₹)	Expenses incurred at the time of purchase to be capitalized (₹)	Total Cost of Asset = (b+c) (₹)	Estimated Residual Value (₹)	Expected Useful Life in years	Depreciation = (d-e)/f (₹)	Rate of Depreciation under SLM = (g/d)×100
a	b	c	d	e	f	g	h
1	90,000	10,000	1,00,000	20,000	8	10,000	10%
2	24,000	7,000	31,000	3,100	6	4,650	15%
3	1,05,000	20,000	1,25,000	12,500	5	22,500	18%
4	2,50,000	30,000	2,80,000	56,000	10	22,400	8%

Illustration 2

A machine is purchased for ₹ 7,00,000. Expenses incurred on its cartage and installation ₹ 3,00,000. Calculate the amount of depreciation @ 20% p.a. according to Straight Line Method for the first year ending on 31st March, 2012 if this machine is purchased on:

- (a) 1st April, 2012
- (b) 1st July, 2012
- (c) 1st October, 2012
- (d) 1st January, 2013

Solution:

Here, Total Cost of Asset = Purchased Price + Cost of Cartage and Installation
= ₹ 7,00,000 + ₹ 3,00,000 = ₹ 10,00,000

Amount of Depreciation :

$$= \text{Total Cost of Asset} \times \text{Rate of Depreciation} \times \frac{\text{Period from the date of purchase to date of closing accounts}}{12}$$

(a) The machine was purchased on 1st April, 2012:

$$\text{Amount of Depreciation} = ₹ 10,00,000 \times 20\% \times \frac{12}{12} = ₹ 2,00,000$$

(b) 1st July, 2012

$$\text{Amount of Depreciation} = ₹ 10,00,000 \times 20\% \times \frac{9}{12} = ₹ 1,50,000$$

(c) 1st October, 2012

$$\text{Amount of Depreciation} = ₹ 10,00,000 \times 20\% \times \frac{6}{12} = ₹ 1,00,000$$

(d) 1st January, 2013

$$\text{Amount of Depreciation} = ₹ 10,00,000 \times 20\% \times \frac{3}{12} = ₹ 50,000$$

II. Reducing / Diminishing Balance Method OR Written Down Value Method

Features :

- (i) Depreciation is calculated at a fixed percentage on the original cost in the first year. But in subsequent years it is calculated at the same percentage on the written down values gradually reducing during the expected working life of the asset.
- (ii) The rate of allocation is constant (usually a fixed percentage) but the amount allocated for every year gradually decreases.

Illustration 3.

On 1.1.2010 a machine was purchased for ₹ 1,00,000 and ₹ 50,000 was paid for installation. Assuming that the rate of depreciation was 10% on Reducing Balance Method, calculate amount of depreciation upto 31.12.2012.

Solution

Year	Opening Book Value (₹)	Rate	Depreciation (₹)	Closing Book Value (₹)
2010	1,50,000	10%	15,000	1,35,000
2011	1,35,000	10%	13,500	1,21,500
2012	1,21,500	10%	12,150	1,09,350

Note: Cost of the machine (i.e. Opening Book Value for the year 2010)

= Cost of Purchase + Cost of Installation

$$= ₹ 1,00,000 + ₹ 50,000 = ₹ 1,50,000$$

Illustration 4.

On 1.1.10 machinery was purchased for ₹ 80,000. On 1.7.11 additions were made to the amount of ₹ 40,000. On 31.3.2012, machinery purchased on 1.7.2011, costing ₹ 12,000 was sold for ₹ 11,000 and on 30.06.2012 machinery purchased on 1.1.2010 costing ₹ 32,000 was sold for ₹ 26,700. On 1.10.2012, additions were made to the amount of ₹ 20,000. Depreciation was provided at 10% p.a. on the Diminishing Balance Method.

Show the Machinery Accounts for three years from 2010-2012. (year ended 31st December)



Solution

Statement of Depreciation

Particulars	Machines – I Cost = ₹ 80,000		Machines – II Cost = ₹ 40,000		Machines – III Cost = ₹ 20,000	Total Depreciation
	₹	₹	₹	₹	₹	₹
1.1.2010 Book Value	48,000	32,000				
31.12.2010 Depreciation	4,800	3,200				8,000
01.01.2011 W.D.V.	43,200	28,800				
01.07.2011 Book Value			28,000	12,000		
31.12.2011 Depreciation	4,320	2,880	1,400	600		9,200
01.01.2012 W.D.V.	38,880	25,920	26,600	11,400		
31.03.2012 Depreciation				285		
W.D.V.				11,115		
Sold For				11,000		
Loss on sale				115		
30.06.2012 Depreciation		1,296				
W.D.V.		24,624				
Sold for		26,700				
Profit on Sale		2,076				
01.10.2012 Purchase					20,000	
31.12.2012 Depreciation	3,888		2,660		500	8,629
01.01.2013 W.D.V.	34,992		23,940		19,500	

Dr.

Machinery Account

Cr.

Date	Particulars	Amount ₹	Date	Particulars	Amount ₹
01.01.10	To, Bank A/c	80,000	31.12.10	By, Depreciation A/c	8,000
		80,000		„ Balance c/d	72,000
					80,000
01.01.11	To, Balance b/d	72,000	31.12.11	By, Depreciation A/c	9,200
01.07.11	„ Bank A/c	40,000		„ Balance c/d	1,02,800
		1,12,000			1,12,000
01.01.12	To, Balance b/d	1,02,800	31.3.12	By, Bank (Sale) A/c	11,000
30.06.12	„ P & L A/c (Profit on Sale)	2,076		„ Depreciation A/c	285
	„ Bank A/c	20,000	30.6.12	„ P & L A/c (Loss on Sale)	115
				„ Bank A/c (Sale)	26,700
			31.12.12	„ Depreciation A/c	1,296
				„ Depreciation A/c	7,048
				„ Balance c/d	78,432
		1,24,876			1,24,876

III. Sinking Fund Method

A sinking fund is a fund created with a specific purpose which may be :

- To redeem or repay a long term liability, e.g., debenture, long-term loans, etc. or
- To replace a wasting asset, e.g., a mine; or
- To replace an asset of depreciable nature; or
- To renew a lease.

When a sinking fund is created to provide for replacement of wasting assets, it is in effect depreciation; the installments are charged against profits.

Under this method, the asset is kept in the books at its original cost. Every year during the estimated life of the asset, an equal amount of depreciation is charged to profit and loss account and credited to a Depreciation Fund or Sinking Fund Account. At the same time a provision for replacement of the asset

is made by investing an amount equal to the depreciation charged, in securities outside the business by debiting Depreciation Fund Investment or Sinking Fund Investment Account and crediting Bank. Interest received on the investment is credited to the Depreciation Fund Account and is also reinvested likewise. The amount that is annually provided as depreciation is such that this, with compound interest will be sufficient to provide a sum equal to the cost of asset, less residual value (if any), by the time the asset is expected to become useless.

At the end of the working life of the asset, the investment are sold away and the money realised therefrom is utilized for purchasing a new asset. Profit or Loss on such sale, if any, is transferred to the Depreciation Fund Account. The old asset account, standing in the books at original cost, is closed by setting it off against the Depreciation Fund Account.

The formula for calculation of the depreciation amount is as follows :

$$D = \frac{Ci}{(1+i)^n - 1}$$

Where,

D = Depreciation

C = Cost of the asset

i = Rate of Depreciation

n = Life of the asset

Journal Entries under the Sinking Fund method :

At the end of first year

- (i) For annual depreciation

Profit & Loss A/c	Dr.
To Depreciation Fund A/c (annual contribution)	
or	
To Sinking Fund A/c	

- (ii) For investment of annual depreciation

Sinking Fund Investment A/c	Dr.
To Bank A/c (invested amount)	

At the end of second/subsequent years

- (i) Profit & Loss A/c ... Dr.
 To Sinking Fund A/c (annual contribution)

- (ii) Bank A/c Dr.
 To Interest on Investment A/c (annual interest)

- (iii) Interest on Investment A/c Dr.
 To Sinking Fund A/c (interest transferred)

- (iv) Sinking Fund Investment A/c Dr.
 To Bank A/c

[amount invested usually = annual contribution + annual interest]

When the working life of the asset ends (i), (ii) & (iii) same as above; (iv) not made in the last year

- (v) Bank A/c Dr.
 To Sinking Fund Investment A/c



- (vi) Sinking Fund Investment A/c Dr.
 To Sinking Fund A/c (Profit on Sale)
 (Investments sold out) OR
- (vii) Sinking Fund A/c..... Dr.
 To Asset A/c [Asset A/c closed]
- (viii) Sinking Fund A/c Dr.
 To Sinking Fund Investment A/c (Loss on Sale)

Notes:

- (i) No investment is made in the last year as the investments are to be sold out.
- (ii) Sinking Fund Account may be called Depreciation Fund Account also. It is to be shown on the liability side of Balance Sheet.
- (iii) Sinking Fund Investments Account may be called Depreciation Fund Investments Account also. It is to be shown on the Asset side of the Balance Sheet.
- (iv) Annual Contribution (charged in lieu of annual depreciation) = Original Cost x Present Value of ₹ 1 at given interest rate.

Illustration 5.

On 1.7.2008 W Ltd. purchased a machinery for ₹ 1,10,000 and spent ₹ 6,000 on its installation. The expected life of the machine is 4 years, at the end of which the estimated scrap value will be ₹ 16,000. Desiring to replace the machine on the expiry of its life, the company establishes a Sinking Fund. Investments are expected to realize 5% interest.

On 30.06.2012, the machine was sold off as scrap for ₹ 18,000 and the investments were retained at 5% less than the book value. On 1.7.2012, a new machine is installed at a cost of ₹ 1,25,000.

Sinking Fund table shows that ₹ 0.2320 invested each year will produce ₹ 1 at the end of 4 years at 5%.

Show the necessary ledger accounts in the books of W Ltd.

Solution

Sum required	Annual contribution
1	0.2320
(₹ 1,10,000 + ₹ 6,000 - ₹ 16,000) = ₹ 1,00,000	= 0.2320 x 1,00,000
	= ₹ 23,200

In the Books of W Ltd. Sinking Fund Account					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
30.6.09	To Balance b/d.	23,200	30.6.09	By Profit and Loss A/c	23,200
		23,200			23,200
30.6.09	To Balance c/d	47,560	30.6.09	By, Balance b/d	23,200
		47,560	30.6.10	By, Bank (interest @ 5%) A/c	1,160
				By, Profit and Loss A/c	23,200
					47,560
30.6.11	To Balance c/d	73,138	01.7.10	By, Balance b/d	47,560
		73,138	30.6.11	By, Bank (interest @ 5%) A/c	2,378
				By, Profit and Loss A/c	23,200
					73,138
30.6.11	To, Sinking Fund Investment A/c – Loss on sale	3,657	01.7.11	By, Balance b/d	73,138
	To, Machinery A/c. – Transfer	96,338	30.6.12	By, Bank interest @ 5%	3,657
		99,995		By, Profit and Loss A/c	23,200
					99,995

Sinking Fund Investment Account					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
30.6.09	To, Bank A/c.	23,200	30.6.09	By, Balance c/d	23,200
		23,200			23,200
01.07.09	To, Balance b/d	23,200	30.6.10	By, Balance c/d	47,560
30.6.10	To, Bank A/c. (₹1,160 + ₹ 23,200)	24,360			47,560
		47,560			73,138
01.7.10	To, Balance b/d	47,560	30.6.11	By, Balance c/d	73,138
30.6.11	To, Bank A/c. (₹2,378 + ₹ 23,200)	25,578			73,138
		73,138			73,138
01.7.12	To, Balance b/d	73,138	30.6.12	By, Bank A/c - Sales	69,481
		73,138		By, Sinking Fund A/c – Loss on sale (balancing figure)	3,657
					73,138

IV. Annuity Method

The annuity method considers that the business, besides losing the original cost of the asset also loses interest, on the amount used for buying the asset, which he would have earned in case the same amount would have been invested in some other form of investment. Thus, the asset account is debited with interest, which is ultimately credited with amount of depreciation which remains fixed year after year. The annual amount of depreciation is determined with the help of annuity table. The amount of depreciation is determined by adding the cost of the asset (i.e., purchase price) and interest thereon at an expected rate.

The Journal entries are as follows :

(i) Depreciation A/c To Asset A/c (for depreciation as calculated from annuity table)	Dr.



- (ii) Asset A/c Dr.
 To Interest A/c
 (for charging interest to asset as calculated on diminishing values)
- (iii) Profit & Loss A/c Dr.
 To Depreciation A/c
 (for transfer of depreciation to P/L A/c)
- (iv) Interest A/c Dr.
 To Profit & Loss A/c
 (for transfer of interest to P/L A/c)

Illustration 6.

Sri Tirthankar takes a lease for 5 years for ₹ 10,000. He decides to write off the lease by annuity method charging 5% interest p.a. Show the lease account for 5 years.

The annuity table shows that annual amount necessary to write off ₹1 in 5 years at 5% p.a. is ₹ 0.230975.

Solution:

Present Value
 1
 10,000

Annual Depreciation
 0.230975
 $0.230975 \times 10,000$
 = ₹ 2309.75 or say
 ₹ 2310 (approx)

In the books of Sri Tirthankar Lease Account

Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
Year- I			Year- I		
Opening	To, Bank A/c	10,000	Closing	By , Depreciation A/c	2,310
Closing	„ Interest A/c	500		„ Balance c/d	8,190
		10,500			10,500
Year- II			Year-II		
Opening	To, Balance b/d	8,190	Closing	By , Depreciation A/c	2,310
Closing	„ Interest A/c	410		„ Balance c/d	6,290
		8,600			8,600
Year- III			Year-III		
Opening	To, Balance b/d	6,290	Closing	By , Depreciation A/c	2,310
Closing	„ Interest A/c	315		„ Balance c/d	4,295
		6,605			6,605
Year- IV			Year-IV		
Opening	To, Balance b/d	4,295	Closing	By , Depreciation A/c	2,310
Closing	„ Interest A/c	215		„ Balance c/d	2,200
		4,510			4,510
Year- V			Year-V		
Opening	To, Balance b/d	2,200	Closing	By , Depreciation A/c	2,310
Closing	„ Interest A/c	110			
		2,310			2,310

V. Revaluation Method

This method should be adopted only where the asset is represented by a large number of small and diverse items of small unit cost, e.g., hand tools, live-stock, sacks etc. in such cases it is not possible to attempt to depreciate each individual item. In this method the following steps to be taken :

1st, at the end of financial year, all items, which are in good condition and can serve well, are valued at cost.

2nd, the cost, as calculated above, is compared with the opening balance and the difference is charged as depreciation.

3rd, purchases of asset are debited to asset account in a normal manner.

It is very important to note that under this method the total amount to be written off as depreciation is directly credited to asset account (not an accumulated depreciation account)

Illustration 7.

On 1.1.2012, A Ltd. has a stock of bottles valued at ₹ 8,000. On 1.7.12, they purchased additional bottles which amounted to ₹ 5,000. On Dec. 31, 2012, the entire stock of bottles was revalued at ₹ 10,500. Show the Bottle Account for the year 2012.

Solution :

In the book of A. Ltd.					
Dr.			Cr.		
Bottle Account					
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012			2012		
Jan. 1	To, Balance b/d	8,000	Dec. 31	By Depreciation A/c	2,500
July 1	" Bank A/c	5,000		(bal. fig.)	
				" Balance c/d	10,500
		13,000			13,000

VI. Depletion Unit Method

This method is specially suited to mines, oil wells, quarries, sandpits and similar assets of a wasting character. The cost of the natural resources is the price paid for its acquisition plus price paid for the development of such asset in order to bring it to a state suitable for production.

The periodic depletion is better not calculated in terms of year. Rather it is better to calculate the cost per unit and then multiply the cost of units produced in that particular year. Depletion for each unit extracted is determined as follows :

$$\text{Depletion per unit (U)} = \frac{\text{Acquisition cost (C) - Residual value (S)}}{\text{Estimated life in terms of production units (n)}}$$

Illustration 8.

In 2010, a company acquired a mine at a cost of ₹ 5,00,000. The estimated reserve of minerals is 50,00,000 tonnes, of which 80% is expected to be realised. The first three years raisings are 1,50,000; 2,00,000 and 2,50,000 tonnes, respectively. Show the Mines Account, charging depreciation under Depletion Method.

Solution :

Total quantity expected to be realized --- 80% of 50,00,000, i.e. 40,00,000 tonnes.

Cost of the mine ₹ 5,00,000

$$\text{Hence, Charge per tonne} = \frac{\text{₹ 5,00,000}}{40,00,000} = \text{₹ 0.125 or } 1/8.$$

Therefore, Depreciation

for 2010	= 1,50,000 × 1/8 = ₹ 18,750
for 2011	= 2,00,000 × 1/8 = ₹ 25,000
for 2012	= 2,50,000 × 1/8 = ₹ 31,250



Dr. Mines Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2010	To Bank A/c	5,00,000	2010 Dec. 31	By, Depreciation A/c	18,750
		5,00,000		" Balance c/d	4,81,250
2011 Jan. 1	To, Balance b/d	4,81,250	2011 Dec. 31	By, Depreciation A/c	25,000
		4,81,250		" Balance c/d	4,56,250
2012 Jan. 1	To Balance b/d	4,56,250	2012 Dec. 31	By, Depreciation A/c	31,250
		4,56,250		" Balance c/d	4,25,000
2013 Jan. 1	To Balance b/d	4,25,000			

3.9. PROVISION FOR DEPRECIATION ACCOUNT

Provision of depreciation is the collected value of all depreciation. Provision of depreciation account is the account of provision of depreciation. With making of this account we are not credited depreciation in asset account. But transfer every year depreciation to provision of depreciation account. Every year we adopt this procedure and when assets are sold we will transfer sold asset 'total depreciation' to credit side of asset account, for calculating correct profit or loss on fixed asset. This provision uses with any method of calculating depreciation.

There are following features of provision for depreciation account :

- Fixed asset is made on its original cost and every year depreciation is not transfer to fixed asset account.
- Provision of depreciation account is Conglomerated value of all old depreciation.
- This system can be used both in straight line and diminishing method of providing depreciation.

The journal entries will be :

- For purchase of asset

Asset's A/c	Dr.
To Cash/Bank A/c	
- For providing depreciation at end of year

Depreciation A/c	Dr.
To Provision for depreciation A/c	
- For sale of assets

Cash/Bank A/c	Dr.
To Asset Sales A/c	
- Cost of assets sold transferred from Assets Account to Sale of Assets Account.

Assets Sales A/c	Dr.
To Asset's A/c.	

- (v) Total depreciation on asset sold transferred from provision for depreciation account.
 Provision for depreciation A/c Dr.
 To Asset Sales A/c
- (vi) Profit or loss on sale of assets will be transferred from asset sale account to Profit or Loss Account.

3.10 DISPOSAL OF AN ASSET

When an asset is sold because of obsolescence or inadequacy or any other reason, the cost of the asset is transferred to a separate account called "Asset Disposal Account". The following entries are to be made:

- (i) When the cost of the asset is transferred:
 Asset Disposal A/c Dr.
 To, Asset A/c (original cost)
- (ii) When depreciation provided on the asset is transferred:
 Provision for Depreciation A/c Dr.
 To, Asset Disposal A/c
- (iii) For charging depreciation for the year of sale:
 Depreciation A/c Dr.
 To, Asset Disposal A/c
- (iv) When cash received on sale of asset:
 Bank/Cash A/c Dr.
 To, Asset Disposal A/c
- (v) When loss on disposal is transferred to Profit & Loss A/c:
 Profit & Loss A/c Dr.
 To, Asset Disposal A/c
- (vi) When profit on disposal is transferred to Profit & Loss A/c:
 Asset Disposal A/c Dr.
 To, Profit & Loss A/c

Illustration 9.

S & Co. purchased a machine for ₹ 1,00,000 on 1.1.2010. Another machine costing ₹ 1,50,000 was purchased on 1.7.2011. On 31.12.2012, the machine purchased on 1.1.2010 was sold for ₹ 50,000. The company provides depreciation at 15% on Straight Line Method. The company closes its accounts on 31st December every year. Prepare – (i) Machinery A/c, (ii) Machinery Disposal A/c and (iii) Provision for Depreciation A/c.



Solution:

S & Co.					
Dr.			Cr.		
Machinery Account					
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
1.1.2010	To, Bank A/c	1,00,000	31.12.2010	By, Balance c/d	1,00,000
		1,00,000			1,00,000
1.1.2011	To, Balance b/d	1,00,000	31.12.2011	By, Balance c/d	2,50,000
1.7.2011	To, Bank A/c	1,50,000			2,50,000
		2,50,000			
1.1.2012	To, Balance b/d	2,50,000	31.12.2012	By, Machinery Disposal A/c	1,00,000
		2,50,000	31.12.2012	By, Balance c/d	1,50,000
1.1.2013	To, Balance b/d	1,50,000			

Provision for Depreciation Account					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
31.12.2010	To, Balance c/d	15,000	31.12.2010	By, Depreciation A/c	15,000
		15,000			15,000
31.12.2011	To, Balance c/d	41,250	1.1.2011	By, Balance b/d	15,000
		41,250	31.12.2011	By, Depreciation A/c (₹ 15,000 + ₹ 11,250)	26,250
					41,250
31.12.2012	To, Machinery Disposal A/c	30,000	1.1.2012	By, Balance b/d	41,250
31.12.2012	To, Balance c/d	33,750	31.12.2012	By, Depreciation A/c	22,500
		63,750			63,750
			1.1.2013	By, Balance b/d	33,750

Machinery Disposal Account					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
31.12.2012	To, Machinery A/c	1,00,000	31.12.2012	By, Provision for Depreciation A/c	30,000
			31.12.2012	By, Depreciation A/c	15,000
			31.12.2012	By, Bank A/c	50,000
			31.12.2012	By, Profit & Loss A/c (Loss on Sale)	5,000
		1,00,000			1,00,000

Working Notes

- Depreciation for the machine purchased on 1.7.2011

$$\text{For the year 2011 (used for 6 months)} = ₹ 1,50,000 \times 15\% \times \frac{6}{12} = ₹ 11,250$$

For the year 2012 (used for full year) = ₹ 1,50,000 × 15% = ₹ 22,500

2. Depreciation for the machine purchased on 1.1.2010

Depreciation = ₹ 1,00,000 × 15% = ₹ 15,000

So, Depreciation for 2 years = ₹ 15,000 × 2 = ₹ 30,000

3.11. PROFIT OR LOSS ON SALE OF ASSETS – METHOD OF DEPRECIATION CALCULATION

Sometimes an asset is sold before the completion of its useful life for some unavoidable circumstances (due to obsolescence etc.) including a part of the asset which is no longer required in future. If the sale price is less than the WDV, there will be loss, and vice versa. The profit & loss on sale of asset is adjusted in the year of Sale in Profit & Loss Account.

Accounting Treatment

- a. Where no provision for depreciation account is maintained:

WDV of the amount sold will be transferred to 'Assets Disposal Account'. The entries will be as follows:

- (i) **WDV of asset has been transferred to Asset Disposal A/c--**

Asset Disposal A/c	Dr.
To Asset A/c	

- (ii) **In case of Sale of an Asset---**

Cash/Bank A/c	Dr.
To Asset Disposal A/c	

- (iii) **For depreciation (if any)---**

Depreciation (P & L A/c)	Dr.
To Asset Disposal A/c	

- (iv) **In case of Profit on Sale of Asset**

Asset Disposal A/c	Dr.
To Profit & Loss A/c	

- (v) **In case of Loss on Sale of Asset**

Profit & Loss A/c	Dr.
To Asset Disposal A/c	

- b. **Alternative Approach**

In this situations, all adjustments are to be prepared through the assets account. The entries are as follows:

- (i) **In case of Assets sold**

Cash/Bank A/c	Dr.
To Assets A/c	

- (ii) **In case of Depreciation**

Depreciation (Profit & Loss) A/c	Dr.
To Assets A/c	

**(iii) In case of Profit on Sale**

Assets A/c

Dr.

To Profit & Loss

(iv) In case of Loss on Sale

Profit & Loss A/c

Dr.

To Assets A/c

Illustration 10.

On 1st April, 2010, Som Ltd. purchased a machine for ₹66,000 and spent ₹5,000 on shipping and forwarding charges, ₹7,000 as import duty, ₹1,000 for carriage and installation, ₹500 as brokerage and ₹500 for an iron pad. It was estimated that the machine will have a scrap value of ₹5,000 at the end of its useful life which is 15 years. On 1st January, 2011 repairs and renewals of ₹3,000 were carried out. On 1st October, 2012 this machine was sold for ₹50,000. Prepare Machinery Account for the 3 years.

Solution

In the books of Som Ltd.					
Dr.			Cr.		
Machinery Account					
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
01.04.2010	To, Bank A/c	66,000	31.03.2011	By, Depreciation A/c	5,000
01.04.2010	To, Bank A/c	14,000	31.03.2011	By, Balance c/d	75,000
		80,000			80,000
01.04.2011	To, Balance b/d	75,000	31.03.2012	By, Depreciation A/c	5,000
		75,000	31.03.2012	By, Balance c/d	70,000
					75,000
01.04.2012	To, Balance b/d	70,000	01.10.2012	By, Depreciation A/c	2,500
			01.10.2012	By, Bank A/c (sale)	50,000
			01.10.2012	By, Profit & Loss A/c (Loss)	17,500
		70,000			70,000

Working Note :

$$1. \quad \text{Total Cost} = ₹ 66,000 + ₹ 5,000 + ₹ 7,000 + ₹ 1,000 + ₹ 500 + ₹ 500 = ₹ 80,000$$

$$\text{Depreciation} = \frac{\text{Total Cost} - \text{Scrap Value}}{\text{Expected life}} = \frac{80,000 - 5,000}{15} = ₹ 5,000$$

The amount spent on repairs and renewals on 1st January, 2011 is of revenue nature and hence, does not form part of the cost of asset.

3.12. CHANGE OF METHOD - PROSPECTIVE AND RETROSPECTIVE

As per AS-6, the depreciation method selected should be applied consistently from period to period. Change in depreciation method should be made only in the following situations :

- For compliance of statute.
- For compliance of accounting standards.
- For more appropriate presentation of the financial statement.

The change in method may be made possible in two ways :

- (i) With prospective effect, and
- (ii) With retrospective effect

(i) With prospective effect – Under this method, the change in method is to be taken into consideration for the rest of the useful life of the asset commencing from the year in which such change is effected and not from the beginning of the year.

Illustration 11.

Rise Ltd. purchased a machinery for ₹ 1,00,000 on 1.1.2009. The machine was depreciated at 10% p.a. under the Straight Line Method. On 1.1.2012, the company decided to change the method of depreciation from Straight Line Method to Diminishing Balance Method without retrospective effect. Prepare Machine A/c from 2009 to 2012.

Solution:

In the books of Rise Ltd. Machinery Account					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
01.01.09	To, Bank A/c	1,00,000	31.12.09	By, Depreciation A/c	10,000
				By, Balance c/d	90,000
		1,00,000			1,00,000
01.01.10	To, Balance b/d	90,000	31.12.10	By, Depreciation A/c	10,000
				By, Balance c/d	80,000
		90,000			90,000
01.01.11	To, Balance b/d	80,000	31.12.11	By, Depreciation A/c	10,000
				By, Balance c/d	70,000
		80,000			80,000
01.01.12	To, Balance b/d	70,000	31.12.12	By, Depreciation A/c - 10% on ₹ 70,000	7,000
				By, Balance c/d	63,000
		70,000			70,000

Illustration 12.

A second hand machine was purchased on 1.1.2007 for ₹ 4,00,000 overhauling and installation expenses for the same machine amounted to ₹ 1,00,000. Another machine was purchased for ₹ 2,00,000 on 1.7.2007.

On 1.7.2009, the machine installed on 1.1.2007 was sold for ₹ 2,50,000. Dismantling charges for the machine sold on 1.7.2009 was ₹10,000. On the same date, another machine was purchased for ₹ 8,00,000 and was commissioned on 30.9.2009. The company had adopted calendar year as its financial year. Under the existing practice, the company provides depreciation @ 10% p.a. on original cost. In 2010, it has been decided that depreciation will be charged on the diminishing balance @ 15% p.a.. The change is not to be made with retrospective effect.

Show Plant Account for 2007-2011.



Solution:

Statement of Depreciation

Particulars	Machine-I (₹)	Machine-II (₹)	Machine-III (₹)	Total Depreciation (₹)
1.1.2007 Book Value (including expenses)	5,00,000			
1.7.2007 Book Value		2,00,000		
31.12.2008 Depreciation @10%	50,000	10,000		60,000
1.1.2008 WDV	4,50,000	1,90,000		
31.12.2008 Dep. @ 10%	50,000	20,000		70,000
1.1.2009 W.D.V.	4,00,000	1,70,000	8,00,000	
1.7.2009 Dep.@10%	25,000			
	3,75,000			
Add : Dismantling Charges	10,000			
	3,85,000			
Sold for	2,50,000			
Loss on sale	1,35,000			
31.12.2009 Dep. @ 10%		20,000	40,000	85,000
1.1.2010 WDV		1,50,000	7,60,000	(20,000 + 40,000 + 25,000)
31.12.2010 Dep. @ 15%		22,500	1,14,000	1,36,500
1.1.2011 WDV		1,27,500	6,46,000	
31.12.2011 Dep. @15%		19,125	96,900	1,16,025
1.1.2012 WDV		1,08,375	5,49,100	

Dr.

Machinery Account

Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
01.01.07	To Bank A/c	4,00,000	31.12.07	By Depreciation A/c	60,000
01.01.07	To Bank A/c (Expenses)	1,00,000	31.12.07	By Balance c/d	6,40,000
01.01.07	To Bank A/c	2,00,000			
		7,00,000			7,00,000
01.01.08	To Balance b/d	6,40,000	31.12.08	By Depreciation A/c	70,000
			31.12.08	By Balance c/d	5,70,000
		6,40,000			6,40,000
01.01.09	To Balance b/d	5,70,000	01.07.09	By Bank A/c (Sale)	2,50,000
01.07.09	To Bank A/c	8,00,000		By Depreciation A/c	25,000
01.07.09	To Bank A/c (Expenses)	10,000		By P & L A/c	1,35,000
			31.12.09	By Depreciation A/c	60,000
				By Balance c/d	9,10,000
		13,80,000			13,80,000
01.01.10	To Balance b/d	9,10,000	31.12.10	By Depreciation A/c	1,36,500
				By Balance c/d	7,73,500
		9,10,000			9,10,000
01.01.11	To Balance b/d	7,73,500	31.12.11	By Depreciation A/c	1,16,025
				By Balance c/d	6,57,475
		7,73,500			7,73,500
01.01.12	To Balance b/d	6,57,475			

(ii) With retrospective effect

Procedure to be followed in this case :

- (i) Depreciation should be recalculated applying the new method from the date of its acquisition/ installation till the date of change of method.
- (ii) Difference between the total depreciation under the new method and the accumulated depreciation under previous method till the date of change may be surplus/ deficiency.
- (iii) The said surplus is credited to Profit & Loss account under the head "depreciation written Back".
- (iv) Deficiency is charged to profit & Loss account.
- (v) The journal entries will be :
 - (a) If old value is less

Profit and Loss A/c.	Dr.
To, Assets A/c.	
 - (b) If old value is more

Asset A/c.	Dr.
To, Profit and Loss A/c.	
- (vi) The above change of depreciation method should be treated as change in accounting policy and its post effect should be disclosed and quantified.

Illustration 13.

Ram Ltd. which depreciates its machinery at 10% p.a. on Diminishing Balance Method, had on 1st January, 2012 ₹ 9,72,000 on the debit side of Machinery Account.

During the year 2012 machinery purchased on 1st January, 2010 for ₹ 80,000 was sold for ₹ 45,000 on 1st July, 2012 and a new machinery at a cost of ₹ 1,50,000 was purchased and installed on the same date, installation charges being ₹ 8,000.

The company wanted to change the method of depreciation from Diminishing Balance Method to Straight Line Method with effect from 1st January, 2009. Difference of depreciation up to 31st December, 2012 to be adjusted. The rate of depreciation remains the same as before. Show Machinery Account.

Solution :
**In the books of Ram Ltd.
Machinery Account**

Dr.				Cr.		
Date 2012	Particulars		Amount (₹)	Date 2012	Particulars	Amount (₹)
01.01.12	To, Balance b/d			01.07.12	By, Depreciation A/c [W.N.3]	3,240
		9,07,200			By, Bank A/c - Sale	45,000
		64,800	9,72,000		By, Loss on sale of Machine A/c [W.N.4]	16,560
01.07.12	To, Bank A/c (1,50,000 + 8,000)		1,58,000			
				31.12.12	By, Depreciation A/c:	
					- For the year 2012	1,12,000
				31.12.12	- For ½ year	7,900
					By, Profit & Loss A/c : Adjustment	11,200
					By, Balance c/d :	
					- M ₁ (9,07,200 – 1,12,000 – 11,200)	7,84,000
					- M ₂	Nil
					- M ₃ (1,58,000 – 7,900)	1,50,100
			11,30,000			11,30,000



Working Notes :

(1) At 10% depreciation on Diminishing Balance Method :
If balance of machinery in the beginning of the year is ₹ 10
Depreciation for the year is 1
Balance of Machinery at the end of the year 9
By using the formula, balance of asset on 1st January 2009 will be calculated as follows :

₹
Balance as on 1st January, 2012 9,72,000
Balance as on 1st January, 2011 is $9,72,000 \times \frac{10}{9} =$ 10,80,000
Balance as on 1st January, 2010 is $10,80,000 \times \frac{10}{9} =$ 12,00,000
This balance, ₹ 12,00,000 is composed of 2 machines, one of ₹ 11,20,000 and another of ₹ 80,000.

₹
Depreciation at 10% p.a. on Straight Line Method on ₹ 11,20,000 1,12,000
Total Depreciation for 2010 and 2011 (₹ 1,12,000 x 2) 2,24,000
Total Depreciation charged for 2010 and 2011 on
Diminishing Balance Method (1,12,000 + 1,00,800) 2,12,800
Balance to be charged in 2012 to change from
Diminishing Balance Method to Straight Line Method 11,200

(2) Machine purchased on 1st January, 2010 for ₹ 80,000 shows the balance of ₹ 64,800 on 1st January 2012 as follows :

₹
Purchase price 80,000
Less : Depreciation for 2010 8,000
72,000
Less : Depreciation for 2011 7,200
Balance as on Jan. 1, 2012 64,800

(3) On second machine (original purchase price ₹ 80,000), depreciation at 10% p.a. on ₹ 64,800 for 6 months, viz., ₹ 3,240 has been charged to the machine on July 1 2012 i.e., on date of sale.

(4) Loss on sale of (ii) machine has been computed as under : ₹
Balance of the machine as on 1.1.2012 64,800
Less : Depreciation for 6 months up to date of sale 3,240
Balance on date of sale 61,560
Less : Sale proceeds 45,000
Loss on sale 16,560

Illustration 14

M/s. Hot and Cold commenced business on 01.07.2007. When they purchased a new machinery at a cost of ₹ 8,00,000. On 01.01.2009 they purchased another machinery for ₹ 6,00,000 and again on 01.10.2011 machinery costing ₹ 15,00,000 was purchased. They adopted a providing of charging @ 20% p.a. on diminishing balance basis.

On 01.07.2011, they changed the method of providing depreciation and adopted the method of writing off the Machinery Account at 15% p.a. under straight line method with retrospective effect from 01.07.2007, the adjustment being made in the accounts for the year ended 30.06.2012.

The depreciation has been charged on time basis. You are required to calculate the difference in depreciation to be adjusted in the Machinery on 01.07.2011, and show the Machinery Account for the year ended 30.06.2012.

Solution

In the books of M/s Hot and Cold Machinery Account					
Dr.					Cr.
Date	Particulars	Amount ₹	Date	Particulars	Amount ₹
01.07.11	To, Balance b/d	6,73,280	30.6.12	By Depreciation A/c	3,78,750
	To, Profit and Loss A/c (Depreciation Overcharged)	21,720		By Balance c/d	18,16,250
01.10.11	To, Bank A/c (Purchase)	15,00,000			
		21,95,000			21,95,000

Workings:**1. Statement of Depreciation:**

Date	Particulars	Machine – I ₹	Machine – II ₹	Total Depreciation ₹
01.07.2007	Book Value	8,00,000		
30.06.2008	Depreciation @ 20%	1,60,000		1,60,000
01.07.2008	W.D.V.	6,40,000		
01.01.2009	Bank (Purchase)		6,00,000	
30.06.2009	Depreciation @ 20%	1,28,000	60,000	1,88,000
01.07.2009	W.D.V.	5,12,000	5,40,000	
30.06.2010	Depreciation @ 20%	1,02,400	1,08,000	2,10,400
01.07.2010	W.D.V.	4,09,600	4,32,000	
30.06.2011	Depreciation @ 20%	81,920	86,400	1,68,320
		3,27,680	3,45,600	
		6,73,280		7,26,720

2. Depreciation Overcharged:

Now depreciation under Straight Line Method

On ₹ 8,00,000 @ 15% = ₹ 1,20,000 x 4 years (from 01.07.2007 to 30.06.2011)	= ₹ 4,80,000
∴ On ₹ 6,00,000 @ 15% = ₹ 90,000 x 2 years (from 01.01.2009 to 30.06.2011)	= ₹ 2,25,000
	<u>₹ 7,05,000</u>

Depreciation overcharged = Reducing Balance Basis – Straight Line Basis
 = ₹ (7,26,720 – 7,05,000)
 = ₹ 21,720

3. Depreciation for the year:

On ₹ 14,00,000 @ 15% for the year	= ₹ 2,10,000
On ₹ 15,00,000 @ 15% for the 9 months	= ₹ 1,68,750
	<u>₹ 3,78,750</u>



3.13. APPLICATION OF AS 6- DEPRECIATION ACCOUNTING

"Depreciation Accounting" (AS 6) (Revised)

The Accounting Standard regarding depreciation was issued at first in 1982. But it was revised in 1994. The revised standard (AS 6) is now mandatorily applicable to all concerns in India for accounting periods commencing on or after 1.4.1995. The important matters to be noted from (AS 6) are :

What is Depreciation as per AS-6?

Depreciation is a measure of wearing out, consumption or other loss of value of a **depreciable asset** arising from use and passage of time. Depreciation is nothing but distribution of total cost of assets over its useful life.

"Depreciable Assets" are the assets which :-

- (a) are expected to be used for more than one accounting period;
- (b) have limited useful life;
- (c) are held by an enterprise for use in production or supply of goods and services, for rental to others or for administrative purposes but not for sale in the ordinary course of business.

AS-6 is not applicable to the following assets:

- Forests, Plantations
- Wasting Assets, Minerals and Natural Gas
- Expenditure on research and development
- Goodwill
- Live stock – Cattle, Animal Husbandry.

How to calculate Depreciation?

Following are required to ascertain the depreciation of a Depreciable Asset

- Historical cost or other amount in place of historical cost like revalued amount
- Estimated useful life of depreciable assets
- Estimated residual or scrap value of depreciable assets

Computation of Depreciation:

$$= \frac{\text{Cost} - (\text{Residual Value at the end of useful life})}{\text{Estimated useful in No. of years}}$$

How to ascertain the cost of depreciable assets?

Cost of depreciable assets is the total cost spent in connection with the acquisition; installation and commissioning of the assets as well as for add item or improvement of the depreciable assets.

"Useful Life" of a depreciable asset is the period over which the assets are expected to be used by the enterprise, which is generally shorter than the physical life.

Useful Life of a Depreciable asset depends on the following factors –

- Predetermined by legal contractual limits
- Depends upon the number of shifts for which the asset is to be used
- Repair and Maintenance policy of enterprise
- The technological obsolescence

- Innovation/improvement in the production method
- Change in demand of output
- Legal or other restrictions.

Estimated residual or scrap value:

This is the estimated value of a depreciable asset at the end of its useful life.

Change in Method of Depreciation:

The method selected for charging depreciation should be consistently followed. However, if situations demand (like change of statute, compliance with Accounting Standard, etc.) a change of method may be made, that would result in change in accounting policy (which may be required by statute or for compliance with an Accounting Standards or for more appropriate presentation of financial statement), In that case -

- (i) if the change affects the state of affairs of Balance Sheet and Profit and Loss account of the current period or the Financial Statements of later period, then such change must be disclosed in financial statement. The amount, by which the financial statement is affected, should be disclosed to the extent it is ascertainable.
- (ii) the depreciation should be recalculated under the new method with effect from the date of the asset coming into use till the date of change of method, that is, with retrospective effect. Difference between the total depreciation under new method and the accumulated depreciation under the old method till the date of change of method should be computed first. Then the resultant surplus or deficiency is to be charged to credit and debit side of the Profit and Loss A/c respectively.

Change in Useful Life:

If there is a change in useful life of an asset, outstanding depreciable amount on the date of change in estimated useful life of asset is required to be allocated over the revised remaining useful life.

Any addition or extension essential for an existing asset, should be depreciated over the remaining life of the asset.

If the historical cost of an asset changes due to exchange fluctuations, price adjustments, etc. the depreciation on the revised unamortized depreciable amount should be provided prospectively for the rest of the life of the asset.

For any asset revalued, the provision for depreciation should be made on the revalued amount for the remaining useful life of the asset.

In the financial statements, the matters to be disclosed are-

- (i) The historical cost or any amount substituting it;
- (ii) Total depreciation for the period for each
- (iii) The related accumulated depreciation.

The method of charging depreciation should also be disclosed.

3.14. APPLICATION OF AS 10- ACCOUNTING FOR FIXED ASSET

Accounting Standard for Fixed Assets (AS 10)

Accounting Standard 10 is related with accounting of Fixed Assets. The important matters to be noted from (AS 10) are :



Fixed asset is an asset

- which is held with an intention of being used for the purpose of producing and providing goods and services
- which is not held for sale in the normal course of business
- which is expected to be used for more than one accounting period

Examples of Fixed Assets are-

- Land
- Building- Freehold/Leasehold
- Plant and Machinery
- Furniture & Fitting etc.

This accounting standard is applicable to all assets except the following:

- Forest, plantations and similar regenerative natural resource.
- Wasting assets like minerals, oil and natural gas
- Expenditure on real estate development
- Live stock

Fixed assets shall be shown in financial statement either at historical cost or revalued price.

- (a) The gross book value of a fixed asset should be either historical cost or a revaluation computed in accordance with the Accounting Standard. [Set out in paragraphs 20 to 26 and 27 to 32 of the Standards]

Historical cost of a Fixed Asset: It consist of the following:

- Purchase price
- Import duties and other taxes which is non-refundable in nature
- Any cost which is directly attributable to bring the asset to the working condition for its intended use.

In case of any self-constructed assets costs attributable to its construction and allocable to it, should be included in its value.

Items fixed assets retired from active use and held for disposal should be shown separately in the financial statements and stated at net book value or realizable value, whichever is lower.

If any subsequent expenditure causes an addition to the already expected future benefits of an asset, such expenditure should be added with the value of the asset.

Cost of assets acquired in exchange of existing assets:

- **Fixed assets exchanged not similar**

In case a new asset is acquired in part exchange of an old asset the exchange price should be recorded at fair market value of the asset acquired or at fair market value of the asset given up, if it is more clearly evident.

- **Fixed assets exchanged are similar**

In case a new asset is acquired in part exchange of an old asset the exchange price should be recorded at fair market value of the asset acquired or at fair market value of the asset given up, if it is more clearly evident or net book value of the old asset.

- **Fixed asset acquired in exchange of shares, etc.** should be recorded at its fair market value or the fair market value of the shares, etc. whichever is more clearly available.

Any loss or gain on the retirement or disposal of any fixed asset carried at cost should be recognized in the profit and loss account if the value of any asset increases on revaluation, its accumulated depreciation should not be debited to Profit & Loss Account. The depreciation on such revalued amount should be adjusted against Revaluation Reserves.

Disclosure requirement as per Accounting Standard 10:

- Gross and the net book values of fixed assets at the beginning and at the end of the accounting period showing there in any additions, disposal, acquisition and other movement.
- Expenditure incurred on account of fixed assets in the course of construction or acquisition.
- Revalued amount which is substituted for historical cost of the fixed asset, method adopted to compute the revalued amount, and whether an external valuer has valued the fixed assets, in case where fixed assets are stated at revalued amount.

Study Note - 4

PREPARATION OF FINAL ACCOUNTS



This Study Note includes

- 4.1 Introduction
- 4.2 Preparation of Financial Statements
- 4.3 Bad Debts
- 4.4 Preparation of Financial Statement of Non-Trading Concern
- 4.5 Preparation of Financial Statement under Single Entry System including Conversion of Single Entry into Double Entry System

4.1 INTRODUCTION

Preparation of final accounts is the final destination of the accounting process. As discussed earlier these final accounts include two statements – Income statement which reflects the outcome of business activities during an accounting period (i.e. profit or loss) and the balance sheet which show the position of the business at the end of the accounting period (i.e. resources owned as assets and sources of funds as liabilities plus capital). The objective of financial statements is to provide information about the financial strength, performance and changes in financial position of an enterprise that is useful to a wide range of users in making economic decisions. Financial statements should be understandable, relevant, reliable and comparable. Reported assets, liabilities and equity are directly related to an organization's financial position. Reported income and expenses are directly related to an organization's financial performance.

Financial statements are intended to be understandable by readers who have “a reasonable knowledge of business and economic activities and accounting and who are willing to study the information diligently”.

In this chapter, we will see how conceptually these statements are prepared and what each of them contains.

4.2 PREPARATION OF FINANCIAL STATEMENTS

4.2.1 Profitability Statement – This statement is related to a complete accounting period. It shows the outcome of business activities during that period in a summarized form. The activities of any business will include purchase, manufacture, and sell.

4.2.2 Balance Sheet – Business needs some resources which have longer life (say more than a year).

Such resources are, therefore, not related to any particular accounting period, but are to be used over the useful life thereof. The resources do not come free. One requires finance to acquire them. This funding is provided by owners through their investment, bank & other through loans, suppliers by way of credit terms. The Balance Sheet shows the list of resources and the funding of the resources i.e. assets and liabilities (towards owners and outsiders). It is also referred as sources of funds (i.e. liabilities & capital) and application of funds (i.e. assets). Let us discuss these statements in depth.

4.2.2.1 Trading Account: It is an account which is prepared by a merchandising concern which purchases goods and sells the same during a particular period. The purpose of it to find out the gross profit or gross loss which is an important indicator of business efficiency.

The following items will appear in the debit side of the Trading Account:

(i) Opening Stock: In case of trading concern, the opening stock means the finished goods only. The amount of opening stock should be taken from Trial Balance.

(ii) Purchases: The amount of purchases made during the year. Purchases include cash as well as credit

purchase. The deductions can be made from purchases, such as, purchase return, goods withdrawn by the proprietor, goods distributed as free sample etc.

(iii) Direct expenses: it means all those expenses which are incurred from the time of purchases to making the goods in suitable condition. This expenses includes freight inward, octroi, wages etc.

(iv) Gross profit: If the credit side of trading A/c is greater than debit side of trading A/c gross profit will arise. The following items will appear in the credit side of Trading Account:

(i) Sales Revenue: The sales revenue denotes income earned from the main business activity or activities. The income is earned when goods or services are sold to customers. If there is any return, it should be deducted from the sales value. As per the accrual concept, income should be recognized as soon as it is accrued and not necessarily only when the cash is paid for. The Accounting standard 7 (in case of contracting business) and Accounting standard 9 (in other cases) define the guidelines for revenue recognition. The essence of the provisions of both standards is that revenue should be recognized only when significant risks and rewards (vaguely referred to as ownership in goods) are transferred to the customer. For example, if an invoice is made for sale of goods and the term of sale is door delivery; then sale can be recognized only on getting the proof of delivery of goods at the door of customer. If such proof is pending at the end of accounting period, then this transaction cannot be taken as sales, but will be treated as unearned income.

(ii) Closing Stocks: In case of trading business, there will be closing stocks of finished goods only. According to convention of conservatism, stock is valued at cost or net realizable value whichever is lower.

(iii) Gross Loss: When debit side of trading account is greater than credit side of trading account, gross loss will appear.

Dr		Trading Account for the year ended		Cr	
Particulars	Amount	Particulars	Amount		
Opening stock:		Sales			
Finished goods		less sales returns			
Purchases		Closing stock			
Less: purchase returns		Finished goods			
Gross Profit		Gross Loss			
(transferred to P & L A/c)		(transferred to P & L A/c)			
Total		Total			

Preparation of Trading Account

Illustration 1.

Following are the ledger balances presented by M/s. P. Sen as on 31st March 2012.

Particulars	Amount (₹)	Particulars	Amount (₹)
Stock (1.4.2011)	10,000	Sales	3,00,000
Purchase	1,60,000	Return Inward	16,000
Carriage Inwards	10,000	Return Outward	10,000
Wages	30,000	Royalty on Production	6,000
Freight	8,000	Gas and Fuel	2,000

Additional Information:

- (1) Stock on 31.3.2012: (i) Market Price ₹ 24,000; (ii) Cost Price ₹ 20,000;
- (2) Stock valued ₹ 10,000 were destroyed by fire and insurance company admitted the claim to the extent of ₹ 6,000.



- (3) Goods purchased for ₹ 6,000 on 29th March, 2012, but still lying in-transit, not at all recorded in the books.
- (4) Goods taken for the proprietor for his own use for ₹ 3,000.
- (5) Outstanding wages amounted to ₹ 4,000.
- (6) Freight was paid in advance for ₹ 1,000.

Solution:

**In the books of M/s. P. Sen
Trading Account
For the year ended 31st March, 2012.**

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To Openign Stock		10,000	By, Sales	3,00,000	
To Purchase	1,60,000		Less: Return Inward	16,000	2,84,000
Less: Return Outward	10,000				
	1,50,000		By, Closing Stock	20,000	
Less: Goods taken by Proprietor	3,000		Add: Stock Destroyed	10,000	
	1,47,000			30,000	
Add: Goods-in-transit	6,000	1,53,000	Add: Goods-in-Transit	6,000	36,000
To Wages	30,000				
Add: Outstanding	4,000	34,000			
To, Carriage Inwards		10,000			
To, Freight	8,000				
Less: Prepaid	1,000	7,000			
To, Royalty on production		6,000			
To, Gas & fuel		2,000			
`` Profit & Loss A/c.		98,000			
- Gross profit transferred					
		3,20,000			3,20,000

Note: (a) Stock should be valued as per cost price or market price whichever is lower.

(b) The claim which was admitted by insurance company and the loss of stock, will not appear in Trading Account.

4.2.2.2 Profit and Loss Account:

The following items will appear in the debit side of the Profit & Loss A/c:

(i) Cost of Sales: This term refers to the cost of goods sold. The goods could be manufactured and sold or can be directly identified with goods.

(ii) Other Expenses: All expenses which are not directly related to main business activity will be reflected in the P & L component. These are mainly the Administrative, Selling and distribution expenses. Examples are salary to office staff, salesmen commission, insurance, legal charges, audit fees, advertising, free samples, bad debts etc. It will also include items like loss on sale of fixed assets, interest and provisions. Students should be careful to include accrued expenses as well.

(iii) Abnormal Losses: All abnormal losses are charged against Profit & Loss Account. It includes stock destroyed by fire, goods lost in transit etc.

Preparation of Final Accounts

The following items will appear in the credit side of Profit & Loss A/c:

(i) Revenue Incomes: These incomes arise in the ordinary course of business, which includes commission received, discount received etc.

(ii) Other Incomes: The business will generate incomes other than from its main activity. These are purely incidental. It will include items like interest received, dividend received, etc. The end result of one component of the P & L A/c is transferred over to the next component and the net result will be transferred to the balance sheet as addition in owners' equity. The profits actually belong to owners of business. In case of company organizations, where ownership is widely distributed, the profit figure is separately shown in balance sheet.

Dr		Profit and Loss Account for the year ended		Cr
Particulars	Amount	Particulars	Amount	
Gross Loss		Gross Profit		
(transferred from Trading A/c)		(transferred from Trading A/c)		
Administrative expenses		Other Income		
Office salaries		Interest received		
Communication		Commission received		
Travel & Conveyance		Profit on sale of assets		
Office rent		Rent received		
Depreciation of office assets		Net loss		
Audit fees		Total		
Insurance				
Repairs & maintenance				
Selling & Distribution expenses				
Advertising				
Salesmen commission				
Delivery van expenses/Depreciation on delivery vans/Bad debts				
Financial expenses				
Bank charges				
Interest on loans				
Loss on sale of assets				
Net profit				
Total				

Preparation of Profit & Loss Account

Illustration 2.

From the following particulars presented by Sri Tirlhankar for the year ended 31st March 2013, Prepare Profit and Loss Account.

Gross Profit ₹ 1,00,000, Rent ₹ 22,000; Salaries, ₹ 10,000; Commission (Cr.) ₹ 12,000; Insurance ₹ 8,000; Interest (Cr.) ₹ 6,000; Bad Debts ₹ 2,000; Provision for Bad Debts (1.4.2012) ₹ 4,000; Sundry Debtors ₹ 40,000; Discount Received ₹ 2,000; Plant & Machinery ₹ 80,000.



Adjustments:

- (a) Outstanding salaries amounted to ₹ 4,000;
- (b) Rent paid for 11 months;
- (c) Interest due but not received amounted to ₹ 2,000
- (d) Prepaid Insurance amounted to ₹ 2,000;
- (e) Depreciate Plant and Machinery by 10% p.a.
- (f) Further Bad Debts amounted to ₹ 2,000 and make a provision for Bad Debts @5% on Sundry Debtors.
- (g) Commissions received in advance amounted to ₹ 2,000.

Solution

**In the Books of Sri Tirhankar
Profit and Loss Account
for the year ended 31st March 2013.**

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Rent	22,000		By, Trading A/c.		1,00,000
Add: Outstanding	2,000	24,000	-Gross Profit		
`` Salaries	10,000		``Commission	12,000	
Add: Outstanding	4,000	14,000	Less: Received in advance	2,000	10,000
`` Insurance	8,000		``Interest	6,000	
Less: Prepaid	2,000	6,000	Add: Accrued Interest	2,000	8,000
`` Bad Debts	2,000				
Add: further Bad Debts	2,000	4,000	``Discount received		2,000
``Depreciation on Plant & Machinery @10% on ₹ 80,000		8,000	``Provisions for Bad Debts	4,000	
``Capital A/c. (Net Profit Transferred)		66,100	Less: New Provision @ 5% on ₹ 40,000 – ₹ 2,000)	1,900	2,100
		1,22,100			1,22,100

4.2.2.3 Profit and Loss Appropriation Account:

We know that the net profit or loss is added to or deducted from owner's equity. The net profit may be used by the business to distribute dividends, to create reserves etc. In order to show these adjustments, a P & L Appropriation A/c is maintained. Distribution of profits is only appropriation and does not mean expenses. After passing such distribution entries, the remaining surplus is added in owner's equity.

The format of P & L Appropriation A/c is given below

Dr.

Profit and Loss Appropriation Account for the year ended _____

Cr.

Particulars	Amount	Particulars	Amount
To Proposed dividend		By Net profit transferred from P & L A/c	
To Transfer to General Reserve			
To Surplus carried to Capital A/c			
Total		Total	

Illustration 3

X, Y and Z are three Partners sharing profit and Losses equally. Their capital as on 01.04.2012 were: X ₹ 80,000 ; Y ₹ 60,000 and Z ₹ 50,000.

They mutually agreed on the following points (as per partnership deed)

(a) Interest on capital to be allowed @ 5% P.a. (b) X to be received a salary @ ₹ 500 p.m. (c) Y to be received a commission @ 4% on net profit after charging such commission. (d) After charging all other items 10% of the net profit to be transferred General Reserve.

Profit from Profit and Loss Account amounted to ₹ 66,720. Prepare a Profit and Loss Appropriation Account for the year ended 31st March, 2013.

Solution

In the books of X, Y and Z
Profit and Loss Appropriation Account
For the year ended 31st March, 2013

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Interest on Capital:			By, Profit and Loss A/c		66,720
X	4,000				
Y	3,000				
Z	2,500	9,500			
“ Salaries					
X : (₹500 x 12)		6,000			
“ Commission					
Y		1,970 ¹			
“ General Reserve		4,925 ²			
“ Net Divisible Profit					
X	14,775				
Y	14,775				
Z	14,775	44,325			
		66,720			66,720

Workings:

- Net Profit before charging Y's Commission** = ₹ (66,710 – 15,500) = ₹ 51,220
Less: Y's Commission @ 4% i.e. - ($\frac{4}{104} \times ₹ 51,220$) = ₹ 1,970
₹ 49,250

- Transfer to General Reserve** = ₹ 49,250 x 10% = ₹ 4,925

4.2.2.4 Balance Sheet: Horizontal format of Balance Sheet is also used by the business other than company

A. Liabilities

(a) Capital: This indicates the initial amount the owner or owners of the business contributed. This contribution could be at the time of starting business or even at a later stage to satisfy requirements of funds for expansion, diversification etc. As per business entity concept, owners and business are distinct entities, and thus, any contribution by owners by way of capital is liability.

(b) Reserves and Surplus: The business is a going concern and will keep making profit or loss year by year. The accumulation of these profit or loss figures (called as surpluses) will keep on increasing or decreasing owners' equity. In case of non-corporate forms of business, the profits or losses are added to the capital A/c and not shown separately in the balance sheet of the business.

(c) Long Term or Non-Current Liabilities: These are obligations which are to be settled over a longer period of time say 5-10 years. These funds are raised by way of loans from banks and financial institutions. Such borrowed funds are to be repaid in installments during the tenure of the loan as agreed. Such



funds are usually raised to meet financial requirements to procure fixed assets. These funds should not be generally used for day-to-day business activities. Such loan are normally given on the basis of some security from the business e.g. against a charge on the fixed assets. So, long term loan are called as "Secured Loan" also.

(d) Short Term or Current Liabilities: A liability shall be classified as Current when it satisfies any of the following :

- It is expected to be settled in the organisation's normal Operating Cycle,
- It is held primarily for the purpose of being traded,
- It is due to be settled within 12 months after the Reporting Date, or
- The organization does not have an unconditional right to defer settlement of the liability for at least 12 months after the reporting date (Terms of a Liability that could, at the option of the counterparty, result in its settlement by the issue of Equity Instruments do not affect its classification)

Current liabilities comprise of :

(i) Sundry Creditors - Amounts payable to suppliers against purchase of goods. This is usually settled within 30-180 days.

(ii) Advances from customers – At times customer may pay advance i.e. before they get delivery of goods. Till the business supplies goods to them, it has an obligation to pay back the advance in case of failure to supply. Hence, such advances are treated as liability till the time they get converted to sales.

(iii) Outstanding Expenses: These represent services procured but not paid for. These are usually settled within 30–60 days e.g. phone bill of Sept is normally paid in Oct.

(iv) Bills Payable: There are times when suppliers do not give clean credit. They supply goods against a promissory note to be signed as a promise to pay after or on a particular date.

These are called as bills payable or notes payable.

(v) Bank Overdrafts: Banks may give fund facilities like overdraft whereby, business is permitted to issue cheques up to a certain limit. The bank will honour these cheques and will recover this money from business. This is a short term obligation.

B. Assets

In accounting language, all debit balances in personal and real accounts are called as assets. Assets are broadly classified into fixed assets and current assets.

(a) Fixed Assets: These represent the facilities or resources owned by the business for a longer period of time. The basic purpose of these resources is not to buy and sell them, but to use for future earnings. The benefit from use of these assets is spread over a very long period. The fixed assets could be in tangible form such as buildings, machinery, vehicles, computers etc, whereas some could be in intangible form viz. patents, trademarks, goodwill etc. The fixed assets are subject to wear and tear which is called as depreciation. In the balance sheet, fixed assets are always shown as "original cost less depreciation".

(b) Investments: These are funds invested outside the business on a temporary basis. At times, when the business has surplus funds, and they are not immediately required for business purpose, it is prudent to invest it outside business e.g. in mutual funds or fixed deposit. The purpose if to earn a reasonable return on this money instead of keeping them idle. These are assets shown separately in balance sheet.

Investments can be classified into Current Investments and Non-current Investments.

Non-current Investments are investments which are restricted beyond the current period as to sale or disposal.

Whereas, current investments are investments that are by their nature readily realizable and is intended to be held for not more than one year from the date on which such investment is made.

(c) Current Assets: An asset shall be classified as Current when it satisfies any of the following :

- It is expected to be realised in, or is intended for sale or consumption in the organisation's normal Operating Cycle,
- It is held primarily for the purpose of being traded,
- It is due to be realised within 12 months after the Reporting Date, or
- It is Cash or Cash Equivalent unless it is restricted from being exchanged or used to settle a Liability for at least 12 months after the Reporting Date.

Current assets comprise of:

(i) Stocks: This includes stock of raw material, semi-finished goods or WIP, and finished goods.

Stocks are shown at lesser of the cost or market price. Provision for obsolescence, if any, is also reduced. Generally, stocks are physically counted and compared with book stocks to ensure that there are no discrepancies. In case of discrepancies, the same are adjusted to P & L A/c and stock figures are shown as net of this adjustment.

(ii) Debtors: They represent customer balances which are not paid. The bad debts or a provision for bad debt is reduced from debtors and net figure is shown in balance sheet.

(iii) Bills receivables: Credit to customers may be given based on a bill to be signed by them payable to the business at an agreed date in future. At the end of accounting period, the bills accepted but not yet paid are shown as bills receivables.

(iv) Cash in Hand: This represents cash actually held by the business on the balance sheet date. This cash may be held at various offices, locations or sites from where the business activity is carried out. Cash at all locations is physically counted and verified with the book balance. Discrepancies if any are adjusted.

(v) Cash at Bank: Dealing through banks is quite common. Funds held as balances with bank are also treated as current asset, as it is to be applied for paying to suppliers. The balance at bank as per books of accounts is always reconciled with the balance as per bank statement, the reasons for differences are identified and required entries are passed.

(vi) Prepaid Expenses: They represent payments made against which services are expected to be received in a very short period.

(vii) Advances to suppliers: When amounts are paid to suppliers in advance and goods or services are not received till the balance sheet date, they are to be shown as current assets. This is because advances paid are like right to claim the business gets.

Please note that both current assets and current liabilities are used in day-to-day business activities. The current assets minus current liabilities are called as working capital or net current assets. The following report is usual horizontal form of balance sheet. Please note that the assets are normally shown in descending order of their liquidity. Also, capital, long term liabilities and short term liabilities are shown in that order.



In case other than Company :

Capital & Liabilities	Amount	Assets	Amount
Capital (separate figures are shown for each owner)		Fixed Assets:	
Long term Liabilities:		Land less depreciation	
Loans from banks or financial Institutions		Building less depreciation	
Current Liabilities:		Plant and Machinery less depreciation	
Sundry creditors		Vehicles less depreciation	
Bills payable		Computer systems less depreciation	
Advances from customers		Office equipments less depreciation	
Outstanding expenses		Current Assets:	
Total		Stocks	
		Sundry debtors less provisions	
		Bills receivables	
		Cash in hand	
		Cash at bank	
		Prepaid expenses	
		Advances to suppliers	
		Total	

Illustration 4.

From the following particulars prepare a Balance Sheet of Mr. X, for the year ended 31st March, 2013.

Capital : ₹ 2,00,000; Drawings : ₹ 40,000 ; Cash In Hand : ₹ 20,000 ; Loan from Bank : ₹ 40,000; Sundry Creditors : ₹ 40,000; Bills Payable : ₹ 20,000; Bank Overdraft : ₹ 20,000; Goodwill : ₹ 60,000; Sundry Debtors : ₹ 80,000; Land and Building : ₹ 50,000; Plant and Machinery : ₹ 80,000; Investment : ₹ 20,000; Bills Receivable : ₹ 10,000.

The following adjustments are made at the time of preparing final accounts:

- I. Outstanding Liabilities for : Salaries ₹ 10,000; wages ₹ 20,000; Interest on Bank Overdraft ₹ 3,000; and Interest on Bank Loan ₹ 6,000.
- II. Provide Interest on Capital @ 10% p.a.
- III. Depreciation on Plant and Machinery by 10% p.a.
- IV. Bad Debts amounted to ₹ 10,000 and make a provision for Bad Debts @ 10% on Sundry Debtors.
- V. Closing stock amounted to ₹ 1,20,000.

Net profit for the year amounted to ₹ 96,000 after considering all the above adjustments.

Solution

In the books of Mr. X
Balance Sheet as at 31.03.2013

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital	2,00,000		Goodwill		60,000
Add: Interest on Capital @ 10%	20,000		Land and Building		50,000
Add: Net Profit	96,000		Plant and Machinery	80,000	
	3,16,000		Less: Depreciation@ 10%	8,000	72,000
Less: Drawings	40,000	2,76,000	Investment		20,000
			Closing Stock		1,20,000
Bank Overdraft	20,000		Sundry Debtors	80,000	
Add: Out. Interest	3,000	23,000	Less: Bad Debts	10,000	
Bank Loan	60,000			70,000	
Add: Out. Interest	6,000	66,000	Less: Prov. for Bad debts@10%	7,000	63,000
			Bills Receivable		10,000
Sundry Creditors		40,000	Cash at Bank		40,000
Bills Payable		20,000	Cash in Hand		20,000
Outstanding Liabilities:					
Salaries	10,000				
Wages	20,000	30,000			
		4,55,000			4,55,000

Example

Indicate where the following items will be shown in various components of P & L A/c :

(1) Wages	(2) Salaries to office staff
(3) Depreciation on office car	(4) Neon sign advertisement
(5) Power & fuel	(6) Repairs to machinery
(7) Maintenance of office building	(8) Purchase returns or return outwards
(9) Closing stock of WIP	(10) Opening stock of finished goods
(11) Interest received	(12) Commission paid
(13) Telephone	(14) Travel & conveyance
(15) Insurance	(16) Audit fees
(17) Carriage inward	(18) Freight outward
(19) Bad debts	(20) Provision for outstanding rent
(21) Return inwards or sales returns	(22) Discount earned
(23) Depreciation on delivery van	(24) Printing and stationery
(25) Sales	

**Solution :**

Item	Treatment	Where
Wages	Trading A/c	Dr
Salaries to office staff	P & L A/c	Dr
Depreciation on office car	P & L A/c	Dr
Power & fuel	Trading A/c	Dr
Repairs to machinery	Trading A/c	Dr
Maintenance of office building	P & L A/c	Dr
Purchase returns or return outwards	Trading A/c	Dr less from purchases
Closing stock of WIP	Trading A/c	Cr
Opening stock of finished goods	Trading A/c	Dr
Interest received	P & L A/c	Cr
Commission paid	P & L A/c	Dr
Telephone	P & L A/c	Dr
Travel & conveyance	P & L A/c	Dr
Insurance	P & L A/c	Dr
Audit fees	P & L A/c	Dr
Carriage inward	Trading A/c	Dr
Freight outward	P & L A/c	Dr
Bad debts	P & L A/c	Dr
Provision for outstanding rent	P & L A/c	Dr
Return inwards or sales returns	Trading A/c	Cr less from sales
Discount earned	P & L A/c	Cr
Depreciation on delivery van	P & L A/c	Dr
Printing and stationery	P & L A/c	Dr
Sales	Trading A/c	Cr

Illustration 5.

Indicate where the following items will be shown in the balance sheet.

- (1) Credit balance in the bank column of the cash book
- (2) Debit balance to the account of A who is a customer
- (3) Credit balance in A/c of B who is supplier
- (4) Debit balance in A/c of C who is a supplier
- (5) Credit balance in A/c of D who is a customer
- (6) Outstanding rent
- (7) Insurance paid for the next year
- (8) Loan from HDFC bank for 7 years
- (9) Interest due on loan
- (10) Provision for doubtful debtors
- (11) Net Profit for the year
- (12) Machinery
- (13) Accumulated depreciation on vehicle
- (14) Cash at Bangalore office
- (15) Balance with Citi Bank

Answer:

- (1) Credit balance in the bank column of cash book indicates a liability towards bank. This is actually a bank overdraft. Hence, it should be shown as Current Liability.
- (2) Debit balance in A's A/c means amount due from him as a customer. To be shown as Sundry Debtors.
- (3) Credit balance in supplier's A/c is a liability, hence will be shown under Current Liabilities.
- (4) Debit balance in supplier's A/c reflects an advance given to supplier, hence will be shown under Current Asset.
- (5) Credit balance in customer's A/c means advance from customer, hence will be shown as Current Liability.
- (6) Outstanding rent will be shown under Current Liability.
- (7) Insurance paid for next year is 'prepaid' for current year, hence will be taken as Current Asset
- (8) Loan from HDFC is for 7 years which is a long term loan, hence will be shown as Long Term Liability.
- (9) Interest due on loan is Current Liability.
- (10) Provision for doubtful debts will be reduced from the sundry debtor's amount under Current Assets as it denotes chances of not receiving the money from customers.
- (11) Net Profit for the year will be added to the Capital or to Reserves and Surplus in Balance Sheet.
- (12) Machinery is a Fixed Asset.
- (13) Accumulated depreciation on vehicle is reduction in its value, so will be shown as deduction from vehicle under Fixed Assets.
- (14) Cash at Bangalore office is a Current Asset.
- (15) Balance with Citi Bank is Current Asset.

Illustration 6.

Mahindra Traders operates in an industry that has a high rate of bad debts. On 31st March 2012, the Accounts Receivables showed a balance of ₹ 7,50,000 before any year end adjustment and the balance in the Reserve of doubtful debts was ₹ 37,500. The year end balance in the Reserve for Doubtful Debts A/c will be based on the following ageing schedule.

Days outstanding	Amount (₹)	Probability of collection
Less than 16	4,50,000	0.99
16 – 30	1,50,000	0.94
31 – 45	75,000	0.80
46 – 60	45,000	0.65
61 – 75	15,000	0.50
Over 75	15,000	0.00

Find out the appropriate balance in the Reserve for Doubtful Debts Account as on 31st March 2012. Show how Debtors balance be shown in the Balance Sheet. Calculate the effect of year end adjustment on Account of Reserve for Doubtful Debts.

Solution:

We need to work out the provision for doubtful debts based on the collection probability given e.g. in the first ageing band, the probability of collection is given as 0.99 which means 1% of the outstanding amount in this band is unlikely to be collected, so a provision of 1% will be needed. The total provision required based on the ageing is shown in the following table.



Days outstanding	Amount (₹)	Probability of collection	Provision required	Provision Amount (₹)
Less than 16	4,50,000	0.99	1%	4,500
16 – 30	1,50,000	0.94	6%	9,000
31 – 45	75,000	0.80	20%	15,000
46 – 60	45,000	0.65	35%	15,750
61 – 75	15,000	0.50	50%	7,500
Over 75	15,000	0.00	100%	15,000
Total	7,50,000			66,750

It will be seen that the existing provision in the books stands at ₹ 37,500, as against the required provision of ₹ 66,750. This means additional provision of ₹ 29,250 will be required to be made as year end adjustment for the year ended 31-03-2012. The answer will be:

(a) Appropriate balance in Reserve for Doubtful Debts A/c as on 31-03-2012 is ₹ 66,750.

(b) Debtors amount will be shown in the Balance Sheet as under:

Outstanding debtors		7,50,000	
Less: Reserve for doubtful debts	37,500		
Additional provision required	29,250	66,750	
Net Debtors		<u>6,83,250</u>	

(c) The effect of this additional provision of ₹ 29,250 will reduce the profit for the year by the same amount

Illustration 7.

A property dealer owned many properties which it had acquired by taking bank loans. There were separate loan agreements for different properties. In some cases, interest was paid in advance and in other cases it was payable in arrears. These properties were let out to different tenants on various agreements. Some agreements provided for rentals in advance while the others provided for rent payable in arrears. The dealer has given the following balances:

	31-03-2011	31-03-2012
Interest payable	12,000	14,500
Interest prepaid	8,000	6,400
Rentals due from tenants	15,000	19,000
Rentals received in advance	3,000	2,500

During the year 2011-12, the amount of interest payable transferred to P & L A/c was ₹ 56,000 and cash collected from tenants for rentals was ₹ 1,16,000.

You are required to prepare Interest Payable A/c and Rental Income A/c for the year ended 2011-12

Solution: Please note although 4 different figures are given, we are asked to prepare only two accounts. This means the opening as well as closing balances will have to be written in these 2 accounts only. Thus, we should find out what these 4 figures represent. This is shown in following table:

	31-03-2011 Opening	31-03-2012 Closing
Interest payable	Liability	Liability
Interest prepaid	Asset	Asset
Rentals due from tenants	Asset	Asset
Rentals received in advance	Liability	Liability

Preparation of Final Accounts

Please be careful to notice how the opening and closing balances are shown. Now, students should be able to interpret the balancing figures in these accounts.

Dr. Interest payable Account Cr.

Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
	To, Balance b/d (prepaid)		8,000		By, Balance b/d (due)		12,000
	To, Cash paid (balancing figure)		51,900		By P & L A/c		56,000
	To Balance c/d (due)		14,500		By, Balance c/d (prepaid)		6,400
			74,400				74,400
	To, Balance b/d (prepaid)		6,400		By, Balance b/d (due)		14,500

Dr. Rentals Income Account Cr.

Date	Particulars	J. F.	Amount (₹)	Date	Particulars	J. F.	Amount (₹)
	To, Balance b/d (receivable)		15,000		By, Balance b/d (advance)		3,000
	To, P & L A/c (balancing figure)		1,20,500		By, Cash received		1,16,000
	To, Balance c/d (advance)		2,500		By, Balance c/d (receivable)		19,000
			1,38,000				1,38,000
	To, Balance b/d (receivable)		19,000		By, balance b/d (advance)		2500

The balancing figure in Interest Payable A/c will reflect interest actually paid during the year, whereas the balancing figure in Rentals Income is the income taken to P & L A/c for the year.

Illustration 8.

The book-keeper of a supermarket prepared a schedule of balances of individual suppliers' accounts in the creditors' ledger as on 31st March 2012 and arrives at the total of ₹ 6,923,062.40. The accountant was in charge of general ledger. He maintained the Sundry Creditors' Account in the general ledger which is given below:

Dr Sundry Creditors Control Account cr

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
30-Apr-12	To, Purchase returns	44,814.40	1-Apr-12	By, Balance b/d	71,41,690.40
30-Apr-12	To, Bank	77,05,016.00	30-Apr-12	By, Purchase	80,38,679.20
30-Apr-12	To, Balance c/d	67,75,064.80	30-Apr-12	By, Discount received	2,12,545.60
			30-Apr-12	By, Debtors control A/c (contra)	2,43,980.00
		1,54,04,895.20			1,56,20,895.20

Subsequently, on investigation, the accountant discovered several mistakes in the Control A/c as well as individual Creditors' A/cs as given below:

- One supplier was paid ₹ 817.60 out of petty cash. This was correctly recorded to his personal A/c, but was omitted to be posted to control A/c
- Credit side of a supplier's A/c was under-cast by ₹ 2,400
- A supplier's credit balance of ₹ 43,851.20 was by mistake taken as ₹ 46,752.80 while preparing the schedule of balances of all suppliers A/cs.



- (iv) There was an omission of a supplier credit balance of ₹ 53,945.60 from the schedule.
- (v) Discounts received of ₹ 1,004.80 and ₹ 650.40 were posted to wrong side of suppliers' A/cs.
- (vi) Goods of ₹ 316.80 were returned to a supplier not entered in purchase return book.
- (vii) Debtors control contra represents the sale of goods to suppliers.
- Prepare a statement rectifying the errors and prepare the Control A/c.

Solution:

First of all, there's a totaling error in the control A/c. Total of debit side should be ₹ 14,524,895.20 and credit side is ₹ 15,636,895.20. This needs to be corrected. There is a difference of ₹ 1,112,000 due to this. The revised credit balance should be ₹ 7,887,064.80 instead of ₹ 6,775,064.80 as shown in the Control A/c.

In addition, the errors that have affected the Control A/c should be corrected. These are:

- (a) Discounts received will reduce the balance due to creditors, hence should appear on the debit side in Control A/c. Here, it appears on credit side. We must show double the amount on debit side to rectify this error.
- (b) Payment to a supplier of ₹ 817.60 were omitted hence, it must be written on debit side of Control A/c
- (c) Purchase return of ₹ 316.80 omitted should be recorded.

The other errors will affect only individual A/cs and not Control A/c. The revised Control A/c is shown below:

Dr.			Sundry Creditors Control Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)			
30-Apr-12	Purchase returns	44,814.40	1-Apr-12	By balance b/ d	7,141,690.40			
30-Apr-12	Bank	7,705,016.00	30-Apr-12	Purchases	8,038,679.20			
30-Apr-12	Discount received (rectified)	425,091.20	30-Apr-12	Discount received	212,545.60			
30-Apr-12	Debtors control A/c (contra) rectified	487,960.00	30-Apr-12	Debtors control A/c (contra)	243,980.00			
30-Apr-12	Purchase returns (omission rectified)	316.80						
30-Apr-12	Bank (paym entrecorded)	817.60						
30-Apr-12	To Balance c/d	6,972,879.20						
		15,636,895.20						15,636,895.20

The effect on individual accounts will be as follows:

	Amount (₹)
Total of the schedule as given	69,23,062.40
Add: under-casting of credit side	2,400.00
Add: omission of a supplier in schedule	53,945.60
Less: Wrong amount taken (43,851.20 – 46,752.80)	(2,901.60)
Less: Discounts received recorded on wrong side rectified (1,004.80)*2 & (650.4)*2	(3,310.40)
Less: purchase return omitted, now rectified	(316.80)
Revised balance in individual A/cs tallied with Control A/c	69,72,879.20

Illustrations 9.

Following is the Trial Balance of M/s Brijesh and Sons. Prepare final accounts for the year ended on 31st March 2012.

Particulars	Debit (₹)	Credit (₹)
Stock as on 01-04-2011	2,00,000	
Purchases and Sales	22,00,000	35,00,000
Bills receivables	50,000	
Returns	100,000	50,000
Carriage Inwards	50,000	
Debtors and Creditors	200,000	4,00,000
Carriage Outwards	40,000	
Discounts	5,000	5,000
Salaries and wages	2,20,000	
Insurance	60,000	
Rent	60,000	
Wages and salaries	80,000	
Bad debts	10,000	
Furniture	4,00,000	
Brijesh's capital		5,00,000
Brijesh's drawing	70,000	
Loose tools	1,00,000	
Printing & stationery	30,000	
Advertising	50,000	
Cash in hand	45,000	
Cash at bank	2,00,000	
Petty Cash	5,000	
Machinery	3,00,000	
Commission	10,000	30,000
Total	44,85,000	44,85,000

Adjustments: (i) Stock on 31st March was valued at Cost price ₹ 4,20,000 and market price ₹ 400,000. (ii) Depreciate furniture @ 10% p.a. and machinery @ 20% p.a. on reducing balance method. (iii) Rent of ₹ 5,000 was paid in advance. (iv) Salaries & wages due but not paid ₹ 30,000. (v) Make a provision for doubtful debts @ 5% on debtors. (vi) Commission receivable ₹ 5,000.

Solution :

Dr. Trading Account for the year ended 31st March 2012 Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
Opening stock			Sales	3,50,0,00 0	
Finished goods		2,00,000	Less Sales Returns	100,000	3,40,0,000
Purchases	22,00,000				
Less: Purchases returns	50,000	21,50,000	Closing stock		
Carriage inwards		50,000	Finished goods		4,00,000
Wages & salaries		80,000			
Gross Profit c/d		13,20,000			
		38,00,000			38,00,000



Dr.

Profit & Loss Account for the Year Ended 31st March 2012

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
Administrative expenses	-		Gross Profit b/d		13,20,000
Salaries & wages	2,20,000		Discount received		5,000
Add: Not paid	30,000	2,50,000	Commission received	30,000	
Depreciation on furniture		40,000	Add : receivable	5,000	35,000
Depreciation of Machinery		60,000			
Insurance		60,000			
Rent	60,000				
Less: Paid in advance	5,000	55,000			
Printing & Stationery		30,000			
Selling & Distribution expenses:					
Advertising		50,000			
Carriage Outwards		40,000			
Discounts		5,000			
Bad debts		10,000			
Commission		10,000			
Provision for doubtful debts		10,000			
Net profit		740,000			
		13,60,000	Total		13,60,000

Dr.

Balance Sheet as on 31st March 2012

Cr.

Capital & Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Brijesh's Capital	5,00,000		Fixed Assets:		
Less : Drawings	70,000		Furniture	400,000	
Add : Net Profit for the year	7,40,000	11,70,000	Less: Depreciation	40,000	3,60,000
Long term Liabilities:	-		Machinery	300,000	
			Less: Depreciation	60,000	2,40,000
			Loose tools		1,00,000
Current Liabilities:					
Sundry creditors		4,00,000	Current Assets:		
Outstanding salaries & wages		30,000	Stocks		4,00,000
			Sundry debtors	200,000	
			Less: Provision for doubtful debts	10,000	1,90,000
			Bills receivables		50,000
			Cash in hand		45,000
			Cash at bank		2,00,000
			Petty cash		5,000
			Prepaid Rent		5,000
			Commission receivable		5,000
		16,00,000			16,00,000

Notes :

- (1) Closing stock is valued at market price here as it is less than cost price (conservatism concept)
- (2) Returns in debit column mean sales return, while that in credit column means purchase returns
- (3) Discounts in debit column mean allowed (expense) and that in credit means received (income)
- (4) Commission in debit column mean allowed (expense) and that in credit means received (income)
- (5) There are two peculiar items given in the TB. One is Salaries & wages and the other is Wages and salaries. The interpretation is – where first reference is made to wages, it's assumed to be directly for goods and taken to Trading A/c. If the first reference is to salaries, it's assumed to be related to office and taken to P & L.

Illustrations 10.

Mr. Arvindkumar had a small business enterprise. He has given the trial balance as at 31st March 2012

Particulars	Debit (₹)	Credit (₹)
Mr. Arvindkumar's Capital		1,00,000
Machinery	36,000	
Depreciation on machinery	4,000	
Repairs to machinery	5,200	
Wages	54,000	
Salaries	21,000	
Income tax of Mr. Arvindkumar	1,000	
Cash in hand	4,000	
Land & Building	1,49,000	
Depreciation on building	5,000	
Purchases	2,50,000	
Purchase returns		3,000
Sales		4,98,000
Citi Bank		7,600
Accrued Income	3,000	
Salaries outstanding		4,000
Bills receivables	30,000	
Provision for doubtful debts		10,000
Bills payable		16,000
Bad debts	2,000	
Discount on purchases		7,080
Debtors	70,000	
Creditors		62,520
Opening stock	74,000	
Total	7,08,200	7,08,200

Additional information:

- (1) Stock as on 31st March 2012 was valued at ₹ 60,000
- (2) Write off further ₹ 6,000 as bad debt and maintain a provision of 5% on doubtful debt.
- (3) Goods costing ₹ 10,000 were sent on approval basis to a customer for ₹ 12,000 on 30th March, 2012. This was recorded as actual sales.
- (4) ₹ 2,400 paid as rent for office was debited to Landlord's A/c and was included in debtors.
- (5) General Manager is to be given commission at 10% of net profits after charging his commission.
- (6) Works manager is to be given a commission at 12% of net profit before charging General Manager's commission and his own.

You are required to prepare final accounts in the books of Mr. Arvindkumar.



Solution :

In the books of Mr. Arvindkumar

Dr. Trading Account for the year ended 31st March 2012 Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
Opening stock:			Sales	498,000	
Finished goods		74,000	Less: Sent on approval	(12,000)	4,86,000
Purchases	2,50,000				
Less: Purchases returns	(3,000)	2,47,000	Closing stock:		
			Finished goods	60,000	
Wages		54,000	Add sent on approval	10,000	70,000
Gross Profit c/d		181,000			
		5,56,000			5,56,000

Dr. Profit and Loss Account for the year ended 31st March 2012 Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
Administrative expenses:			Gross Profit b/d		1,81,000
Salaries		21,000	Discount received		7,080
Repairs to machinery		5,200			
Depreciation of Machinery		4,000			
Depreciation of Building		5,000			
Rent		2,400			
Selling & Distribution expenses:					
Bad debts	2,000				
Additional bad debts	6,000				
Provision for doubtful debts	2,480				
Less: Provision opening	(10,000)	480			
Commission to works manager		18,000			
Commission to General Manager		12,000			
Net profit		1,20,000			
		1,88,080			1,88,080

Dr.		Balance Sheet as on 31st March 2012		Cr.	
Capital & Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Arvind kumar's Capital	1,00,000		Fixed Assets:		
Less: drawings (income tax)	(1,000)		Land & building		1,49,000
Add: Net Profit for the year	1,20,000	2,19,000	Machinery		36,000
Long term Liabilities:			Current Assets:		
Current Liabilities:			Stocks	60,000	
Sundry creditors		62,520	Add: Sent on approval	10,000	70,000
Outstanding salaries		4,000	Sundry debtors	70,000	
			Less: Goods on approval	(12,000)	
Citi Bank Overdraft		7,600	Less: Bad debts	(6,000)	
Bills payable		16,000	Less: Related to landlord	(2,400)	
Commission payable		30,000	Less: Provision for doubtful debts	(2,480)	47,120
			Bills receivable		30,000
			Cash in hand		4,000
			Accrued Income		3,000
		3,39,120			3,39,120

Notes:

- (1) The closing entries are passed for the items: depreciation, accrued income, outstanding salary. Hence, they are directly taken to the respective places in Balance sheet and P & L A/c.
- (2) Income tax paid for Mr. Arvindkumar will be treated as drawings.
- (3) Commission payable to works manager & general manager is computed as below:

	₹
Profit before charging any commission	150,000
Commission to works manager @ 12% on 150,000	18,000
Profit after works manager's commission	132,000
Commission to General Manager	12,000
(132000/110 x 100)	

Illustration 11.

Jamnadas provides you with the following T. B. as on 31st March 2012.

Particulars	Debit (₹)	Credit (₹)
Stock as on 1st April 11	35,000	
Depreciation	5,000	
Accumulated depreciation		40,000
Fixed asset	50,000	
Loss on sale of fixed asset	8,000	
Investments	1,25,000	
Profit on sale of investments		80,000
Sales at 20% gross margin		800,000
Purchases	7,50,000	
Customers' accounts	1,00,000	20,000
Creditors' accounts	5,000	60,000
Expenses	42,000	



Particulars	Debit (₹)	Credit (₹)
Discount	18,000	12,000
Commission	50,000	80,000
Amounts due to principals		8,000
Amounts due from dealers	75,000	
Deposits with Principals	1,00,000	
Deposits from dealers		1,50,000
Cash	7,000	
Income on investments		5,000
Interest on deposits with Principals		12,000
Interest on deposits from dealers	18,000	
Prepaid/outstanding expenses		
As on 31st March 2011	7,000	13,000
As on 31st March 2012	9,000	6,000
Fixed deposits with bank	2,00,000	
Interest on fixed deposits with bank		20,000
Drawings/Capital	60,000	3,00,000
Banks		58,000
Total	16,64,000	16,64,000

The cost of fixed assets sold is ₹ 30,000, accumulated depreciation being ₹ 9,000.

Prepare the financial statements. Also, separately show Accumulated depreciation A/c, and Expenses A/c.

Solution:

Dr. Accumulated Depreciation Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
31-Mar-12	To, Asset (sold)	9,000	1- Apr-11	By Balance b/d (balancing figure)	44,000
			31 -Mar-12	By P & L (depreciation)	5,000
31-Mar-12	To, Balance c/d	40,000			
		49,000			49,000
				By balance b/d	40,000

Dr. Expenses Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
1-Apr-11	To, Balance (pre paid)	7,000	1- Apr-11	By, Balance b/d (due)	13,000
31-Mar-12	To, Cash paid (balancing figure)	45,000	31-Mar-12	By, P & L A/c (42,000-13,000+7,000)	36,000
31-Mar-12	To, Balance b/d (due)	6,000	31-Mar-12	By, Balance c/d (pre paid)	9,000
		58,000			58,000
	To Balance b/d (pre paid)	9,000		By, Balance b/d (due)	6,000

Dr. Trading Account for the year ended 31st March 2012 Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
Opening stock		Sales	8,00,000
Finished goods	35,000		
Purchases	7,50,000	Closing stock:	
		Finished goods	1,45,000
Gross Profit c/d	1,60,000		
	9,45,000		9,45,000

Dr. Profit and Loss Account for the year ended 31st March 2012 Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
Administrative expenses	-	Gross Profit b/d	1,60,000
Expenses	36,000	Profit on sale of investment	80,000
Depreciation	5,000	Discount received	12,000
Loss on sale of fixed asset	8,000	Commission received	80,000
Discount allowed	18,000	Income from investments	5,000
Commission given	50,000	Interest deposits with principals	12,000
Interest on deposits to dealers	18,000	Interest bank deposits	20,000
Net profit	234,000		
Total	3,69,000	Total	3,69,000

Sales 8,00,000

Gross margin on sales @ 20% 1,60,000

Cost of goods sold 6,40,000

Goods available for sale 7,85,000 (this is op stock 35,000 + purchases 750,000)

Hence, closing stock should be 1,45,000 (785,000- 640,000)

Now, the balance sheet is given below.

Dr. Balance Sheet as on 31st March 2012 Cr.

Capital & Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Jamnadas's Capital	3,00,000		Fixed Assets:	80,000	
Less: Drawings	(60,000)		Less: Acc. Dep for sold	(30,000)	
Add: Net Profit for the year	2,34,000	4,74,000	Balance of assets	50,000	
			Depreciation opening	44,000	
Long term Liabilities:			Less: Acc Dep for sold	(9,000)	
Current Liabilities:			Add for the year	5,000	
Sundry creditors		60,000	Net Acc. Dep	40,000	
Advance from Customers		20,000	Net fixed Asset		10,000
Dues to Principals		8,000			
Bank overdraft		58,000	Investments		1,25,000
Outstanding expenses		6,000			
Deposits from dealers		1,50,000	Current Assets:		
			Stocks		1,45,000
			Sundry debtors		1,00,000
			Deposits with Principals		1,00,000
			Cash in hand		7,000
			Fixed deposit with Bank		2,00,000
			Dues from dealers		75,000
			Advance to suppliers		5,000
			Prepaid expenses		9,000
		776,000			7,76,000



Please carefully interpret the balances given. Customer balances are in debit as well as credit column. While debit indicates Debtor and credit means advances received from customers. Same logic will apply to suppliers, commission, discounts. Computation of closing stock was very important in this case.

Illustrations 12.

Abhay runs a small shop and deals in various goods. He has not been able to tally his trial balance and has closed it by taking the difference to Suspense A/c. It is given below.

Particulars (as on 31 st March 2012)	Debit (₹)	Credit (₹)
Abhay's capital		1,50,000
Drawings	75,000	
Fixed assets	1,35,000	
Opening stock	36,500	
Purchases & returns	6,75,000	13,500
Sales & returns	34,000	8,50,000
Due from customer & to creditors	95,000	3,25,000
Expenses	45,750	
Cash		3,000
Bank deposits & interest earned	55,000	5,750
Suspense A/c		4,000
Advertising	2,00,000	
Total	13,51,250	13,51,250

Mr. Abhay has requested you to help him in tallying his trial balance and also prepare his final accounts. On investigation of his books you get the following information:

- (i) Closing Stock on 31st March 2012 was ₹ 45,000 at cost and could sell over this value.
- (ii) Depreciation of ₹ 13,500 needs to be provided for the year.
- (iii) A withdrawal slip indicated a cash withdrawal of ₹ 15,000 which was charged as drawing. However, it was noticed that ₹ 11,000 was used for business purpose only and was entered as expenses in cash book.
- (iv) Goods worth ₹ 19,000 were purchased on 24th March 2012 and sold on 29th March 2012 for ₹ 23,750. Sales were recorded correctly, but purchase invoice was missed out.
- (v) Purchase returns of ₹ 1,500 were routed through sales return. Party's A/c was correctly posted.
- (vi) Expenses include ₹ 3,750 related to the period after 31st March 2012.
- (vii) Purchase book was over-cast by ₹ 1,000. Posting to suppliers' A/c is correct.
- (viii) Advertising will be useful for generating revenue for 5 years.

Solution: Rectification of errors:

- (a) Cash withdrawn was recorded as

Cash A/c	Dr	15,000
To Bank		15,000

But it was charged to drawing and ₹ 11,000 was recorded as expenses as well i.e.

Drawings A/c	Dr	15,000
Expenses A/c	Dr	11,000
To Cash		26,000

Preparation of Final Accounts

This resulted in negative cash of ₹ 11,000. The rectification entry to be passed is

Cash A/c	Dr	11,000
To Drawings		11,000

(b) Omitted transaction to be recorded

Purchases A/c	Dr	19,000
To Suppliers' A/c		19,000

(c) Incorrect recording of purchase returns corrected by

Suspense A/c	Dr	3,000
To Purchase return A/c		1,500
To sales return A/c		1,500

(d) Incorrect expenses rectified by

Prepaid expenses A/c	Dr	3,750
To Expenses A/c		3,750

(e) Over-casting of purchase book rectified by

Suspense A/c	Dr	1,000
To Purchases		1,000

Based on these rectifications we can now proceed to complete the final accounts.

Dr. Trading Account for the year ended 31st March, 2012 Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To Opening stock	-	36,500	By Sales	8,50,000	
To Purchases	6,75,000		Less: Returns	(34,000)	
Less: Returns	(13,500)		Add: Rectification	1,500	8,17,500
Less: Additional returns	(1,500)		By Closing stock	-	
Add: Purchases missed out	19,000		Finished goods		45,000
Less: Over-casting rectified	(1,000)	6,78,000			
To Gross Profit c/d		1,48,000			
		8,62,500			8,62,500

Dr. Profit and Loss Account for the year ended 31st March, 2012 Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Expenses	45,750		By, Gross Profit b/d		1,48,000
Less : Prepaid	3,750	42,000			
To. Depreciation		13,500	By, Interest on Bank deposits		5,750
To, Advertising		2,00,000	By, Net Loss		1,01,750
		2,55,500			2,55,500



Dr.

Balance Sheet as on 31st March, 2012

Cr.

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Abhay's Capital	1,50,000	86,000	Fixed Assets		
Add: Wrong charge to drawing	11,000		Gross Block	1,35,000	1,21,500
	1,61,000		Less: Depreciation	13,500	
Less: Drawings	75,000		Current Assets:		
Current Liabilities:		3,44,000	Stocks		45,000
Sundry Creditors	3,25,000		Sundry Debtors		95,000
Add: Missed out purchase	19,000		Cash in hand	(3,000)	
			Add: Rectification	11,000	8,000
			Fixed deposit with Bank		55,000
		4,30,000	Prepaid expenses		3,750
			Miscellaneous Expenditure:		
			Profit & Loss (Dr.)		1,01,750
					4,30,000

Note : The expenditure incurred on intangible items after the date AS 26 became/becomes mandatory (1-4-2003 or 1-4-2004, as the case may be) would have to be expensed when incurred since these do not meet the definition of an 'asset' as per AS 26. Hence, full amount of Advertisement expense is charged to Profit & Loss Account.

Illustration 13.

Mr. Oswal maintains his accounts on Mercantile basis. The following Trial Balance has been prepared from his books as at 31st March, 2013 after making necessary adjustments for outstanding and accrued items as well as depreciation:

Trial Balance
as at 31st March, 2013

Particulars	Dr. (₹)	Cr. (₹)
Plant and Machinery	2,12,500	
Sundry Creditors		2,64,000
Sales		6,50,000
Purchases	4,20,000	
Salaries	40,000	
Prepaid Insurance	370	
Advance Rent	2,000	
Outstanding Salary		6,000
Advance Salary	2,500	
Electricity Charges	2,650	
Furniture and Fixtures	72,000	
Opening Stock	50,000	
Outstanding Electricity Charges		450
Insurance	1,200	
Rent	10,000	
Miscellaneous Expenses	14,000	
Cash in hand	3,000	
Investments	80,000	
Drawings	24,000	
Dividend from Investments		8,000
Accrued Dividend from Investments	1,500	
Depreciation on Plant and Machinery	37,500	
Depreciation on Furniture	8,000	
Capital Account		2,11,970
Telephone Charges	6,000	
Sundry Debtors	1,70,500	
Stationery and Printing	1,200	
Cash at Bank	65,000	
Interest on Loan	8,000	
Interest Due but not paid on loan		1,500
Loan Account		90,000
	12,31,920	12,31,920

Additional Information:

- (i) Salaries include ₹ 10,000 towards renovation of Proprietor's residence.
- (ii) Closing Stock amounted to ₹ 75,000.

Mr. Oswal, however, request you to prepare a Trading and Profit & Loss Account for the year ended 1st March, 2013 and a Balance Sheet as on that date following cash basis of accounting.



Solution

In the books of Mr. Oswal Trading and Profit and Loss Account for the year ended 31st March, 2013.

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Opening Stock		50,000	By, Sales		6,50,000
`` Purchases		4,20,000	`` Closing Stock		75,000
`` Profit & Loss A/c.					
Gross Profit transferred		2,55,000			
		7,25,000			7,25,000
To, Salaries	40,000		By, Trading A/c.		
Less: Outstanding	6,000		-Gross Profit transferred		2,55,000
Salaries	34,000		`` Dividend from Investment	8,000	
Add: Advance Salary	2,500		Less: Accrued	1,500	6,500
	36,500				
Less: Renovation (Drawings)	10,000	26,500			
`` Insurance	1,200				
Add: Prepaid	370	1,570			
`` Rent	10,000				
Add: Advance Rent	2,000	12,000			
`` Electricity Charges	2,650				
Less: Outstanding	450	2,200			
`` Miscellaneous Expenses		14,000			
`` Stationery & Printing		1,200			
`` Interest on Loan	8,000				
Less: Outstanding	1,500	6,500			
`` Telephone Charges		6,000			
`` Depreciation:					
Plant & Machinery	37,500				
Furniture & Fixtures	8,000	45,500			
`` Capital Account					
Net Profit transferred		1,46,030			
		2,61,500			2,61,500

Balance Sheet as at 31st March, 2013

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Account	2,11,970		Plant and Machinery (at cost less depreciation)		2,12,500
Add: Net Profit during the year	1,46,030		Furniture & Fixtures (at cost less depreciation)		72,000
	3,58,000		Investments		80,000
Less: Drawings (24,000–10,000)	34,000	3,24,000	Stock-in-Trade		75,000
			Debtors		1,70,500
Loan Account		90,000	Cash in hand		3,000
Sundry Creditors		2,64,000	Cash at Bank		65,000
		6,78,000			6,78,000

Illustration 14.

The following Trial Balance has been prepared from the books of Mr. Sexena as on 31st March, 2013 after making necessary adjustments for depreciation on Fixed Assets, outstanding and accrued items and difference under Suspense Account.

Trial Balance as at 31st March, 2013.

Particulars	Dr. (₹)	Particulars	Cr. (₹)
Machineries	1,70,000	Sundry Creditors	82,000
Furniture	49,500	Capital Account	2,45,750
Sundry Debtors	38,000	Outstanding Expenses:	
Drawings	28,000	Salaries	1,500
Travelling Expenses	6,500	Printing	600
Insurance	1,500	Audit Fees	1,000
Audit Fees	1,000	Bank Interest	1,200
salaries	49,000	Discounts	1,800
Rent	5,000	Sales (Less Return)	6,80,000
Cash in hand	7,800		
Cash at Bank	18,500		
Stock-in-trade (1-4-2012)	80,000		
Prepaid Insurance	250		
Miscellaneous Expenses	21,200		
Discounts	1,200		
Printing & Stationery	1,500		
Purchase (Less Returns)	4,60,000		
Depreciation:			
Machineries	30,000		
Furniture	5,500		
Suspense Account	39,400		
	10,13,850		10,13,850

On the subsequent scrutiny following mistakes were noticed:

- A new machinery was purchase for ₹ 50,000 but the amount was wrongly posted to Furniture Account as ₹ 5,000.
- Cash received from Debtors ₹ 5,600 was omitted to be posted in the ledger.
- Goods withdrawn by the proprietor for personal use but no entry was passed ₹ 5,000.
- Sales included ₹ 30,000 as goods sold cash on behalf of Mr. Thakurlal who allowed 15% commission on such sales for which effect is to be given.

You are further told that:-

- Closing stock on physical verification amounted to ₹ 47,500.
- Depreciation on Machineries and Furniture has been provided @ 15% and 10%, respectively, on reducing balancing system.

Full year's depreciation is provided on addition.

You are requested to prepare a Trading and Profit & Loss Account for the year ended 31st March 2013 and a Balance Sheet as on that date so as to represent a True and Correct picture.



Solution.

**In the books of Mr. Sexena
Trading and Profit and Loss Account
for the year ended 31st March, 2013.**

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Opening Stock		80,000	By, Sales (₹ 6,80,000 - ₹ 30,000)		6,50,000
`` Purchases	4,60,000		`` Closing Stock		47,500
Less: Drawings	5,000	4,55,000			
`` Profit & Loss A/c.					
Gross Profit transferred		1,62,500			
		6,97,500			6,97,500
To, Salaries:		49,000	By, Trading A/c. (Gross Profit)		1,62,500
`` Rent		5,000	`` Bank Interest		1,200
`` Insurance		1,500	`` Selling Commission (15% on ₹ 30,000)		4,500
`` Audit Fees		1,000	`` Discount Received		1,800
`` Printing & Stationery		1,500			
`` Miscellaneous Expenses		21,200			
`` Discount Allowed		1,200			
`` Travelling Expenses		6,500			
`` Depreciation:					
Machinery	37,500				
Furniture	5,000	42,500			
`` Capital Account		40,600			
Net Profit transferred		1,70,000			1,70,000

**Balance Sheet
as at 31st March, 2013**

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Account	2,45,750		Machinery	2,50,000 ¹	
Add: Net Profit	40,600		Less: Depreciation	37,500	2,12,500
	2,86,350				
Less: Drawings (28,000–5,000)	33,000	2,53,350	Furniture	50,000 ²	
			Less: Depreciation	5,000	48,000
					45,000
Sundry Creditors		82,000	Stock		47,500
Outstanding Liabilities:			Debtors (38,000-5,600)		32,400
Salaries	1,500		Cash		7,800
Audit Fees	1,000		Bank		18,500
Printing	600	3,100	Prepaid Insurance		250
Thakurlal's A/c. (30,000 – 4,500)		25,500			
		3,63,950			3,63,950

Notes:

	₹
1. Machinery as per Trial Balance	1,70,000
Add: Depreciation	30,000
	<u>2,00,000</u>
Additions	50,000
	<u>2,50,000</u>
2. Furniture	49,500
Add: Depreciation	5,500
	<u>55,000</u>
Less: Wrong Debit	5,000
	<u>50,000</u>
3. Suspense A/c. is eliminated by item	
(i) ₹ 45,000 (50,000 – 5,000) and item	
(ii) by 5,600 (debited), respectively.	

Illustration 15.

The following Trail Balance has been extracted from the books of Mr. Agarwal as on 31.3.2012:

Trial Balance as on 31.3.2012.

Particulars	Dr. (₹)	Particulars	Cr. (₹)
Purchase	6,80,000	Sales	8,38,200
Sundry Debtors	96,000	Capital Account	1,97,000
Drawings	36,000	Sundry Creditors	1,14,000
Bad Debts	2,000	Outstanding Salary	2,500
Furniture & Fixtures	8,100	Sale of Old Papers	1,500
Office Equipments	54,000	Bank Overdraft (UBI)	60,000
Salaries	24,000		
Advanced Salary	1,500		
Carriage Inward	6,500		
Miscellaneous Expenses	12,000		
Travelling Expenses	6,500		
Stationery & Printing	1,500		
Rent	18,000		
Electricity & Telephone	6,800		
Cash In Hand	5,900		
Cash at Bank (SBI)	53,000		
Stock (1.4.2011)	50,000		
Repairs	7,500		
Motor Car	56,000		
Depreciation:			
Furniture	9,000		
Office Equipment	6,000		
	15,000		
	<u>12,13,200</u>		<u>12,13,200</u>

Additional Information:

- (i) Sales includes ₹ 60,000 towards goods for cash on account of a joint venture with Mr. Reddy who incurred ₹ 800 as forwarding expenses. The joint venture earned a profit of ₹ 15,000 to which Mr. Reddy is entitled to 60%
- (ii) To motor car account represents an old motor car which was replaced on 1.4.2011 by a new motor car costing ₹ 1,20,000 with an additional cash payment of ₹ 40,000 laying debited to Purchase Account.



- (iii) UBI has allowed an overdraft limit against hypothecation of stocks keeping a margin of 20%. The present balance is the maximum as permitted by the Bank.
- (iv) Sundry Debtors include ₹ 4,000 as due from Mr. Trivedi and Sundry Creditors include ₹ 7,000 as payable to him.
- (v) On 31.3.2012 outstanding rent amounted to ₹ 6,000 and you are informed that 50% of the total rent is attributable towards Agarwal's resident.
- (vi) Depreciation to be provided on motor car @ 20% (excluding sold item).

Mr. Agarwal requests you to prepare a Trading and Profit & Loss Account for the year ended 31.3.2012 and a Balance Sheet as on that date.

Solution.

**In the books of Mr. Agarwal
Trading and Profit and Loss Account
for the year ended 31st March, 2012.**

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Opening Stock		50,000	By, Sales	8,38,200	
`` Purchases	6,80,000		Less: Sale on account of Joint Venture	60,000	7,78,200
Less: Motor Car	40,000	6,40,000	`` Closing Stock		75,000 ³
`` Carriage Inward		6,500			
`` Profit & Loss A/c. -Gross Profit transferred		1,56,700			
		8,53,200			8,53,200
To, Salaries		24,000	By, Trading A/c. -Gross Profit transferred		1,56,700
`` Travelling Expenses		6,500	`` Sale of old papers		1,500
`` Printing & Stationery		1,500	`` Profit on Joint Venture (40% of ₹ 15,000)		6,000
`` Electricity & Telephone		6,800	`` Profit on replacement of Motor Car [(1,20,000-(56,000+40,000))]		24,000 ²
`` Rent	18,000				
Add: Outstanding	6,000				
	24,000				
Less: Drawings	12,000	12,000			
`` Bad Debts		2,000			
`` Miscellaneous Expenses		12,000			
`` Repairs		7,500			
`` Depreciation on:					
Furniture	9,000				
Office Equipment	6,000				
Motor Car	24,000 ¹	39,000			
`` Capital Account - Net Profit transferred		76,900			
		1,88,200			1,88,200

Balance Sheet
as at 31st March, 2013

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Account	1,97,000		Furniture & Fixtures	90,000	
Add: Net Profit	76,900		Less: Depreciation	9,000	
	2,73,900				81,000
Less: Drawings (36,000+12,000)	48,000		Office Equipment	60,000	
		2,25,900	Less: Depreciation	6,000	
Bank Overdraft		60,000			54,000
Creditors	1,14,000		Motor Car	56,000	
Less: Due to Trivedi	4,000		Additions	1,20,000	
		1,10,000		1,76,000	
			Less: Sold	56,000	
				1,20,000	
			Less: Depreciation	24,000	
Amount payable to Reddy (60,000 - 6,000)		54,000			96,000
Outstanding Liabilities:			Stock		75,000
Salaries	2,500		Debtors	96,000	
Rent	6,000		Less: Due from Trivedi	4,000	
		8,500			92,000
			Cash		9,500
			Bank		53,000
			Prepaid Salary		1,500
		4,58,400			4,58,400

Workings1. **Depreciation on Motor Car**

on new motor car i.e., @ 20% on ₹ 1,20,000 = ₹ 24,000

2. **Profit on Replacement of Motor Car**

	₹
Cost of new Motor Car	1,20,000
Less: Exchange Value	56,000
Cash Payment	40,000
Profit on replacement	24,000

3. **Closing Stock**

Maximum allowable limit of overdraft subject to a margin of 20% of stock.

Overdraft which is given ₹ 60,000 that is equal to 80%.

$$\begin{aligned}\text{So, value of closing stock} &= ₹ 60,000 \times \frac{100}{80} \\ &= ₹ 75,000.\end{aligned}$$



FINAL ACCOUNTS OF PARTNERSHIP FIRM

Illustration 16.

From the following particulars prepare a Final Accounts of M/s. X & Y for the year ended 31st March 2013.

Particulars	Amount (₹)	Particulars	Amount (₹)
Sales	8,20,000	Land	11,000
Opening Stock	3,00,000	Purchase	3,80,000
Loan (Dr.)	20,000	Interest (Cr.)	1,000
Wages	60,000	Salaries	40,000
Carriage Inwards	4,000	Carriage Outward	2,000
Returns inward	4,000	Returns Outwards	3,000
Furniture	10,000	Trade change	8,000
Drawings		Capital	
– X	12,000	– X	24,000
– Y	10,000	– Y	16,000
Cash	3,000		

Additional Information:

- (i) Closing Stock amounted to ₹ 1,20,000;
- (ii) Provide Interest on drawings (on an average 6 months) and interest on capital @ 6% and 4% respectively.
- (iii) Y is to get a salary of ₹ 400 p.m.
- (iv) X is to get a commissions @ 2% on gross sales
- (v) 50% of the profit is to be transferred to Reserve Fund.
- (vi) Depreciations on furniture @ 10% p.a.

The partners share profit and loss equally.

Solution.

In the books of M/s. X & Y Trading and Profit and Loss Account

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Opening Stock		3,00,000	By, Sales	8,20,000	
`` Purchases	3,80,000		Less: Return Inwards	4,000	8,16,000
Less: Returns Outwards	3,000	3,77,000	`` Closing Stock		1,20,000
`` Wages		60,000			
`` Carriage Inward		4,000			
`` Profit & Loss A/c					
-Gross Profit transferred		1,95,000			
		9,36,000			9,36,000
To, Salaries		40,000	By, Trading A/c.		
`` Carriage Outward		2,000	-Gross Profit		1,95,000
`` Trade Charge		8,000	`` Interest		1,000
`` Depreciation on:					
To, Furniture		1,000			
To, P&L Appropriation A/c.					
- Net Profit transferred		1,45,000			
		1,96,000			1,96,000

Profit and Loss Appropriation Account
for the year ended 30th September, 2013

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Interest on Capital			By, Profit and Loss A/c		1,45,000
X:	960		-Net Profit		
Y:	640	1,600	By, Interest on Drawings:		
			X:	360	
To, Salary			Y:	300	660
Y:		4,800			
To, Commission – X		16,400			
`` Reserve Fund (50%)		61,430			
`` Net Divisible Profit					
X:	30,715				
Y:	30,715				
		61,430			
		1,45,660			1,45,660

Capital Account

Dr.

Cr.

Particulars	X (₹)	Y (₹)	Particulars	X (₹)	Y (₹)
To, Drawings	12,000	10,000	By, Balance b/d.	24,000	16,000
`` Interest on Drawings	360	300	`` Interest on Capital	960	640
`` Balance c/d.	59,715	41,855	`` Salary	---	4,800
			`` Commission	16,400	---
			`` Share of Profit	30,715	30,715
	72,075	52,155		72,075	52,155

Balance Sheet

as at 31st March, 2013

Liabilities	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital :		Land		11,000
X	59,715	Furniture	10,000	
Y	41,855	Less: Depreciation	1,000	9,000
Reserve Fund	61,430			
		Loan		20,000
		Closing Stock		1,20,000
		Cash		3,000
	1,63,000			1,63,000



Illustration 17.

A and B are partners sharing profits in proportion to their Capitals. At the close of their financial year on 30th September, 2012, the following balances stood to the credit of the partners:

		₹
Capital Accounts	A	20,000
	B	5,000
Current Accounts	A	1,060
	B	2,800

The Partnership deed provided :-

- (a) B shall be credited with a partnership salary of ₹ 1,000/- per annum for running business.
- (b) B shall be entitled to a commission of 10% of the Divisible Profit before charging such commission.
- (c) Interest at 5% per annum to be allowed on Capital and Current Account.
- (d) The partners' drawings were:

	₹
A	10,000
B	3,000

The Interest to be charged on such drawings were:

	₹
A	330
B	80

In addition to the entries necessary to record the above particulars the following balances were extracted from the books of the firm as on 30th September, 2013:

Particulars	Amount (₹)
Freehold Premises	15,000
Sundry Creditors	24,150
Advertising	4,339
Office Salaries	2,189
Sundry Debtors	16,020
Office Expenses	622
Insurance	364
Delivery Expenses	2,203
Stock	21,069
Provision for Doubtful Debts – as on 30-9-2012	600
Trading Account Credit Balance	34,628
Machinery and Plant – balance at the beginning	13,280
Machinery – additions	1,560
Motor Vans	900
Factory Expenses paid in advance	70
Cash at bank	2,841
Cash in hand	31
Mortgage on freehold premises at 6% per annum	10,000
Office Furniture	300
Mortgage interest	450
Patents	4,000

You are required to prepare a Profit & Loss Account for the year ended 30th September, 2013 and the Balance Sheet as on that date.

Preparation of Final Accounts

Given below are the additional information towards the preparation of the required Final Accounts.

- (i) Depreciation to be provided as follows:

Plant, old balance	10% per annum
Plant – additions (for full year)	25% per annum
Office Furniture	10% per annum
Patents	10% per annum
- (ii) Motor Vans are to be taken at ₹ 800 for the purpose of Final Accounts.
- (iii) The Provision for Bad Debts is to be made up to 5% on Sundry Debtors.
- (iv) Interest on the mortgage has been paid up to 30th June, 2013.
- (v) The following amounts are to be carried forward to next year:

Insurance ₹ 62, Advertising ₹ 878.
- (vi) Office Salaries ₹ 69 were owing at the end of the year.

Solution.

In the books of A & B Profit and Loss Account for the year ended 30th Sept., 2013.

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Office Salaries	2,189		By, Gross Profit (Trading A/c - Credit Balance)		34,628
Add: Outstanding	69	2,258			
`` Office Expenses		622			
`` Insurance	364				
Less: Prepaid	62	302			
`` Delivery Expenses		2,203			
`` Advertising	4,339				
Less: Carried forward	878	3,641			
`` Provision for Bad Debts (5% of ₹ 16,020)	801				
Less: Old Reserve	600	201			
`` Mortgage Interest	450				
Add: Outstanding (@ 6% on ₹ 10,000 for 3 months)	150	600			
`` Depreciation on:					
Plant & Machinery ¹	1,718				
Office Furniture (10% on ₹ 300)	30				
Patents (10% on ₹ 4,000)	400				
Motor Vans (₹ 900 - ₹ 800)	100	2,248			
`` Profit and Loss Appropriation Account Gross Net Profit transferred		22,733			
		34,628			34,628



**Profit and Loss Appropriation Account
for the year ended 30th September, 2013**

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Salary		1,000	By, Profit and Loss A/c		22,733
`` Interest on Capital ²			Gross Net Profit transferred		
A:	1,000		Interest on Drawings:		
B:	250	1,250	A: ₹ 330		
To, Interest on Current A/c. (c)			B: ₹ 80		410
A:	53				
B:	140	193			
To, Commission – B ⁴		2,070			
`` Divisible Profit ⁵					
A:	14,904				
B:	3,726	18,630			
		23,143			23,143

**Balance Sheet
as at 30th September, 2013**

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Account			Fixed Assets:		
A:	20,000		Freehold Premises		15,000
B:	5,000	25,000	Patents	4,000	
			Less: Depreciation	400	3,600
Current Accounts:					
A:	1,060		Plant and Machinery	13,280	
Add: Interest on Capital	1,000		Addition during the year	1,560	
Interest on Current A/c	53			14,840	
Profit	14,904		Less: Depreciation	1,718	13,122
	17,017				
Less: Drawings	10,000		Motor Vans	900	
	7,017	6,687	Less: Depreciation	100	800
Less: Interest on Drawings	330		Office Furniture	300	
B:	2,800		Less: Depreciation	30	270
Add: Interest on Capital:	250				
Interest on Current A/c:	140		Current Assets:		
Salary	1,000		Stock		21,069
Commission:	2,070		Sundry Debtors	16,020	
Profit	3,726		Less: Provision for Bad Debts	801	15,219
	9,986				
Less: Drawings	3,000		Prepaid Factory Expenses		70
	6,986	6,906	Prepaid Insurance		62
Less: Interest on Drawings	80		Advertising Suspenses		878
Mortgage on Freehold Premises	10,000				
Add: Interest Accrued	150	10,150	Cash in hand		31
Sundry Creditors		24,150	Cash at Bank		2,841
Salaries Accrued		69			
		72,962			72,962

Workings

- (1) Depreciation on Plant and Machinery
- | | | |
|--------------|-----------------|----------------|
| Old balance: | 10% on ₹ 13,280 | = ₹ 1,328 |
| Additions: | 25% on ₹ 1,560 | = ₹ 390 |
| | | <u>₹ 1,718</u> |
- (2) Interest on Capital:
- | | | |
|----|----------------|----------------|
| A: | 5% on ₹ 20,000 | = ₹ 1,000 |
| B: | 5% on ₹ 5,000 | = ₹ 250 |
| | | <u>₹ 1,250</u> |
- (3) Interest on Current Account:
- | | | |
|----|---------------|--------------|
| A: | 5% on ₹ 1,060 | = ₹ 53 |
| B: | 5% on ₹ 2,800 | = ₹ 140 |
| | | <u>₹ 193</u> |
- (4) B's Commission:
- Divisible Profit before charging commission:
- $$₹ (23,733 + 410) - ₹ (1,000 + 1,250 + 193)$$
- $$= ₹ 23,143 - ₹ 2,443 = ₹ 20,700$$
- $$\therefore \text{Commission} = 10\% \text{ of } ₹ 20,700 = ₹ 2,070$$
- (5) Apportionment of divisible Profit:
- Capital Ratio A : B = ₹ 20,000 : ₹ 5,000 = 4 : 1
- A's share of profit = ₹ 18,630 $\times \frac{4}{5}$ = ₹ 14,904
- B's share of profit = ₹ 18,630 $\times \frac{1}{5}$ = ₹ 3,726

4.3 BAD DEBTS

4.3.1 Debts : The amount which is receivable from a person or a concern for supplying goods or services is called Debt.

Debts may be classified into :

- Bad debts;
- Doubtful debts and
- Good debts

(i) Bad Debts : Bad debts are uncollectable or irrecoverable debt or debts which are impossible to collect is called Bad Debts. If it is definitely known that amount recoverable from a customer can not be realized at all, it should be treated as a business loss and should be adjusted against profit. In short, the amount of bad debt should be transferred to Profit and Loss Account for the current year to confirm the principles of matching.

Accounting Steps :

- (a) **When goods are sold on credit**

Debtors A/c	Dr.
To Sales A/c	

- (b) **When cash is realised from debtors**

Cash A/c	Dr.
To Debtors A/c	



(c) **For actual amount of bad debts (if there is no provision)**

Bad Debt A/c. Dr.
To Sundry Debtors A/c.

(d) **For transferring Bad debts**

Profit and Loss A/c. Dr.
To Bad Debts A/c.

Illustration 18.

On 1.4.2012, P sold goods to Z for ₹ 4,000; On 15.4.2012 Z paid ₹ 3,000 to P. On 8.8.2012 Z became insolvent and nothing was realized from his estate. Show the journal entries, ledger accounts, Profit and Loss Account and the Balance Sheet.

Solution.

**In the Books of P
Journal**

Date	Particulars	L.F	Debit ₹	Credit ₹
1.4.2012	Z A/c Dr. To, Sales A/c (Being goods sold on credit to Z)		4,000	4,000
15.4.2012	Cash A/c Dr. To, Z A/c (Being cash realized from Z)		3,000	3,000
8.8.2012	Bad Debts A/c Dr. To, Z A/c (Being the capital expenditure transferred to the Capital Fund)		1,000	1,000

Dr. Z Account Cr.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
Apr. 1	To, Sales A/c.	4,000	Apr 15 Aug 8	By, Cash A/c "Bad Debt A/c	3,000 1,000
		4,000			4,000

Dr. Sales Account Cr.

Date 2013	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
Mar. 31	To, Balance c/d	4,000	Apr 1	By, Z A/c	4,000
		4,000			4,000

Dr. Bad Debts Account Cr.

Date 2012	Particulars	Amount (₹)	Date 2013	Particulars	Amount (₹)
Aug 8	To, Z A/c.	1,000	Mar 31	By, Profit and Loss A/c.	1,000
		1,000			1,000



(b) For provision of Bad Debts

(i) If closing provision is more than the opening provision-

Profit and Loss A/c Dr.
To Provision for Bad debts A/c

(ii) If Closing Balance is less than opening provision -

Provision for Bad Debts A/c Dr.
To Profit and Loss A/c

Second Method

The 1st year

(a) (i) For Bad Debts

Bad Debts A/c Dr.
To Sundry Debtors A/c

(ii) Profit and Loss A/c Dr.
To Bad Debts A/c

(b) For provision for Bad Debts

Profit and Loss A/C Dr.
To Provision for Bad Debts A/c

The Second/subsequent year

(a) For Bad Debts

Provision for Bad Debts A/c Dr.
To Sundry Debtors A/c

(b) For provision of Bad Debts

(i) If new provision is more than the old provision-

Profit and Loss A/c Dr.
To Provision for Bad debts A/c

(ii) If new provision is less than old provision -

Provision for Bad Debts A/c Dr.
To Profit and Loss A/c

Illustration 19.

Prepare Bad Debts Accounts, Provision for Bad Debts Accounts under each of the above methods from the following information:-

		₹
01.01.2011	Provision for Bad Debts	5,000
31.12.2011	Bad Debts written off	3,000
	Sundry Debtors	1,25,000
31.12.2012	Bad Debts written off	2,500
	Sundry Debtors	1,00,000

Provision for Doubtful debts to be provided for @ 5% for 2011 and 2.5% for 2012. Show also the Profit and Loss Account and Balance sheet.

Solution**First Method****In the Books of****Dr. Bad Debts Account Cr.**

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec 31	To, Sundry Debtors A/c	3,000	2011 Dec 31	By, Profit and Loss A/c	3,000
		3,000			3,000
2012 Dec,31	To, Sundry Debtors A/c	2,500	2012 Dec,31	By, Profit and Loss A/c	2,500
		2,500			2,500

Dr. Provision for Bad Debts Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec 31	To, Balance c/d (5% on ₹1,25,000)	6,250	2011 Jan 1	By, Balance b/d	5,000
		6,250	2011 Dec 31	"Profit and Loss A/c (Bal Trf)	1,250
2012 Dec,31	To, Profit and Loss A/c "Balance c/d (2.5% on 1,00,000)	3,750 2,500	2012 Jan,1	By, Balance b/d	6,250
		6,250			6,250

**Profit and Loss Account (Extract)
For the year ended 31st Dec, 2011****Dr. Cr.**

Particulars		(₹)	Particulars	(₹)
To Bad Debts A/c		3,000		
"Provision for Bad Debts	6,250			
Less: Existing Provision	5,000	1,250		

**Profit and Loss Account (Extract)
For the year ended 31st Dec., 2012****Dr. Cr.**

Particulars	(₹)	Particulars	(₹)
To Bad Debts A/c	2,500	By, Provision for Bad Debts	6,250
		Less: Existing Provision	<u>3,500</u>
			3,750

**Balance Sheet (Extract)
as at 31st December, 2011**

Liabilities	(₹)	(₹)	Assets	(₹)	(₹)
			Debtors		
			Less : Bad debts	1,25,000	1,18,750
				6,250	

**Balance Sheet (Extract)
as at 31st December, 2012**

Liabilities	(₹)	(₹)	Assets	(₹)	(₹)
			Debtors	1,00,000	97,500
			Less : Bad debts	2,500	



Second Method

Dr.			Bad Debts Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
2011 Dec 31	To, Sundry Debtors A/c	3,000	2011 Dec 31	By, Provision for Bad Debts A/c - Transfer	3,000		
		3,000			3,000		
2012 Dec,31	To, Sundry Debtors A/c	2,500	2012 Dec,31	By, Provision for Bad Debts A/c - Transfer	2,500		
		2,500			2,500		

Dr.			Provision for Bad Debts Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
2011 Dec 31	To, Bad Debts A/c	3,000	2011 Jan 1	By, Balance b/d	5,000		
	"Balance c/d (5% on ₹1,25,000)	6,250	2011 Dec 31	"Profit and Loss A/c (Bal fig)	4,250		
		9,250			9,250		
2012 Dec,31	To, Bad debts A/c	2,500	2012 Jan,1	By, Balance b/d	6,250		
	"Profit and Loss A/c	1,250					
	"Balance c/d (2.5% on 1,00,000)	2,500					
		6,250			6,250		

Dr.			Profit and Loss Account (Extract) For the year ended 31 st Dec,2011			Cr.	
Particulars		(₹)	Particulars		(₹)		
To Provision for Bad Debts	6,250						
Add: Provision Required	3,000						
	9,250						
Less: Existing Provision	3,000						
		6,250					

Dr.			Profit and Loss Account (Extract) For the year ended 31 st Dec,2012			Cr.	
Particulars	(₹)		Particulars		(₹)		
To Bad Debts A/c.	2,500		By, Provision for Bad Debts	6,250			
			Less: Provision required	2,500	3,750		

The Balance Sheet under this method will be similar to the First Method stated above.

Illustration 20

On 01.01.2012 the balance of Provision for Doubtful Debts was ₹ 5,000. The Bad Debts during the year were ₹ 900. The Sundry Debtors as on 31.12.2012 stood at ₹ 40,400 out of these debtors of ₹ 400 are bad and cannot be realized. The Provision for Doubtful Debts is to be raised to 5% on Sundry Debtors. Show the necessary ledger accounts and the balance sheet.

Solution:

Dr.			In the Books of Bad Debts Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
2012 Dec 31	To, Balance b/d	900	2012 Dec 31	By, Provision for Bad debts A/c	1,300		
2012 Dec,31	To, Sundry Debtors A/c	400					
		1,300			1,300		

Dr. Provision for Bad Debts Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Dec 31	To, Bad Debts A/c	1,300	2012 Jan 1	By, Balance b/d	5,000
2012 Dec,31	To, Profit and Loss A/c	1,700			
2012 Dec,31	To, Balance c/d [5% on (40,400-400)]	2,000			
		5,000			5,000

Dr. Sundry Debtors Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Dec 31	To, Balance b/d	40,400	2012 Dec 31	By, Bad debts A/c	400
			2012 Dec 31	By Balance c/d	40,000
		40,400			40,400

Profit and Loss Account (Extract)

Dr. For the year ended 31st Dec,2012 Cr.

Particulars	(₹)	Particulars	(₹)
To Bad Debts A/c. 900		By, Provision for Bad Debts A/c	
Add: Further Bad Debts <u>400</u>	1,300	Existing Provision 5,000	3,000
		Less: New Provision <u>2,000</u>	

Balance Sheet (Extract)

As at 31st December, 2012

Liabilities	(₹)	(₹)	Assets	(₹)	(₹)
			Debtors	40,400	
			Less : Bad debts	400	
				40,000	
			Less: Provision for Bad debts	2,000	
					38,000

Illustration 21.

It was decided to make a specific provisions in the accounts for the year ended 31.03.12 for the following doubtful debts after examining the sales ledger of the firm:

A ₹ 1,900; B ₹ 300 ; C ₹ 2,680 and D ₹ 1,380.

It was decided to make also a general provision of 5% on the other debtors who were on 31st March 2011 amounted to ₹ 2,16,000.

No other transaction relating to the debtors were made but successors of A and D sent final dividend of ₹ 600 and ₹ 840 respectively and C paid his debt in full.

On 31.03.2012, it was decided to maintain the provision against B's debt and make further provision for the following debts considered doubtful:

E ₹ 1,300; F ₹ 680 and G ₹ 1,020.

The other debtors amounted to ₹ 2,60,000 and it was required to make the general provisions for doubtful debts equal to 5% of these debts. Show Bad Debts Account and Provision for Bad Debts Account.



Solution:

In the Books of

Dr. Bad Debts Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Mar 31	To, Sundry Debtors A/c	1,840 ¹	2012 Mar 31	By, Provision for Bad debts A/c	1,840
		1,840			1,840

Dr. Provision for Bad Debts Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Dec 31	To, Bad Debts A/c	1,840	2011 April 1	By, Balance b/d	17,060 ²
2012 Dec,31	To, Balance c/d	16,300 ³	2012 Mar,31	„Profit and Loss A/c (further provision required)	1,080
		18,140			18,140

Workings:

1. Bad Debts ₹

A: ₹(1,900 – 600)	1,300
D: ₹ (1,380- 840)	540
	<u>1,840</u>

2. Opening Balance of provision for Bad debts

₹

A:	1,900
B:	300
C:	2,680
D:	1,380
General provision	
(5% of ₹ 2,16,000)	10,800
	<u>17,060</u>

3. Closing Balance of provision for Bad debts

₹

B:	300
E:	1,300
F:	680
G:	1,020
General provision	
(5% of ₹ 2,60,000)	13,000
	<u>16,300</u>

4.3.3 Provision for Discount On Debtors:-

We know that Cash discount is allowed by the suppliers to customer for prompt settlement of cash. Naturally a provision is created for this purpose. Thus, the provision which is created on Sundry Debtors for allowing discount on receipt of Cash in that accounting period is called Provision for Discount on Debtors. It is needless to say that if the customer pays their debts before the due dates, they may claim discounts and that is why discount is allowed to debtors for prompt settlement is an usual way. Where goods are sold on credit, debtors accounts are debited but the amount may not be realized in this



Dr. Provision for Discount on Debtors Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2013 Mar.31	To, Balance c/d (2% on ₹1,95,000-₹4,200 - ₹ 7,632)	3,663	2012 Apr.1	By, Balance b/d " Profit & Loss A/c -further provision required	— 3,663
		3,663			3,663

Illustration 23.

A company maintains its reserve for bad debts @ 5% and a reserve for discount on debtors @ 2%.
You are given the following details :

	2011 (₹)	2012 (₹)
Bad debts	800	1,500
Discount allowed	1,200	500

Sundry debtors (before providing all bad debts and discounts) amounted to ₹ 60,000 on 31.12.2011 and ₹ 42,000 on 31.12.2012.

On 1.1.2011, Reserve for bad debts and Reserve of discount on debtors had balance of ₹ 4,550 and ₹ 800 respectively.

Show Reserve for Bad Debts and Reserve for Discount on Debtors Account.

Solution.

In the books of

Dr. Reserve for Bad Debts Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec. 31	To, Bad Debts A/c.	800	2012 Apr.1	By, Balance b/d	4,550
	To, Profit and Loss A/c. (provision found excess)	850			
	To, Balance c/d (5% on ₹ 58,000)	2,900			
		4,550			4,550
2012 Dec. 31	To, Bad Debt A/c.	1,500	2012 Dec. 31	By, Balance b/d	2,900
	To, Balance c/d (5% on ₹ 40,000)	2,000		By, Profit and Loss A/c. (for the provision required)	600
		3,500			3,500

Dr. Reserve for Discount on Debtors Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec. 31	To, Discount Allowed A/c.	1,200	2012 Apr.1	By, Balance b/d	500
	To Balance c/d (2% on ₹ 58,000-₹ 2,900)	1,102		" Profit & Loss A/c -further provision required	1,502
		2,302			2,302
2012 Dec. 31	To, Discount Allowed A/c.	500		By, Balance b/d	1,102
	To Balance c/d (2% on ₹ 40,000-₹ 2,000)	760		" Profit & Loss A/c -further provision required	158
		1,260			1,260

4.3.4 Provision for Discount on Creditors

We also know that cash discount is received by the customer which is allowed by the creditors for prompt settlement of debts. So, a provision should be created for the purpose. Thus, the provision

which is created on Sundry Creditors for securing discount for payment of cash in the next accounting period is called Provisions for Discount on Creditors. When goods are purchased on credit creditors accounts are debited and discount received account is credited. But the amount may not be paid in full in the same accounting period. Thus, a question arises to receive discount when cash is paid. The same will happen in the next accounting period. As much, a provision is to be made for discount on creditors on the basis of past experience at an estimated rate on sundry creditors.

Accounting Steps

In the first year

(a) (i) for Discount Received -

Sundry Creditors A/c.	Dr.
To Discount Received A/c.	

(ii) When transferred

Discount Received A/c.	Dr.
To Profit & Loss A/c.	

(b) When Provision is made for Discount

Provisions for Discount on Creditors A/c.	Dr.
To Profit and Loss A/c.	

In the second/subsequent years

(a) For Discount Received

(i) Sundry Creditors A/c.	Dr.
To Discount Received A/c.	

(ii) Discount for Transfer

Discount Received A/c.	Dr.
To Provision for discount on Creditors A/c.	

Next Provision is estimated

(i) If new provision is more than old provision,

Provision for Discount on Creditor A/c	Dr.
To Profit and Loss A/c.	

(ii) If new provision is less than old one

Profit and Loss A/c.	Dr.
To Provision for Discount on Creditors A/c.	

Illustrations 24.

Prepare necessary ledger accounts from the following:

Provisions for Discount on Creditors as on 1.1.2011 ₹ 4,000

Discount Received during the year 2011 ₹ 2,000

Sundry Creditors as on 31.12.2011 ₹ 1,20,000

Discount Received during 2012 ₹ 500

Sundry Creditors as on 31.12.2012 ₹ 40,000

Provision to be made for discount on creditors @ 5%

Show also the Profit and Loss Account and Balance Sheet.



Solution

In the books of

Dr. **Discount Received Account** Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec. 31	To, Provision for discount on creditors A/c. Transfer	2,000	2011 Dec. 31	By, Sundry Creditors A/c.	2,000
		2,000			2,000
2012 Dec. 31	To Provision for discount on creditors A/c.	500	2012 Dec. 31	By, Sundry Creditors A/c.	500
		500			500

Dr. **Provision for Discount on Creditors Account** Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec. 31	To, Balance b/d	4,000	2011 Dec. 31	By, Discount Received A/c.	2,000
	" Profit & Loss A/c. Further provision required	4,000		" Balance c/d (5% on ₹ 1,20,000)	6,000
		8,000			8,000
2012 Dec. 31	To Balance b/d	6,000	2012 Dec. 31	By, Discount Received A/c.	500
				" Profit & Loss A/c. - Provision formed in excess	3,500
				" Balance c/d (5% on ₹ 40,000)	2,000
		6,000			6,000

Profit & Loss Account (Extract)

Dr. **For the year ended 31st December 2011** Cr.

Date	Particulars	Amount (₹)	Amount (₹)
	By, Provision for Discount on Creditors: Provision required	6,000	
	Add: Discount Received	2,000	
		8,000	
	Less: Existing Provision	4,000	4,000

Profit & Loss Account (Extract)

Dr. **For the year ended 31st December 2011** Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Provision for Discount on Creditors A/c	6,000	By, Discount Received A/c	500
Existing Provision	2,000		
Less: Provision required	4,000		

Balance Sheet (Extract)

As at 31.12.2011

Liabilities	Amount (₹)		
Sundry Creditors	1,20,000		
Less: Provision for Discount on Creditors	6,000	1,14,000	

Balance Sheet (Extract)
As at 31.12.2012

Liabilities	Amount (₹)		
Sundry Creditors	40,000		
Less: Provision for Discount on Creditors	2,000		
		38,000	

4.3.5 Recovery of Bad Debts

We know that bad debt is a loss and as much, transferred to current year's Profit and Loss Account. Now, if the amount of bad debt is received in any succeeding year the same will be credited to Profit and Loss of that year as an income that is, recovery of bad debt is as income i.e., clear profit.

Accounting Steps**(a) When bad debts are recovered**

Cash/Bank A/c. Dr.

To Bad Debts Recovery A/c.

(b) When the same is transferred

Bad Debts Recovery A/c. Dr.

To Profit & Loss A/c.

Illustration 25.

On 31.12.2011, Sundry Debtors and Provision for Bad Debts are ₹ 50,000 and ₹ 5,000 respectively. During the year 2012, ₹ 3,000 are bad and written off on 30.9.2012, an amount of ₹ 400 was received on account of a debt which was written off as bad last year on 31.12.2012, the debtors left was verified and it was found that sundry debtors stood in the books were ₹ 40,000 out of which a customer Mr. X who owed ₹ 800 was to be written off as bad.

Prepare Bad Debt A/c. Provision for bad A/c. assuming that some percentage should be maintained for provision for bad debt as it was on 31.12.2011.

Show also how the illustration appear in Profit & Loss A/c. and Balance Sheet.

Solution:**In the books of**

Dr. Bad Debt Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Sept. 30	To, Sundry Debtors A/c	3,000	2012 Dec. 31	By, Provision for Bad Debt A/c	3,800
Dec. 31	To, X A/c.	800			
		3,800			3,800

Dr. Provision for Bad Debt Account Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Dec. 31	To, Bad Debt A/c	3,800	2013 Dec. 31	By, Balance b/d	5,000
	" Balance c/d (10% on ₹ 39,200, ₹ 40,000 - ₹ 800)	3,920		" Profit & Loss A/c -for the provision required	2,720
		7,720			7,720



Profit & Loss Account (Extract)
For the year ended 31.12.2012

Dr.

Cr.

Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)
To, Provision for Bad Debts: Prov. Required	3,920		By, Bad Debts Recovery A/c.	400
Add: Bad Debts	3,400			
Less: Existing Provision	7,320			
	5,000	2,300		

Balance Sheet (Extract)
As at 31.12.2012

		Asset	Amount (₹)	Amount (₹)
		Sundry Debtors	40,000	
		Less: Bad Debts	800	
			39,200	
		Less: Provision for Bad Debts	3,920	35,280

Illustration 26

A & Company limited maintains provision for bad debts at 5% & provision for discount at 2.5%. the company also maintains a reserve for discount on creditors at 2%.

From the following particulars write up bad debt account, provision for bad debt account. Provision for discount on debtors account. And provision for discount on creditors account.

Balance on 1.1.2011:

Provision for bad debts ₹ 10,000

Provision for Discount on Debtors ₹ 5,000

Provision for Discount on Creditors ₹ 4,000

Total Debtors as on 31.12.2011 were ₹ 2,40,000 after writing of bad debts ₹ 6,000 & allowing discount ₹ 2,000.

On 31.12.2012 total debtors were ₹ 2,00,000 after writing of bad debt ₹ 1,000 in allowing discount ₹ 500.

Total creditors as on 31.12.2011 & 31.12.2012 were ₹ 1,00,000 & 1,50,000 respectively.

Discount received during each of the years amounted to ₹ 500 & 3,000 respectively.

Solution:

In the books of A & Co. Ltd.
Bad Debts Account

Dr.

Cr.

Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec. 31	To, Sundry Debtors A/c	6,000	2011 Dec. 31	By, Provision for Bad Debts A/c -Transfer	6,000
		6,000			6,000
2012 Dec. 31	To, Sundry Debtors A/c	1,000	2012 Dec. 31	By, Provision for Bad Debts A/c -Transfer	1,000
		1,000			1,000

Dr. Provision for Bad Debts Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec. 31	To, Bad Debts A/c.	6,000	2011 Jan. 1	By, Balance b/d	10,000
	" Balance c/d (5% on ₹ 2,40,000)	12,000		" Profit & Loss A/c.	8,000
		18,000			18,000
2012 Dec. 31	To, Bad Debts A/c.	1,000	2011 Jan. 1	By, Balance b/d	12,000
	" Profit & Loss A/c. --Provision formed in excess (balancing figure)	1,000			
	" Balance c/d (5% on ₹ 2,00,000)	10,000			
		12,000			12,000

Dr. Provision for Discount on Debtors Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 Dec.31	To, Discount allowed A/c.	2,000	2011 Jan. 1	By, Balance b/d	5,000
	" Balance c/d (2.5% on ₹ 2,40,000 - ₹ 12,000)	5,700		" Profit & Loss A/c. Further provision required	2,700
		7,700			7,700
2012 Dec. 31	To, Discount allowed A/c.	500	2012 Jan. 1	By, Balance b/d	5,700
	" Profit & Loss A/c. - Provision formed in excess (balancing figure)	450			
	" Balance c/d (2.5% on ₹ 2,00,000 - ₹ 10,000)	4,750			
		5,700			5,700

4.4 PREPARATION OF FINANCIAL STATEMENTS OF A NON-TRADING CONCERN

Until now, we have seen accounting treatment for business transaction of business entities whose main objective is to earn profit. There are certain organisations that are not established for making profit but to provide some service. These services are generally given to members who make subscriptions to avail them. These are also called as non-trading entities. The examples of such organisations are:

- Gymkhana / sports clubs
- Educational institutions
- Public hospitals
- Libraries
- Cultural clubs like Rotary or Lions club
- Religious institutions
- Charitable trusts

These organisations get their funds in the form of contributions by way of entrance fees, life membership

> 4.52 I FUNDAMENTALS OF ACCOUNTING



fees, annual subscriptions, donations, grants, legacies etc. The accounting of such organisations is based on similar principles followed by the other organisations. Given the nature of these institutions, there are certain items of revenue and expenses that need special understanding so that accounting treatment could be correctly decided.

4.4.1 Special Items

There are certain items of revenue and expenses that are unique for the non-trading entities. They could be listed as:

Revenue items	Expenditure items
Donations	Upkeep of grounds
Entrance fees	Tournament expenses
Subscriptions	Prizes
Grants received	Events

Let us see what accounting treatment should be given to some of the special items:

- Entrance Fees – These are received at the time of admission of a new member and thus are one-time fees. They are non-recurring in nature. It could be either capitalized as they are non-recurring or taken as revenue as per the rules of the institution. There's a view that addition of member is an ongoing activity and thus every year the institute will get entrance fees. So it may be taken as a normal revenue receipt.
- Donations – They could be used for meeting capital or revenue expenses. If donations are received for a special purpose, the amount is credited to a fund from which the amounts are disbursed. The fund may be invested in specified securities. Income from such investments is credited to the fund A/c only. Small donation amounts which are not earmarked for any specific purpose may be treated as revenue receipts.
- Legacy – Many times trusts are formed in the memory of certain persons by their will. In such case after the demise of the person, the funds pass on to the institution. Such legacies are of course one-time and therefore should be taken to the capital fund.
- Endowments – Sometimes, donations are also in the form of endowments to be used as per instructions of the donor. These are to be treated as capital receipts.
- Life membership fees – These could be taken as capital receipts and every year a charge is debited based on some logic. In other words, when received, it could be treated as deferred receipt in the balance sheet and every year a specific amount is credited to I & E A/c.
- Subscriptions – These are annual receipts and therefore taken as revenue receipts. These must be recognised as revenue on the accrual concept.

4.4.2 Financial Statements

These non-profit organisations prepare

4.4.2.1 Receipt and Payment Account – This is similar to cash book. Entries are made on cash basis and items pertaining to previous year or current year or subsequent years are also recorded. Receipts are shown on debit side and payments are shown on credit side. Capital as well as revenue items are entered in the R & P A/c. This account is real account in nature. No provisions are recorded in this account. The account has an opening and a closing balance which is reflected as an asset in the balance sheet.

Features of receipts and payment account

- It is an Account which contains all Cash and Bank transactions made by a nonprofit organization during a particular financial period.
- It starts with the opening balances of Cash and Bank. All Cash Receipts both capital & revenue during the period are debited to it.
- All Cash Payments both capital & revenue during the period are credited to this Account. It ends with the closing Cash and Bank Balances.

4. While recording the Cash and Bank transactions all entries are made on Cash Basis.
5. It is a summary of Cash Book.
6. It follows Real Account.

4.4.2.2 Income and Expenditure account – This is similar to the Profit and loss A/c and is prepared exactly based on same principles. As the name suggests only revenue items are recorded herein. Incomes are recorded on the credit side while the expenses on the debit side. Both incomes and expenses must be taken on the basis of accrual concept. This account should reflect only items that are pertaining to current period. Previous and subsequent year items are to be excluded. This account shows either a surplus or deficit. Excess of income over expenditure is called surplus and excess of expenditure over income is called as deficit.

Features of income and expenditure Account

1. It follows Nominal Account.
2. All expenses of revenue nature for the particular period are debited to this Account on accrual basis.
3. Similarly all revenue incomes related to the particular period are credited to this account on accrual basis.
4. All Capital incomes and Expenditures are excluded.
5. Only current year's incomes and expenses are recorded. Amounts related to other periods are deducted. Amounts outstanding for the current year are added.
6. Profit on Sale of Asset is credited. Loss on Sale of Asset is debited. Annual Depreciation on Assets is also debited.
7. If income is more than expenditure, it is called a Surplus, and is added with Capital or General Fund etc. in the Balance Sheet.
8. If expenditure is more than income, it is a deficit, and is deducted from Capital or General Fund etc. in the Balance Sheet.

4.4.2.3 Balance Sheet – It is prepared as on the last day of the accounting period. It also has assets and liabilities and prepared based on accounting equation. But, there's no capital account. Instead there is a capital fund. The surplus or deficit from Income & Expenditure A/c is adjusted against this capital fund at the end of the year.

4.4.2.4 Receipt and Payment Account

Receipts	Amount (₹)	Payments	Amount (₹)
Starts with opening balance			
All receipts - capital or revenue		All payments - Capital or revenue	
May be related to any period previous, current or subsequent.		May be related to any period previous, current or subsequent.	
		Ends with closing balance	

4.4.2.5 Income and Expenditure Account

Expenses	Amount (₹)	Income	Amount (₹)
Only revenue expenses		Only revenue receipts	
Only related to current period.		Only related to current period	
Shows either surplus		Or shows deficit	



4.4.2.6 Difference between Receipts and Payments Account and Income and Expenditure Account

	Receipts & Payments Account	Income & Expenditure Account
1.	It is a summarised Cash Book	It closely resembles the Profit & Loss Account of a Trading concern.
2.	Receipts are debited and Payments are credited.	Incomes are credited and Expenditures are debited.
3.	Transactions are recorded on Cash basis.	Transactions are recorded on Accrual Basis
4.	Amounts related to previous period or future period may remain included. Outstanding amount for current year is excluded.	Transactions are recorded on accrual basis. All amounts not related to the current period are excluded. Outstanding amounts of current period are added.
5.	It records both Capital and Revenue transactions.	It records Revenue transactions only.
6.	It serves the purpose of a Real Account.	It serves the purpose of a Nominal Account.
7.	It starts with opening Cash and Bank Balances and ends with closing Cash and Bank Balances.	It does not record such balances, rather its final balance shows a surplus or a deficit for the period.
8.	It does not record notional loss or noncash expenses like bad debts, depreciations etc.	It considers all such expenses for matching against revenues
9.	Its closing balance is carried forward to the same account of the next accounting Period.	Its closing balance is transferred to Capital Fund or General Fund or Accumulated Fund in the same period's Balance Sheet.
10.	It helps to prepare an Income & Expenditure A/c.	It helps to prepare a Balance Sheet.

4.4.2.7 Difference between Profit and Loss Account and Income and Expenditure Account

	Profit and Loss Account	Income & Expenditure Account
1.	It is prepared by business undertaking.	It is prepared by non-trading organizations.
2.	The credit balance of Profit and Loss A/c is known as "net profit" and added to opening capital.	Credit balance of Income and Expenditure A/c is known as excess of income over expenditure or surplus and added to opening capital fund.
3.	The debit balance of this Profit and Loss A/c is known as "net loss" and deducted from opening capital.	Debit balance of this Income and Expenditure A/c is known as "excess of expenditure over income" or deficit and deducted from opening capital fund.
4.	To, check correctness of accounts trial balance is prepared before preparing this account.	To check correctness of accounts, receipts and payments account is prepared before preparing this account.

4.4.2.8 Fund Based Accounting and its peculiarities:

Following are the concepts of some funds which are generally maintained by organizations:

- (i) **Capital Fund** : It is also called "General Fund" or "Accumulated Fund." It is actually the Capital of a non-profit concern. It may be found out as the excess of assets over liabilities. Usually "Surplus" or "Deficit" during a period is added with or deducted from it. A portion of Capitalised incomes like donations may be added with it.
- (ii) **Special Fund**: It may be created out of special donation or subscription or out of a portion of the "Surplus". For example a club may have a "Building Fund". It may be used for meeting some specific expenses or for acquiring an asset. If any income is derived out of investments made against this fund or if any profit or loss occurs due to sale of such investments, such income or profit or loss is transferred to this fund.

Other Treatments

(a) If the Special Fund is used to meet an expense

Special Fund A/c Dr.

 To Bank A/c (amt. of expense)

The balance of the Fund is shown as a liability.

If the balance is transferred to Capital Fund, the entry will be—

Special Fund A/c Dr.

 To Capital Fund A/c (Balance of Special Fund)

(b) If the Special Fund is used to purchase an asset

Asset A/c Dr.

 To Bank A/c (Cost of the asset)

Special Fund A/c Dr.

 To Capital Fund A/c (Special Fund closed)

(iii) Donations

- (a) Donation received for a particular purpose should be credited to Special Fund. For example, Donation received for Building should be credited to Building Fund A/c.
- (b) For other donations received the by-laws or rules of the concern should be followed.
- (c) If there is no such rule, donations received of non-recurring nature should be credited to Capital Fund. Recurring donations received should be credited to Income & Expenditure Account.
- (d) Donation paid by the concern should be debited to Income & Expenditure Account.

(iv) Legacy received : It is to be directly added with Capital Fund after deduction of tax,(if any). It is a kind of donation received according to the will made by a deceased person.

(v) Entrance Fees or Admission Fees

- (a) The rules or by-laws of the concern should be followed.
- (b) If there is no such rule, Admission or Entrance Fees paid once by members for acquiring membership should be added with Capital Fund.
- (c) If such fees are of small amounts covering the expenses of admission only, the fees may be credited to Income & Expenditure Account.

(vi) Subscriptions

- (a) Annual subscriptions are credited to Income & Expenditure Account on accrual basis.
- (b) Life membership subscription is usually credited to a separate account shown as a liability.

Annual Subscription apportioned out of that is credited to Income & Expenditure Account and deducted from the liability. Thus the balance is carried forward till the contribution by a member is fully exhausted. If any member dies before hand, the balance of his life Membership contribution is transferred to Capital Fund or General Fund.



Illustration 27

Ujjwal Vavishwa Club was holding a building valuing ₹ 10 lakhs as on 31.03.2011.

Building Fund stands ₹ 8 lakhs and Cash at Bank is ₹ 15 lakhs as on 01.04.2011.

During the year 2011-12 donation received for the building fund is ₹ 20 lakhs.

Give the journal entries and the effect in the Balance Sheet as on 31.03.2012

If i) It purchases building of ₹ 15 lakhs during 2011-12

ii) It purchases building of ₹ 30 lakhs during 2011-12

Solution:

Journal entries

(₹ in Lakhs)

Date	Particulars	L.F	Debit	Credit
	Bank A/c Dr. To, Donation for Building Fund A/c (Donation received for Building Fund)		20	20
	Building A/c Dr. To, Bank A/c (Building purchased utilizing the Building Fund)		15	15
	Building Fund A/c Dr. To, Capital Fund A/c (Being the capital expenditure transferred to the Capital Fund)		15	15

Balance Sheet as on 31.03.2012

Liabilities	Amount (₹)	Amount (₹ Lakh)	Assets	Amount (₹)	Amount (₹ Lakh)
Capital Fund			Building	10.00	
Add: Building	15.00		Add: Purchase of building	15.00	25.00
Fund (Amount Transferred)			Bank	15.00	
Building Fund	8.00		Add: Donation Received	20.00	
Add: Donation	20.00			35.00	
	28.00				
Less: Amount transferred to Capital Fund	15.00	13.00	Less: Purchase of Building	15.00	20.00

Journal entries

(₹ in Lakhs)

Date	Particulars	L.F	Debit	Credit
	Bank A/c Dr. To, Donation for Building Fund A/c (Donation received for Building Fund)		20	20
	Building A/c Dr. To, Bank A/c (Building purchased utilizing the Building Fund)		30	30
	Building Fund A/c Dr. To, Capital Fund A/c (Being the capital expenditure transferred to the Capital Fund)		28	28

Balance Sheet as on 31.03.2012

Liabilities	Amount (₹ Lakh)	Amount (₹ Lakh)	Assets	Amount (₹ Lakh)	Amount (₹ Lakh)
Capital Fund			Building	10.00	
Add: Building Fund (Amount Transferred)	28.00		Add: Purchase of building	30.00	40.00
Building Fund	8.00		Bank	15.00	
Add: Donation	20.00		Add: Donation Received	20.00	
	28.00			35.00	
			Less: Purchase of Building	30.00	5.00
Less: Amount transferred to Capital Fund	28.00	NIL			

Illustration 28

On 31st December 2011, a club had subscription in arrears of ₹16,000 and in advance ₹4,000. During the year ended 31-12-2012, the club received subscription of ₹2,08,000 of which ₹10,400 was related to 2013. On 31st December 2012, there were 4 members who had not paid subscription for 2012 @ ₹1,600 per person. Write up subscription A/c for the year 2012.

Solution

A single subscription account should be prepared to reflect both advance and arrears figures. The balancing figure will reflect the subscription amount that will be recognised as Income and transferred to I & E A/c as shown below:

Dr.		Subscription Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Balance c/d (arrears)	16,000	By, Balance c/d (advance)	4,000		
To, I & E A/c (income for 2012)	1,92,000	By, R & P A/c (received)	2,08,000		
To, Balance c/d (advance)	10,400	By, Balance c/d (arrears)	6,400		
	2,18,400		2,18,400		

Illustration 29

The sports club of Orissa had received in 2011-2012 ₹ 2,000 towards subscription. Subscription for 2010-11 unpaid on 1.4.2011 were ₹ 200.

Subscriptions paid in advance on 31.3.2011 were ₹ 50 and the same on 31.3.2012 was ₹ 40. Subscriptions for 2011-2012 unpaid on 31.3.2012 were ₹ 90.

Show how the subscriptions item will appear in the Income and Expenditure Account.

Solution

Particulars	Amount (₹)
Subscriptions received during the year 2011-2012	2,000
Add : Subscription outstanding on 31.3.2012	90
	2,090
Less : Subscription outstanding on 1.4.2011	200
	1,890
Add : Subscription paid in advance on 31.3.2011	50
	1,940
Less : Subscription received in advance on 31.3.2012	40
Subscription Income for 2011-2012	1,900



Illustration 30

The amount of Subscription appears in the Income and Expenditure Account of South Indian Club is ₹ 3,000.

Adjustments were made in respect of the following:

Subscription for 2011 unpaid at 1st Jan., 2012, ₹ 400; ₹ 200 of which was received in 2012.

Subscription paid in advance at 1.1.2012 ₹ 100.

Subscription paid in advance at 31.12.2012 ₹ 80.

Subscription for 2012 unpaid at 31.12.2012 ₹ 140.

Prepare Subscription Account.

Solution:

Dr.		Subscription Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Balance b/d	400	By, Balance b/d	100		
To, Income & Expenditure A/c	3,000	By, Balance (unpaid for 2011) (₹ 400-₹ 200)c/d	200		
To, Balance (paid in advance to 2012)	80	By, Cash Received (bal fig)	3,040		
		By, Balance (b/d 2012)c/d	140		
	3,480		3,480		
To, Balance b/d:		By, Balance b/d (2012)	80		
For 2011	200				
For 2012	140				

Illustration 31

From the following information, prepare the Subscription Account for the year ending on March, 31, 2012

- (i) Subscription in arrears on 31.03.2011 ₹ 1,500
- (ii) Subscription received in advance on 31.03.2011 ₹ 1,000
- (iii) Amount of Subscription received during 2011-12 ₹ 40,000, which includes ₹ 1,000 for the year 2010-11, ₹ 1,500 for the year 2012-13.
- (iv) Subscription outstanding ₹ 1,000.

Solution

Dr.		Subscription Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Balance b/d	1,500	By, Balance b/d	1,000		
To, Income & Expenditure A/c	39,500	By, Bank A/c	40,000		
		By, Balance c/d			
		For 2010-11	500		
To, Balance c/d		For 2011-12	1,000		
For 2012-13	1,500				
	42,500				
			42,500		

Illustration 32

The accumulated balance of Life Membership fees at the beginning of the year 2012 was ₹6,40,000. This represents the balance of life membership fees paid by 20 members since the club started about 6 years ago. In the current year, 10 new life memberships were received totaling ₹ 4,00,000.

It's the policy of the club to spread these fees over 20 years to income. The amount payable per person is always ₹40,000.

What is the amount to be recognised as income for the current year and what amount will be deferred through the balance sheet?

Solution:

Income to be recognised for new members

Life membership fees per person	₹40,000
Income to be spread over	20 years
Income to be recognised each year	₹2,000
Members added during the year	10
Income to be recognised (10*2000)	₹20,000
Amount to be carried forward	₹3,80,000

Income to be recognised for old members

No. of members	20
Income to be recognised each year	₹2,000
Income to be recognised (20*2000)	₹40,000

Total income to be recognised (20,000+40,000) ₹60,000

Amount to be shown in the balance sheet

Accumulated Balance	₹6,40,000
Add: New fees received	₹4,00,000
Less: Recognised as income	(₹60,000)
Balance to be carried forward	₹9,80,000

4.4.2.9 Restaurant Trading and Bar Trading

Some clubs have Restaurant and Bar facilities for members and outsiders. Under the circumstances, Restaurant Trading or Bar Trading Account is opened to ascertain the Restaurant or Bar profit, it is just like Trading Account which is opened in case of a trading concern. The Restaurant or Bar profit so ascertained from Restaurant Trading or Bar Trading is transferred to the Income and Expenditure Account as we generally transfer the Gross Profit from Trading Account to Profit and Loss Account in case of Trading concern. Hence, the method of preparing a Restaurant or Bar Trading Account is just like the method of preparing a Trading Account.

Illustration 33

The following summary of the Cash Book has been prepared by the treasurer of a club:

Receipts	Amount (₹)	Payment	Amount (₹)
To Balance b/d	4,740	By Wages – outdoor staff	13,380
`` Subscriptions	29,720	`` Restaurant Purchase	50,400
`` Entrance Fees	3,200	`` Rent – 18 months' to July 30, 2012	7,500
`` Restaurant Receipts	56,800	`` Rates	2,700
`` Games & Competition Receipts	13,640	`` Secretary's Salary	3,120
`` Due to Secretary for Petty Expenses	80	`` Lighting	7,200
		`` Competition Prizes	4,000
		`` Printing & Postage etc.	6,000
		`` Placed in Fixed Deposit	8,000
		`` Balance c/d	5,880
	1,08,180		1,08,180



On April 1, 2011 the club's assets were:- Furniture ₹ 48,000, Restaurant stock ₹ 2,600; Stock of prizes ₹ 800; ₹ 5,200 was owing for supplies to the restaurant.

On March, 31, 2012, the Restaurant stocks were ₹ 3,000 and prizes in hand were ₹ 500, while the club owed ₹ 5,600 for restaurant supplies.

It was also found that subscriptions unpaid at March 31, 2012, amounted to ₹ 1,000 and that the figure of ₹ 29,720 shown in the Cash Book included ₹ 700 in respect of previous year and ₹ 400 paid in advance for the following year.

Prepare an account showing the Profit or Loss made on the Restaurant and a General Income and Expenditure Account for the year ended 31.3.2012, together with a Balance Sheet as at that date, after writing 10% off the Furniture.

Solution:

Restaurant Trading Account
For the year ended 31st March, 2012

Dr.			Cr.		
Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To Opening Stock A/c		2,600	By Restaurant Receipts A/c		56,800
``Purchases A/c	50,400		`` Closing Stock A/c		3,000
``Add: Outstanding for 31.3.12	5,600				
	56,000				
``Less: Outstanding for 01.04.11	5,200				
		50,800			
``Income & Expenditure A/c (G.P. transferred)		6,400			
		59,800			59,800

Balance Sheet
As at 1st April, 2011

Liabilities	Amount (₹)	Assets	Amount (₹)
Accumulated Fund: (bal. fig.)	50,390	Furniture and Equipment	48,000
Owing for supplies to Restaurant	5,200	Restaurant Stock	2,600
Outstanding Rent (Jan. to March 2011)	1,250	Stock of Prize	800
		Outstanding Subscriptions	700
		Cash and Bank	4,740
	56,840		56,840

Income and Expenditure Account
For the year ended 31st March, 2012

Dr.					Cr.
Expenditure	Amount (₹)	Amount (₹)	Income	Amount (₹)	Amount (₹)
To Wages A/c		13,380	By Subscription : Subscription already received	29,720	
`` Rent A/c	7,500		Less: Outstanding for 1.4.11	700	
`` Less: Outstanding on 1.4.2011	1,250			29,020	
	6,250		Add: Outstanding for 2012	1,000	
`` Less: Prepaid for 3 months (7,500 x 3/18)	1,250	5,000		30,020	
`` Rates A/c		2,700	Less: Received in advance	400	29,620
`` Secretary's Salary A/c		3,120	`` Games Competition Receipts		13,640
`` Lighting, Cleaning, Services		7,200	`` Restaurant Trading – Gross Profit		6,400
`` Competition Prize A/c	4,000				
`` Add: Opening Stock	800				
	4,800				
`` Less: Closing Stock	500	4,300			
`` Printing, Postage and Sundries		6,000			
`` Dep. on Furniture and Equipment @ 10%		4,800			
`` Surplus – Excess of income over expenditure		3,160			
		49,660			49,660

Balance Sheet
As at 31st March, 2012

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Accumulated Fund:			Furniture and Equipment	48,000	
Balance on 1.4.2011	50,390		Less: Depreciation	4,800	43,200
Add: Surplus	3,160	53,550	Restaurant Stock		3,000
Entrance fees		3,200	Stock of Prize		500
Subscription received in advance		400	Outstanding Subscriptions		1,000
Owing for supplies to Restaurant		5,600	Prepaid Rent		1,250
Outstanding Petty Expenses		80	Fixed Deposit with Bank		8,000
			Cash and Bank		5,880
		62,830			62,830

Illustration 34

'Citizen Club' was registered in a city and the accountant prepared the following Receipts and Payments Account for the year ended Dec. 31, 2012 and showed a deficit of ₹ 14,520 :

	(₹)	(₹)
Receipts :		
Subscriptions	62,130	
Fare Receipts	7,200	
Variety Show Receipts (net)	12,810	
Interest	690	
Bar Collection	22,350	
Cash spent more	1,000	1,06,180



Payments :	Premium	30,000	
	Honorarium to Secretary	12,000	
	Rent	2,400	
	Rates and Taxes	3,780	
	Printing and Stationery	1,410	
	Sundry Expenses	5,350	
	Wages	2,520	
	Fair Expenses	7,170	
	Bar Purchase- payments	17,310	
	Repairs	960	
	New Car (less proceeds of old car ₹ 9,000)	37,800	
			1,20,700
	Deficit		14,520

The additional information should be obtained:

	1.1.2012	31.12.2012
	(₹)	(₹)
Cash in hand	450	—
Bank balance as per Pass Book	24,690	10,440
Cheques issued not presented for Sundry Expenses	270	90
Subscriptions due	3,600	2,940
Premises at Cost	87,000	1,17,000
Accumulated dep. on Premises	56,400	—
Car at Cost	36,570	46,800
Accumulated dep. on Car	30,870	—
Bar Stock	2,130	2,610
Creditors for Bar Purchases	1,770	1,290

Cash overspent represents honorarium to secretary not withdrawn due to Cash deficit. His annual honorarium is ₹ 12,000. Depreciation on premises and car is to be provided at 5% and 20% on written-down value.

You are required to prepare the correct Receipts and Payments Account, Income and Expenditure Account and Balance Sheet as at Dec. 31, 2012.

Solution.

In the Books of Citizen Club
Receipts and Payments Accounts
for the year ended 31st December, 2012

Dr.**Cr.**

Receipts	Amount (₹)	Payment	Amount (₹)
To Balance b/d	450	By, Premises A/c	30,000
" Bank (24,690 – 270)	24,420	" Honorarium to Secretary A/c	11,000
" Subscription	62,130	" Rent A/c	2,400
" Fair Receipts	7,200	" Rates and Taxes A/c	3,780
" Variety Show Receipts	12,810	" Printing and Stationery A/c	1,410
" Interest	690	" Sundry Expenses A/c	5,350
" Bar Receipts	22,350	" Wages A/c	2,520
		" Fair Expenses A/c	7,170
		" Bar Purchases A/c	17,310
		" Repairs A/c	960
		" New Car A/c	37,800
		" Bank Balance (10,440 – 90)	10,350
	1,30,050		1,30,050

Income and Expenditure Accounts
for the year ended 31st December, 2012

Dr.**Cr.**

Expenditure	Amount (₹)	Amount (₹)	Income	Amount (₹)	Amount (₹)
To Honorarium to Secretary	11,000		By, Subscriptions	62,130	
Add: Outstanding	1,000	12,000	Add: Outstanding for 2012	2,940	
" Rent		2,400		65,070	
" Rates and Taxes		3,780	Less: Outstanding for 2011	3,600	61,470
" Printing and Stationery		1,410	" Fair receipts		7,200
" Sundry Expenses		5,350	" Variety show receipts		12,810
" Wages		2,520	" Interest		690
" Fair Expenses		7,170	" Bar receipts		22,350
" Bar Purchases :			" Profit on sale of old car		
			[(₹ 9,000 - (36,570 - 30,870))]		3,300
Bar Stock (1.1.12)	2,130				
Add : Purchases (Cash)	17,310				
	19,440				
Less: Creditors (1.1.12)	1,770				
	17,670				
Add: Creditors (31.12.12)	1,290				
	18,960				
Less: Stock (31.12.12)	2,610	16,350			
"Repairs		960			
"Depreciation on:					
Premises@ 5% on 60,600		3,030			
Car @20% on 46,800		9,360			
"Surplus—Excess of Income over Expenditure		43,490			
		1,07,820			1,07,820



Balance Sheet
as at 31st December, 2012

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Fund as on 1.1.12	65,130		Premises at Cost	1,17,000	
Add: Surplus	43,490	1,08,620	Less: Depreciation	59,430	57,570
Creditors (for bar purchase)		1,290	Car at Cost	46,800	
Secretary's honorarium outstanding		1,000	Less: Depreciation	9,360	37,440
			Bar Stock		2,610
			Outstanding Subscription		2,940
			Cash at bank		10,350
		1,10,910			1,10,910

Balance Sheet
As at 1st January, 2012

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Fund (bal. in figure)		65,130	Premises at Cost	87,000	
Creditors (for bar purchase)		1,770	Less: Depreciation	56,400	30,600
			Car at Cost	36,570	
			Less: Depreciation	30,870	5,700
			Bar Stock		2,130
			Outstanding Subscription		3,600
			Cash at bank		24,420
			Cash in Hand		450
		66,900			66,900

Illustration 30

Prepare Income & Expenditure A/c for the year ended 31-12-2012 and the balance sheet as on 31-12-2012 in the books of an Education society.

Particulars	Debit (₹)	Credit (₹)
Library Books	2,30,000	
Books added during the year	52,200	
Furniture	1,59,500	
Addition to furniture	35,500	
Buildings	37,89,000	
Investment	21,25,000	
Creditors		1,77,900
Debtors	59,700	
Investment reserve fund		1,85,000
Entrance fees		2,02,600
Examination fees		32,500
Certificate fees		7,800
Subscriptions received		2,75,800
Hire charges		95,500
Interest		85,000
Other receipts		4,400
Salary	1,55,900	
Printing & stationery	8,500	
Postage & telephone	2,500	
Insurance	10,400	
Examination expenses	24,000	

Particulars	Debit (₹)	Credit (₹)
Periodicals	15,600	
Prizes fund		2,15,000
Prizes Investments	2,10,400	
Prizes investment income		10,200
Prizes given	9,500	
Prizes bank balance	2,450	
Donations (capital)		1,99,000
General expenses	5,250	
Capital fund		54,71,720
Bank balance	65,500	
Cash in hand	1,520	
Total	69,62,420	69,62,420

Additional information :

Subscription receivable ₹22,500, subscription received for 2013 ₹7,850, Interest accrued on investments ₹6,250, salary outstanding for 2012 ₹12,500, Prepaid insurance ₹4,500

Depreciate books @ 15%, building @ 1% and furniture @ 10%

Solution
Dr. Income & Expenditure Account for the year ended 31-12-2012 Cr.

Expenditure	Amount (₹)	Amount (₹)	Income	Amount (₹)	Amount (₹)
To Salary	1,55,900		By Examination fees		32,500
Add: Outstanding	12,500	1,68,400	By Certificate fees		7,800
To Printing & Stationery		8,500	By Subscriptions	2,75,800	
To Postage & Telephone		2,500	Add: Receivable	22,500	
To Insurance	10,400		Less: Pre-received	(7,850)	2,90,450
Less: Prepaid	(4,500)	5,900	By Hire charges		95,500
To Examination Expenses		24,000	By Interest		85,000
To Periodicals		15,600	By Other Receipts		4,400
To General Expenses		5,250	By Accrued interest		6,250
To Depreciation on Books		38,415			
To Depreciation on Building		37,890			
To Depreciation on Furniture		17,725			
To Surplus		1,97,720			
		5,21,900			5,21,900



Balance Sheet as on 31-12-2012

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Fund	54,71,720	60,71,040	Buildings	37,89,000	37,51,110
Add: Entrance fees	2,02,600		Less: Depreciation @ 1%	(37,890)	
Add: Donations	1,99,000		Library Books	2,30,000	2,43,785
Add: Surplus	1,97,720		Add: Purchased in 2012	52,200	
		1,85,000	Less: depreciation @ 15%	(38,415)	1,77,275
Investment Reserve Fund			Furniture & fixture	1,59,500	
Prize Fund	2,15,000		Add: Purchased in 2012	35,500	21,25,000
Add: Fund Income	10,200		Less: Depreciation @ 10%	(17,725)	
Less: Fund Expenses	(9,500)	2,15,700	Investment		2,10,400
Creditors		1,77,900	Prize Investments		59,700
Subscription received in advance		7,850	Debtors		2,450
Salary Outstanding		12,500	Prize Bank balance		65,500
		66,69,990	Bank balance		1,520
			Cash in hand		22,500
			Subscription receivable		6,250
			Interest Accrued		4,500
			Prepaid Insurance		66,69,990

Illustration 36

The following information was obtained from the books of Young Bengal Club as on 31-03-2012 at the end of first year of the club. Prepare the receipt & Payment A/c, Income & Expenditure A/c and Balance sheet of the club

- (1) Donations received for building & books - ₹ 2,00,000
- (2) Other revenue incomes and receipts were:

	Rev. Income (₹)	Actual Receipts (₹)
Entrance fees	17,000	17,000
Subscription	20,000	19,000
Locker rent	600	600
Sundry Income	1,600	1,060
Refreshment account	Nil	16,000

- (3) Other revenue expenditure and actual payments were

	Rev. Exp (₹)	Actual Payment (₹)
Land (cost ₹10,000)	Nil	10,000
Furniture (cost ₹ 146,000)	Nil	130,000
Salaries	5,000	4,800
Maintenance of play ground	2,000	1,000
Rent	8,000	8,000
Refreshment account	Nil	8,000

Donations were utilized to the extent of ₹25,000 for buying books, balance were unutilized. In order to keep it safe, 9% Govt. Securities were purchased on 31-3-2012 for ₹1, 60,000. Remaining amount was put in bank as term deposit on 31-3-2012. Depreciate Furniture and books @ 10% for the whole year.

Solution:**Dr. Receipt and Payments for the year ended 31-12-2012 Cr.**

Receipts	Amount (₹)	Payments	Amount (₹)
To Donations	2,00,000	By Library books	25,000
To Entrance fees	17,000	By Land	10,000
To Subscription	19,000	By Furniture	1,30,000
To Locker Rent	600	By Salaries	4,800
To Sundry income	1,060	By Maintenance	1,000
To Refreshment A/c	16,000	By Rent	8,000
		By Refreshment A/c	8,000
To Balance c/d (Overdraft)	1,08,140	By 9% Govt. Bonds	1,60,000
		By Term deposits	15,000
	361,800		3,61,800

Dr. Income & Expenditure Account for the year ended 31-12-2012 Cr.

Expenditure	Amount (₹)	Income	Amount (₹)
To Salary	5,000	By Entrance fees	17,000
To Maintenance of ground	2,000	By Subscriptions	20,000
To Rent	8,000	By Locker rent	600
To Depreciation on furniture	14,600	By Sundry Income	1,600
To Depreciation on books	2,500		
To Surplus	7,100		
	39,200		39,200

Balance Sheet as on 31-12-2012

Liabilities	Amount (₹)	Assets	Amount (₹)
Payable for furniture	16,000	Land	10,000
Salary payable	200	Library Books (25000-2500)	22,500
Maintenance payable	1,000	Furniture (146000-14600)	1,31,400
Refreshment account	16,000	9% Govt. Bonds Term	1,60,000
Less : spent	(8,000)	Deposit Subscription	15,000
Bank Overdraft		receivable Sundry	1,000
Donations		income accrued	540
Capital Fund	7,100		
	3,40,440		3,40,440

Illustration 37

Surya Trust runs a charitable hospital and a dispensary. The following balances were extracted from their books

Particulars	(₹)	Debit (₹)	Credit (₹)
Capital Fund			18,00,000
Donation received			12,00,000
Fees received from Patients			600,000
Recovery from amenities – rent etc.			5,50,000
Recovery for food supplies			2,80,000
Surgical equipments		9,10,000	



Particulars	(₹)	Debit (₹)	Credit (₹)
Building, theatres etc.		6,40,000	
Consumption of Medicines	2,40,000		
Foodstuff	1,80,000		
Chemicals	60,000	4,80,000	
Closing stock of Medicines	40,000		
Foodstuff	8,000		
Chemicals	2,000	50,000	
Sale of medicines from dispensary			6,20,000
Opening stock of medicines (dispensary)		1,10,000	
Purchase of medicines (dispensary)		6,00,000	
Salaries			
Administrative staff	60,000		
Doctors, nurses etc	3,00,000		
Assistants in dispensary	30,000	3,90,000	
Electricity and power charges			
Hospital	2,10,000		
Dispensary	4,000	2,14,000	
Furniture, fittings and equipments		1,60,000	
Ambulance		60,000	
Postage & Telephone (net of recover)		52,000	
Medical Journals		42,000	
Ambulance maintenance (net of recovery)			1,600
Consumption of linen, bedsheets etc.		1,80,000	
3-year 11% Fixed deposit (kept on 01-04-2011)		10,00,000	
Cash in hand		12,100	
Cash at bank		70,500	
Debtors (dispensary)		1,21,000	
Creditors (dispensary)			82,000
Remuneration to trustees, trust expenses		42,000	
Total		51,33,600	51,33,600

Additional information

- Dispensary supplies medicines to hospital on requisition and delivery notes; for which no adjustment has been made in books. Cost of such supplies was ₹1,20,000.
- Stock of medicines as close at dispensary was ₹80,000.
- Donations were received towards corpus of the trust.
- Stock of medicines on 31st March 2012 included ₹8,000 of medicines belonging to patients that have not been considered while calculating the consumption.
- One of the well-wisher donated surgical equipments the market value of which was ₹80,000 as on 31-3-2012.
- The hospital is to receive a grant of 25% of the amount spent on poor people. Such expenditure in the year was ₹1,00,000.
- Out of fees recovered from patients, 10% is given to specialists.
- Depreciation on Surgical equipment is 20%, buildings 5%, Furniture 10% and Ambulance 30%.

Preparation of Final Accounts

Prepare Income & Expenditure accounts for dispensary, trust and hospital separately for the year ended 31-3-2012 and the balance sheet as on 31-03-2012.

Solution:

Dr. Income & Expenditure Account for the year ended 31-03-2012 - Trust Cr.

Expenditure	Amount (₹)	Income	Amount (₹)
To Deficit in hospital	2,67,400	By Profit from dispensary	76,000
To Postage, telephone etc.	52,000	By Interest due on F. D.	1,10,000
To Trustee remuneration etc.	42,000	By Net deficit for the year	175,400
	3,61,400		3,61,400

Dr. Income & Expenditure Account for the year ended 31-03-2012 - Dispensary Cr.

Expenditure	Amount (₹)	Income	Amount (₹)
To Opening stock	1,10,000	By Sales	6,20,000
To Purchases	600,000	By Issues to hospitals	1,20,000
To Gross profit c/d	1,10,000	By Closing Stock	80,000
	8,20,000		8,20,000
To Salaries	30,000	By Gross Profit b/d	1,10,000
To Electricity charges	4,000		
To Trust A/c (surplus transferred)	76,000		
	1,10,000		1,10,000

Dr. Income & Expenditure Account for the year ended 31-03-2012 - Hospital Cr.

Expenditure	Amount (₹)	Income	Amount (₹)
To Consumption:		By Fees from patients	6,00,000
Medicines	3,68,000	By Room rents etc	5,50,000
Food stuff	1,80,000	By Food recoveries	2,80,000
Chemicals	60,000	By Ambulance receipts	1,600
To Salaries		By Grants	25,000
Doctors	3,00,000		
Administrative staff	60,000		
To Due to specialists	60,000		
(10 % on 6 lacs)			
To Electricity & Power	2,10,000		
To Medical journals	42,000		
To Linens, bed sheets	1,80,000		
To Depreciation on:			
Surgical equipment @ 20% on 9.90 lacs	1,98,000		
Building @ 5%	32,000		
Furniture @10%	16,000		
Ambulance @ 30%	18,000	By Trust A/c	2,67,400
		(deficit transferred)	
	17,24,000		17,24,000



Balance Sheet as on 31-03-2012

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)
Capital Fund			Cash in hand	12,100
Opening Balance	18,00,000		Cash at Bank	70,500
Add: Donations	12,00,000		Fixed Deposit	10,00,000
Add: Value of gift	80,000		Interest accrued on F. D.	1,10,000
Less: Deficit	(1,75,400)	29,04,600	Debtors	1,21,000
Creditors:			Grants due	25,000
For machines		82,000	Stocks:	
Due to specialists		60,000	Dispensary 80,000 + hospital	
			32,000+8,000+2,000	1,22,000
			Surgical Equipment (990,000-198,000)	7,92,000
			Building (640,000-32,000)	6,08,000
			Furniture (160,000-16,000)	1,44,000
			Ambulance (60,000-18,000)	42,000
		30,46,600		30,46,600

Illustration 38.

Following is the receipt and payment A/c of a club for the year ended 31-03-2012

Dr.	Receipt and Payments for the year ended 31-03-2012		Cr.
Receipts	Amount (₹)	Payments	Amount (₹)
Opening balance:		Administrative expenses	1,25,000
Cash	3,000	Programme expenses	2,75,000
Bank	7,000	F.D. with bank	1,25,000
Membership fees received:		Investment in bonds	3,00,000
up to 31-03-2011	14,000	Fixed assets	
for 2011-12	1,50,000	purchased	80,000
for 2012-13	16,000		
Advertisements	5,00,000		
F.D. with bank	75,000		
Interest on savings A/c	700		
Interest on F.D	22,000	Closing balance:	
Investment matured		Cash	2,700
(cost 80,000 & interest 8,000)	1,00,000	Bank	5,000
	9,12,700		9,12,700

The club informs you that:

- Membership fee for 2011-12 due is ₹25,000; it includes ₹1,000 from a member who has not yet paid for 2010-11 as well. A provision needs to be done on this.
- Income receivable on 31-03-2012 on ICICI bond is ₹30,000 and on Govt. Securities is ₹24,000
- Prepaid expenses on 31-3-2006 amounts to ₹7,000
- Outstanding expenses as on 31-3-2012 ₹8,000
- Depreciation to be provided is ₹12,500
- Programme is an annual feature.

Preparation of Final Accounts

The balance sheet as on 31-3-2011 is also provided as below:

Balance Sheet as on 31-03-2013

Liabilities	Amount (₹)	Assets	Amount (₹)
Trust fund	5,00,000	Cash	3,000
Accumulated surplus	1,05,000	Bank Savings A/c	7,000
Subscriptions in advance	10,000	Fixed Deposit	2,00,000
Outstanding Expenses	10,000	Govt. Securities	3,00,000
		Fixed Assets	95,000
		Subscription receivable	15,000
		Prepaid expenses	5,000
	6,25,000		6,25,000

Prepare Income and expenditure a/c and the closing balance sheet for the year 2011-12.

Solution:

Dr.	Subscription Account		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Opening receivable	15,000	By, Opening advance received	10,000
To, I & E A/c (balancing figure)	1,85,000	By, Received during year	1,80,000
To, Closing advance received	16,000	By, Closing receivable : for 2010-11	1,000
		for 2011-12	25,000
	2,16,000		2,16,000

Dr.	Expenses A/c		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Opening prepaid	5,000	By, Opening outstanding	10,000
To, Bank	1,25,000	By, I & E A/c (balancing figure)	1,21,000
To, Closing outstanding	8,000	By, Closing prepaid	7,000
	1,38,000		1,38,000
Provision for doubtful subscriptions			
For 2010-11	1,000		
For 2011-12	1,000		
	2,000		

Dr.		Income & Expenditure Account for the year ended 31-03-2012		Cr.			
Expenditure		Amount (₹)		Income		Amount (₹)	
To, Administrative expenses		1,21,000		By, Subscriptions		1,85,000	
To, Depreciation on assets		12,500		By, Interest income		84,700	
To, Provision on subscriptions		2,000		By, Surplus from programme		2,50,000	
				By, Profit on sale of investment		12,000	
To Surplus		3,96,200					
		5,31,700				5,31,700	



Balance Sheet as on 31-03-2012

Liabilities	Amount (₹)	Assets	Amount (₹)
Trust fund	5,00,000	Cash	2,700
Accumulated surplus	1,05,000	Bank saving A/c	5,000
Surplus for 2011-12	3,96,200	Fixed deposit	2,50,000
Outstanding expenses	8,000	Govt. Securities	2,20,000
Subscription in advance	16,000	ICICI bonds	3,00,000
		Interest receivable on:	
		Govt. securities	24,000
		Bonds	30,000
		ICICI Bond Receivable	24,000
		Prepaid Expenses	7,000
		Fixed assets (1,75,000- 12,500)	1,62,500
	1,025,200		10,25,200

Profit on disposal of Investment	₹
Amount received	1,00,000
Less: Interest	8,000
Net received	92,000
Cost of disposed investment	80,000
Profit on disposal	12,000

Illustration 39

The Ranchi cricket club has given below its Receipts and Payments A/c for the year ended 31st December 2012.

Dr. Receipt & Payment Account for the Year Ended 31st December 2012 Cr.

Date	Receipts	Amount (₹)	Date	Payments	Amount (₹)
1st Jan	Balance b/d – cash	56,000	1st Jan to	Groundman's wages	3,00,000
	Balance b/d – bank	35,000	31st Dec	Ground rent	1,50,000
	Balance b/d – F. D.	75,000	2012	Repairs to pavilion	12,000
1st Jan to	Subscriptions	4,15,000		Cricket equipment	40,000
31st Dec	Bar takings	4,25,000		8% Govt. securities	1,00,000
2012	Surplus on tournaments	38,800		Bar purchases	3,05,000
	Bank interest	3,500		Sundry expenses	7,800
	Donations	25,000		Insurance	3,500
			31st Dec	Balance c/d – Cash	42,000
				Balance c/d – Bank	13,000
				Balance c/d – F.D.	1,00,000
		10,73,300			10,73,300

Additional information:

- Pavilion was the only asset having a book value of ₹450,000 (cost 750,000 less depreciation 300,000). Depreciation for the year amounted to ₹25,000.
- Expenditure on cricket equipment is to be written off in the year in which incurred.
- Other assets and liabilities were as follows:

	31st December	
	2011 ₹	2012 ₹
Bar stocks	15,000	25,000
Creditors for Bar purchases	46,000	67,000
Creditors for sundry expenses	900	1200
Insurance in advance	750	600
Rent owing	35,000	40,000

The club does not wish to take any credit for subscriptions. In December 2012, the club decided to set up a special fund of ₹100,000 as endowment for the best player award. This was invested in 8% Govt. securities as shown above.

Prepare (a) Statement showing Capital fund as on 31-12-2011, (b) Income and expenditure A/c for the year ended 31-12-2012 and (c) the balance sheet as on that date.

Solution

Capital fund as on 31-12-2011

Bar Stock	15,000
Insurance prepaid	750
Pavilion	450,000
Cash in hand	56,000
Cash at Bank	35,000
Cash in F D	75,000
Less: Creditors & accrued exp.	(81,900)
Capital Fund	<u>5,49,850</u>

Dr.	Income & Expenditure Account	Cr.

Expenditure	Amount (₹)	Income	Amount (₹)
To, Ground man's wages	3,00,000	By, Subscriptions	4,15,000
To, Rent	1,55,000	By, Surplus on tournaments	38,800
To, Repairs to pavilion	12,000	By, Bank Interest	3,500
To, Cricket equipment	40,000	By, Donations	25,000
To, Sundry expenses	8,100	By, Profit on Bar takings	1,09,000
To, Insurance	3,650		
To, Depreciation on pavilion	25,000		
To, Surplus	47,550		
	<u>5,91,300</u>		<u>5,91,300</u>



Balance Sheet as on 31-12-2012

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors for bar Purchases	67,000	Cash	42,000
Creditors for expenses	1,200	Bank	13,000
Outstanding rent	40,000	Fixed deposit	1,00,000
Capital Fund (549,850+47,550)	5,97,400	Bar stocks	25,000
		Prepaid Insurance	600
		8% Govt. Securities	1,00,000
		Pavilion (450,000-25,000)	4,25,000
	7,05,600		7,05,600

Notes:

(a) The rent, sundry expenses and insurance are to be arrived at as follows:

Item	Paid	Last/next year	Current year	Working	Recognized
Rent	1,50,000	35,000	40,000	1,50,000-35,000+40,000	1,55,000
Sundry Expenses	7,800	900	1,200	7,800-900 +1,200	8,100
Insurance	3,500	600	750	3,500-600 +750	3,650

(b) The profit on Bar takings is calculated as follows:

	₹
Opening bar stocks	15,000
Add: purchases (3,05,000-4,60,00+67,000)	3,26,000
Less: Closing bar stocks	25,000
Consumption	3,16,000
Bar takings	4,25,000
Surplus on Bar takings	1,09,000

(c) The figure of surplus in the I & E A/c is the balancing figure.

Illustration 40

Prepare the Balance Sheet of Ocean Blue club based on following information:

₹

Furniture (before depreciation)	8,000	Outstanding consultancy	1,000
Depreciation on furniture	800	Allowances outstanding	800
Building fund	30,000	Capital Grants	10,000
Income from building fund	2,000	Entrance fees (50% be funded)	4,000
Fixed deposits	20,000	Legacies received(funded)	8,000
Opening General fund	10,000	Prize fund	10,000
Excess of income over expenditure	20,000	Income of prize fund	1,000
Opening balance of capital fund	60,000	Expenses of prize fund	800
Cost of swimming pool	40,000	Investment of prize fund	10,000
Equipments	20,000	Balance in current A/c	10,000
Investment of general fund	36,000	Cash in hand	800
Subscription outstanding	10,000		

Solution:**Balance Sheet as on 31-03-2012**

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Fund			Fixed Assets:		
Op balance	60,000		Swimming Pool		40,000
Add: Capital grants	10,000		Equipments		20,000
Add: Legacies	8,000		Furniture	8,000	
Add: Entrance fees (50%)	2,000	80,000	Less: Depreciation	800	7,200
General Fund			Investment		
Op balance	10,000		General fund	36,000	
Surplus	20,000	30,000	Prize fund	10,000	46,000
Building Fund			Receivables		
Op balance	30,000		Subscription		10,000
Add: Income	2,000	32,000	Cash & bank		
Prize Fund			Cash in hand	800	
Op balance	10,000		Current A/c	10,000	
Add: Income	1,000		Fixed deposit	20,000	30,800
Less: Expenses	800	10,200			
Allowances					
Outstanding		800			
Consultancy					
Outstanding		1,000			
		1,54,000			1,54,000

4.4.2.10 Preparation of opening and closing Balance Sheet from a given Receipt and Payment account and Income and Expenditure account**A. While preparing opening Balance Sheet**

- At first, take the opening balance of Cash and Bank which are given in the Receipts and Payments Account as "Balance b/d". The same will appear in the assets side of the opening Balance Sheet.
- All the opening assets will appear in the assets sides of the opening Balance Sheet which are given as adjustments. Similarly, all the opening liabilities will also appear in the liabilities side of the opening Balance Sheet.
- Ascertain the difference between the assets sides and the liabilities sides of the opening Balance Sheet which will be treated as "Capital Fund".

B. While preparing closing Balance Sheet

- At first take the closing balance of cash and bank balance which are given in the Receipts and Payments Account as "Balance c/d". The same will appear in the assets sides of the closing Balance Sheet.
- All the opening fixed assets which have appeared in the asset sides of the opening Balance Sheet will also appear in the closing Balance sheet after charging depreciation (if not sold or lost). Including additions, if any.
- All the closing current liabilities including capital fund, surplus or deficit (which are get from Income and Expenditure Account), other funds like, donation, Entrance fees etc will also appear in the liabilities sides of the closing Balance Sheet.
- Now, each individual item of Receipts and Payments Account should be compared with each individual item of Income and Expenditure Account and the same is to be adjusted accordingly.



Illustration 41

The following particulars related to Fast Sports Club:

Income and Expenditure Account For the year ended 31st December 2012			
Dr.			Cr.
Expenditure	Amount (₹)	Income	Amount (₹)
To Salaries	12,000	By Admission Fees	30,000
`` Printing & Stationery	5,000	`` Subscriptions	50,000
`` Advertising	2,000	`` Rent Receipts	9,600
`` Insurance Charges	1,800		
`` Electricity	1,000		
`` Dep. on Sports Equipments	24,000		
`` Surplus	43,800		
	89,600		89,600

Receipts and Payments Account For the year ended 31st December 2012					
Dr.					Cr.
Receipts	Amount (₹)	Amount (₹)	Payments	Amount (₹)	Amount (₹)
To, Balance b/d		10,000	By, Salary (including Adv.)		15,000
`` Admission Fees-			`` Printing & Stationery		5,000
2011	5,000		`` Advertising		2,000
2012	27,000	32,000	`` Insurance		
`` Subscription			(partly for next year)		2,400
2011	2,000		`` Electricity		1,000
2012	46,000		`` Fixed Asset Purchased		40,000
2013	4,000	52,000	`` Balance c/d		35,800
`` Rent		7,200			
		1,01,200			1,01,200

On 1.1.2012 the Club had the following assets:

Land and Building ₹ 60,000; Sports Equipment ₹ 30,000; Furniture ₹ 4,500. Prepare opening and closing Balance Sheet.

Solution:

Fast Sports Club Balance Sheet as at 31st December, 2011			
Dr.			Cr.
Liabilities	Amount (₹)	Assets	Amount (₹)
Capital Fund (bal. fig.)	2,13,200	Land and Building	1,20,000
		Sports Equipment	60,000
		Furniture	9,000
		Rent Receivable	7,200
		Adm. Fee Receivable	5,000
		Outstanding Subs.	2,000
		Cash and Bank	10,000
	2,13,200		2,13,200

Dr.		Balance Sheet as at 31 st December, 2012		Cr.	
Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Fund	2,13,200		Land and Building		1,20,000
Add: Surplus	43,800	2,57,000	Sports Equipment	60,000	
Subscription Received in Advance		4,000	Less: Depreciation	24,000	36,000
			Furniture		9,000
			Fixed Assets (other)		40,000
			Prepaid Insurance		600
			Prepaid Salary		3,000
			Rent Receivable		9,600
			Outstanding Subs.		4,000
			Outstanding Adm. Fee		3,000
			Cash and Bank		35,800
		2,61,000			2,61,000

Illustration 37.

The following are the items of Receipts and Payments of the Bengal Club as summarized from the books of account maintained by the Secretary:

Receipts	Amount (₹)	Amount (₹)	Payments	Amount (₹)
Opening Balance	1.1.2012	4,200	Manager's Salary	1,000
Entrance Fees	2011	1,000	Printing and Stationery	2,600
Do	2012	10,000	Advertising	1,800
Subscriptions	2011	600	Fire Insurance	1,200
Do	2012	15,000	Investments Purchased	20,000
Interest Received on Investments		3,000	Closing Balance 31.12.2012	7,600
Subscriptions	2013	400		
		34,200		34,200

It was ascertained from enquiry that the following represented a fair picture of the Income and Expenditure of the Club for the year 2012 for audit purpose:

Expenditure	Amount (₹)	Amount (₹)	Income	Amount (₹)
Manager's Salary		1,500	Entrance Fees	10,500
Printing & Stationery	2,000		Subscription	15,600
Add: Accrued	400	2,400	Interest on Investments	4,000
Advertising (accrued Nil)		1,600		
Audit Fees		500		
Fire Insurance		1,000		
Depreciation		4,940		
Excess of Income over Expenditure		18,160		
		30,100		30,100

You are required to prepare the Balance Sheet of the Club as on 31.12.2011 and 31.12.2012, it being given that the values of the Fixed Assets as on 31.12.2011 were: Building ₹ 44,000, Cricket Equipment ₹ 25,000 and Furniture ₹ 4,000. The rates of depreciation are Building 5%, Cricket Equipments 10%, Furniture 6%.

Your are entitled to make assumptions as may be justified.



Solution:

**In the books of
Bengal Club
Balance Sheet as at 31st December, 2011**

Liabilities	Amount (₹)	Assets	Amount (₹)
Outstanding Liabilities:		Building	44,000
Advertisement (1,800 – 1,600)	200	Furniture	4,000
Printing and Stationery (2,600 – 2,000)	600	Cricket Equipment	25,000
Capital Fund	78,000	Entrance Fees in arrear	1,000
(Balancing figure)		Subscription in arrear	600
		Cash	4,200
	78,800		78,800

Balance Sheet as at 31st December, 2012

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Fund:			Building	44,000	
Balance on 1.1.2012	78,000		Less: Depreciation 5%	2,200	41,800
Add: Excess of Income over Expenditure	18,160	96,160	Furniture	4,000	
Subscription Received in Advance		400	Less: Depreciation 6%	240	3,760
Outstanding Liabilities:			Cricket Equipment	25,000	
Printing and Stationery		400	Less: Depreciation 10%	2,500	22,500
Manager's Salary: (1,500 – 1,000)		500	Investments		20,000
Audit Fees		500	Subscriptions in arrear (15,600 – 15,000)		600
			Entrance Fees in arrear (10,500 – 10,000)		500
			Accrued Interest on Investments (4,000 – 3,000)		1,000
			Prepaid Insurance (1,200 – 1,000)		200
			Cash		7,600
		97,960			97,960

Note: Advertisement expenses and Printing and Stationery which were paid in excess over Income and Expenditure A/c are assumed to be outstanding for the previous year.

4.4.2.11 Preparation of Receipts and Payments Account from a given Income and Expenditure Account and a Balance Sheet

Receipts and Payments Account is a summary of Cash Book. If both Income and Expenditure Account and the Opening Balance Sheet are given, we are to consider each and individual items, one by one. Consider the following illustration:

Illustration 43

The Income and Expenditure Account of Salt Lake Club is:

Income and Expenditure Account
For the year ended 31st December, 2012

Dr.		Cr.	
Expenditure	Amount ₹	Income	Amount ₹
To Salaries	1,750	By subscriptions	2,000
„ General Expenses	500	„ Donations	1,050
„ Depreciation	300		
„ Surplus	500		
	3,050		3,050

Adjustments:

- (i) Subscriptions for 2011 unpaid at 1st January, 2012, ₹200; ₹180 of which was received in 2012.
- (ii) Subscriptions paid in advance at 1.1.2012 ₹50.
- (iii) Subscriptions paid in advance at 31.12.2012 ₹40
- (iv) Subscriptions for 2012 unpaid at 31.12.2012 ₹70
- (v) Sundry assets at the beginning of the period ₹2,600, Sundry assets after depreciation Rs., 2,700 at the end of the period.
- (vi) Cash balance at 1st January, 2012 ₹160.

Prepare a Receipts and Payments Account.

Solution:

In the books of Salt Lake Club
Receipts and Payments Account for the year ended 31st December, 2012

Dr.	Cr.		
Receipts	Amount ₹	Payments	Amount ₹
To Balance b/d	160	By Salaries	1,750
„ Donations	1,050	„ General Expenses	500
„ Subscriptions	2,100	„ Sundry Assets	400
		„ Balance c/d	660
	3,310		3,310

Workings:

Sundry Assets Account

Dr.		Cr.	
Particulars	Amount ₹	Particulars	Amount ₹
To Balance b/d	2,600	By Depreciation	300
„ Bank Purchase (bal. fig.)	400	„ Balance c/d	2,700
	3,000		3,000



Subscription Account

Dr.		Cr.	
Particulars	Amount ₹	particulars	Amount ₹
To Balance b/d	200	By Balance b/d	50
„ Income & Expenditure	2,000	„ Balance – Unpaid for 2011 (200 – 180) c/d	20
„ Balance (Paid in advance for 2013) c/d	40	„ Cash Received (bal. fig.)	2,100
		„ Balance (unpaid for 2012) c/d	70
To Balance b/d	2,240	By Balance b/d	2,240
For 2011			40
For 2012	20		
	70		

Illustration 44

You are given:

- Income and Expenditure Account;
- Opening Balance Sheet;
- Closing Balance Sheet relating to the year 2012.

(i) Income and Expenditure Account

Dr.			Cr.	
Expenditure	Amount (₹)	Amount (₹)	Income	Amount (₹)
To Salaries	1,100	1,200	By Subscriptions	800
Add: Outstanding	100		„ Medical Fees	1,400
„ Insurance	150			
Less: Prepaid	13	137		
„ Medicines		600		
„ Surplus		263		
		2,200		2,200

(ii) Opening Balance Sheet

Liabilities	Amount (₹)	Assets	Amount (₹)
Capital Fund	4,050	Medical Equipment	3,250
Outstanding Salary	100	Furniture	500
		Cash	300
		Outstanding Subscriptions	100
	4,150		4,150

(iii)

Closing Balance Sheet

Liabilities	Amount (₹)	Amount (₹)	Assets	Amount (₹)	Amount (₹)
Capital Fund:	4,050		Medical Equipment	3,250	
Add: Surplus	263		Additions	500	
		4,313			3,750
Donations		550	Investments		500
Outstanding Salary		100	Furniture		500
			Prepaid Insurance		13
Subscription Received in Advance		50	Cash		250
		5,013			5,013

Prepare from the above information the Receipts and Payments Account for 2012.

Solution.**Dr.****Receipts and Payments Accounts****Cr.**

Receipts	Amount (₹)	Payments	Amount (₹)
To, Balance b/d	300	By, Salaries (1,200 + 100 – 100)	1,200
`` Subscription (800 + 100 + 50)	950	`` Insurance (137 + 13)	150
`` Medical Fees	1,400	`` Medicines	600
`` Donations	550	`` Medical Equipment	500
		`` Investment	500
		`` Balance c/d	250
	3,200		3,200



4.5 PREPARATION OF FINANCIAL STATEMENT UNDER SINGLE ENTRY SYSTEM INCLUDING CONVERSION OF SINGLE ENTRY INTO DOUBLE ENTRY SYSTEM

Introduction

Many times small business organizations do not maintain a comprehensive accounting system which is based on the double entry principle. The businessman is usually happy with the minimum information like the balances of cash and bank accounts and whether he has made a profit or loss. These people maintain rough or sketchy records that serve a limited purpose. Because, the principle of double entry is not followed, it is often referred to as a 'single entry system'. Such system maintains only personal accounts and cash book. Expenses and incomes are reflected in the cash book, whereas personal accounts reflect the debtors' and creditors' position. This system usually follows the principle of 'cash basis accounting' and hence no accrual or non-cash entries are passed. For example, entries like depreciation, provision for expenses, accrued incomes have no place under such system.

Features of Single Entry System:

Single Entry System has the following features.

- (a) Maintenance of books by a sole trader or partnership firm: The books which are maintained according to this system can be kept only by a sole trader or by a partnership firm.
- (b) Maintenance of cash book: In this system it is very often to keep one cash book which mixes up business as well as private transactions.
- (c) Only personal accounts are kept: In this system, it is very common to keep only personal accounts and to avoid real and nominal accounts. Therefore, sometimes, this is precisely defined as a system where only personal accounts are kept.
- (d) Collection of information from original documents: For information one has to depend on original vouchers, example, in the case of credit sales, the proprietor may keep the invoice without recording it anywhere and at the end of the year the total of the invoices gives an idea of total credit sales of the business.
- (e) Lack of uniformity: It lacks uniformity as it is a mere adjustment of double entry system according to the convenience of the person.
- (f) Difficulty in preparation of final accounts: It is much difficult to prepare trading, profit and loss account and balance sheet due to the absence of nominal and real accounts in the ledger.

4.5.1 Difference between single entry system and double entry system:

The distinctions between double entry system and single entry system are as follows:

- (i) In double entry system both the aspects (debit and credit) of all the transactions are recorded. But in single entry system, there is no record of some transactions, some transactions are recorded only in one of their aspects whereas some other transactions are recorded in both of their aspects.
- (ii) Under double entry system, various subsidiary books such as sales book, purchases book etc are maintained. Under single entry system, no such subsidiary books except cash book which is also considered as a part of ledger is maintained.
- (iii) In the case of double entry system, there is a ledger which contains personal, real and nominal accounts. But in single entry system, the ledger contains some personal accounts only.
- (iv) Under double entry system, preparation of trial balance is possible whereas it is not possible to prepare a trial balance in single entry system. Hence accuracy of work is uncertain.
- (v) Under double entry system, Trading A/c, Profit & Loss A/c and the Balance Sheet are prepared in a scientific manner. But under single entry system, it is not possible – only a rough estimate of profit or loss is made and a Statement of Affairs is prepared which resembles a balance sheet in appearance but which does not present an accurate picture of the financial position of the business.

4.5.2 Benefits of single entry system

- (a) It's quick and easy to maintain.
- (b) One doesn't require employing a qualified accountant.
- (c) This is extremely useful for business run by individuals where the volume of activity is not large.
- (d) It is economical as it does not need a comprehensive record keeping.

4.5.3 Weaknesses of single entry system

- (a) As principle of double entry is not followed, the trial balance cannot be prepared. As such, arithmetical accuracy cannot be guaranteed.
- (b) Profit or loss can be found out only by estimates as nominal accounts are not maintained.
- (c) It is not possible to make a balance sheet in absence of real accounts. d) It is very difficult to detect frauds or errors.
- (d) Valuation of assets and liabilities is not proper.
- (e) The external agencies like banks cannot use financial information. A bank cannot decide whether to lend money or not.
- (f) It is quite likely that the business and personal transactions of the proprietor get mixed.

4.5.4 The method

As the records are incomplete, how does a businessman find out whether he has made a profit or loss? There is no fixed methodology but some techniques can give rough calculations that help assessing the business results. Consider a businessman had cash of ₹15,000. He purchased goods for ₹10,000, sold the same for ₹17,000. Here, the estimate of profit is ₹7,000 (17,000-10,000) and a closing cash of ₹22,000. Another way is to find out the increase or decrease in capital (or net assets).

This method is called statement of affairs method. The statement of affairs is similar to the balance sheet with regard to the format and is based on the same accounting equation of

$$\text{Capital} = \text{Assets} \text{ less } \text{Liabilities}$$

The opening as well as closing statement of affairs is made on the basis of information available. Then a statement of profit or loss is prepared. This is made by considering the changes in capital due to additional money brought in by the businessman and the drawings made by him during the period.

Statement of Profit and Loss for the year ended.....

Particulars	Amount (₹)	Amount (₹)
Capital (at the end)	xx	
Less : Capital (at the beginning)	xx	xx
Add : Drawings		xx
Less : Further Capital (if any)		xx
Profit/Loss		xx
Less : Adjustments, if any say, Bad debts, Depreciation etc.		xx
Net Profit/Loss for the period		xx
Less : Appropriation items :		
(i) Interest on partner's capital	xx	
(ii) Partners' salaries etc.	xx	xx
Divisible Profit		xx



Illustration 45

Mr. Prakash keeps his accounts on single entry system. He has given following information about his assets and liabilities.

Item	On 31-3-2011	On 31-3-2012
Creditors	55,200	58,500
Cash at bank	600	1500
Bills payable	26,400	28,200
Bills receivables	16,200	18,300
Debtors	45,600	56,000
Stock in trade	31,000	47,300
Machinery	66,200	78,000
Computer	18,000	17,000

During the year, Prakash brought in additional ₹7,500 cash in business. He withdrew goods of ₹2,100 and cash of ₹7,200 for his personal use. Interest on opening capital is to be given at 5% and interest on drawing is to be charged at 10%.

Prepare statement of profit or loss for the year ended 31-03-2012.

Solution

Here the information about opening and closing capital is not given. Both these figures can be computed based on statement of affairs as on 31-03-2011 and 31-03-2012. These can be worked out on the basis of information given. The balancing figures in both statements will represent capital figures as on those two days.

These figures will then be used together with the information to find out profit or loss. The interest on capital will increase it while, interest on drawings will result in decrease in capital. This will be included in the statement of profit or loss for the year ended 31-03-2012.

Statement of Affairs as on 31-3-2011

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors	55,200	Cash at Bank	600
Bills payable	26,400	Bills receivables	16,200
Capital (balancing figure)	96,000	Debtors	45,600
		Stock in trade	31,000
		Machinery	66,200
		Computers	18,000
	1,77,600		1,77,600

Statement of Affairs as on 31-3-2012

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors	58,500	Cash at Bank	1,500
Bills payable	28,200	Bills receivables	18,300
Capital (balancing figure)	131,400	Debtors	56,000
		Stock in trade	47,300
		Machinery	78,000
		Computers	17,000
	2,18,100		2,18,100

Statement of profit or loss for the year ended 31-03-2012

Particulars	Amount (₹)
Closing Capital as per statement of affairs as on (31-3-2012)	1,31,400
Less: Opening Capital as per statement of affairs as on (31-3-2011)	(96,000)
Increase or decrease in capital	35,400
Add: Drawings (goods + cash)	9,300
Add: Interest on drawings @ 10% on ₹ 9,300	930
Less: Interest on opening capital @ 5% (96,000 * 5%)	(4,800)
Less: Fresh capital introduced	(7,500)
Net Profit or loss for the year	33,330

Illustration 46

On 1st April 2011, Neha started a beauty parlor. She acquired a shop for ₹1200,000 and paid ₹2,00,000 for interior fittings. She put ₹4,00,000 into business bank A/c. She carried on till 31st March 2012, when she wanted to know what the parlor has earned over the period. She has approached you to find out the business results with following information as on 31-03-2012:

In addition to the shop and fitting she had following possessions: Stock ₹6,00,000, Motor car (purchased on 30-09-2012) ₹5,50,000, Cash at bank ₹2,50,000. Based on her limited knowledge she has told you to charge depreciation of 2% p.a. on shop, 5% p.a. on fittings and 20% on car.

On 31-3-2012, ₹ 1,40,000 was payable to creditors, and ₹ 1,00,000 to a friend for money borrowed for business. She had withdrawn ₹ 2,000 per month from the business.

Prepare her statement of profit or loss for the year.

Solution:**Statement of Affairs as on 01-04-2011**

Liabilities	Amount (₹)	Assets	Amount (₹)
Capital (balancing figure)	18,00,000	Shop	12,00,000
		Fittings	2,00,000
		Bank	4,00,000
	18,00,000		18,00,000

Statement of Affairs as on 31-3-2012

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors	1,40,000	Shop (12,00,000 Less 2% of 12,00,000)	11,76,000
Loan from Friend	1,00,000	Fittings (2,00,000 Less 5% of 2,00,000)	1,90,000
Capital (balancing figure)	24,71,000	Cash at Bank	2,50,000
		Motor car	4,95,000
		Stock in trade	6,00,000
	27,11,000		27,11,000



Statement of profit or loss for the year ended 31-03-2012

Particulars	Amount (₹)
Closing Capital as per statement of affairs as on 31-3-2012	24,71,000
Less: Opening Capital as per statement of affairs as on 31-3-2011	(18,00,000)
Increase or (decrease) in capital	(6,71,000)
Add: drawings (2000*12)	24,000
Net Profit or loss for the year	(6,95,000)
Note:	
Depreciation calculation	
Shop @ 2% for 1 year on ₹ 1,200,000	24,000
Fittings @ 5% for 1 year on ₹ 200,000	10,000
Car @20% for 6 months on ₹ 550,000	55,000

Illustration 47

Rani, Priti and Deepa started a business in partnership on 1st April 2011 and agreed to share profits or losses in the ratio of 5:3:2. They brought in capital as – Rani ₹50,000, Priti ₹30,000 and Deepa ₹20,000.

On 31-03-2012 their state of affairs was: Cash in hand ₹2500, Bank Overdraft ₹15,000, creditors ₹10,200, Debtors ₹17,300 and Bills payable ₹3,500. Bills receivables ₹4,000, stock ₹20,400, Machinery ₹30,000, Furniture ₹9,800, Loan from Central Bank ₹20,000, Building ₹70,000 and outstanding salaries ₹1,000.

On verification of records, it's found that out of debtors ₹300 is bad & should be written off. Stocks were overvalued by ₹400 and furniture was undervalued by ₹200. Interest on loan was ₹1,000. A provision of 10% on remaining debtors needs to be made.

During the year, the cash withdrawal by partners for their personal use was – Rani ₹4,500, Priti ₹3,500 and Deepa ₹6,900. Salary of ₹500 per month was payable to Deepa.

Prepare statement of profit or loss made by the partnership firm.

Solution

As the opening capital figures are given, there's no need to prepare the statement of affairs as on 1st April 2011. We need to show the closing statement of affairs as follows:

Statement of Affairs as on 31-3-2012

Liabilities	Amount (₹)	Assets	Amount (₹)
Bank overdraft	15,000	Cash in hand	2,500
Creditors	10,200	Debtors	17,300
Bills payable	3,500	Less: Bad debts	(300)
Loan from Central Bank	20,000	Less: Provision @ 10%	(1,700)
Outstanding salaries	1,000		15,300
Outstanding interest on loan	1,000	Bills receivables	4,000
		Stock	20,400
		less: Overvalued	(400)
Combined Capital (balance)	101,100		20,000
		Machinery	30,000
		Furniture	9,800
		add: Undervalued	200
		Building	70,000
	1,51,800		1,51,800

Statement of profit or loss for the year ended 31-03-2012

Particulars	Amount (₹)
Combined Closing Capital as per statement of affairs as on 31-3-2012	1,01,100
Less: Opening Capital (Rani ₹ 50,000, Priti ₹ 30,000 and Deepa ₹ 20,000)	(100,000)
Increase or (decrease) in capital	1,100
Add: Drawings (Rani ₹ 4,500, Priti ₹ 3,500 & Deepa ₹ 6,900)	14,900
Less: Salary to Deepa (₹ 500*12)	(6,000)
Net Profit or loss for the year	10,000

Note & Verification

Share of profits is Rani ₹ 5,000, Priti ₹ 3,000 and Deepa ₹ 2,000.

	Rani	Priti	Deepa	Total
Original capital	50,000	30,000	20,000	100,000
Add : Share in profit	5,000	3,000	2,000	10,000
Add: Salary			6,000	6,000
Less: Drawings	(4,500)	(3,500)	(6,900)	(14,900)
Closing Capital	50,500	29,500	21,100	101,100

4.5.5 Alternative method: Conversion of single entry to double entry:

It may be possible to prepare the P & L A/c and balance sheet for such organizations by converting the records into double entry method. In this method, various ledger accounts are prepared e.g. sales, purchases, debtors, creditors, Trading A/c, cash book. As full information is not available the balancing figure in each of these accounts needs to be correctly interpreted. For example, if we know opening & closing balances in Debtors' A/c and the cash received from debtors; then the balancing figure will obviously indicate sales figures. Also, if we know opening and closing balances of creditors & credit purchases figures; then the balancing figure will certainly mean cash paid to creditors.

Once these figures are calculated, it's easy to prepare the financial statements in regular formats.

Illustration 48

Find out the collection from debtors from the following details	₹
Opening debtors	34,000
Opening Bank balance	8,000
Closing debtors	46,000
Closing bank balance	14,000
Payments to creditors	160,000
Credit sales	237,000
Bills receivable encashed	18,000
Bills payable paid	12,000
Drawings	24,000
Expenses paid	36,000
Discount allowed	5,000

Solution

Dr.	Debtors Account		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Balance b/d	34,000	By, Bank (collection) A/c	2,25,000
To, Sales (credit)	2,37,000	By, Balance c/d	46,000
	2,71,000		2,71,000



Dr .

Cash / Bank Account

Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Balance b/d	8,000	By, Creditors A/c	160,000
To, B/R encashed	18,000	By, Discount allowed A/c	5,000
To, Debtors (collection)	225,000	By, B/P paid A/c	12,000
		By, Drawings A/c	24,000
		By, Expenses A/c	36,000
		By, Balance c/d	14,000
	2,51,000		2,51,000

Illustration 49

From the following particulars presented by Mr. Paul, you are asked to prepare:

- (i) Total Debtors Account;
- (ii) Total Creditors Account;
- (iii) Bills Receivable Account;
- (iv) Bills Payable Account.

On 1.1.2012:	(₹)
Total Debtors amounted to	30,000
Total Creditors amounted to	10,000
Total Bills Receivable amounted to	12,000
Total Bills Payable amounted to	4,000
Transaction during the year:	
Cash received from Debtors	20,000
Discount allowed to Debtors	5,000
Bad Debts written off	2,500
Returns Inward	4,000
Cash Sales	14,000
Cash Purchases	6,000
Cash received against Bills Receivable	9,000
Cash paid to Suppliers	8,000
(including a payment of ₹ 500 for purchasing a machine)	
Cash paid against Bills Payable	2,500
Discount received from suppliers	500
Returns Outward	1,000
Bills Payable dishonoured	500
On 31.12.2012:	
Total Debtors amounted to	50,000
Total Creditors amounted to	20,000
Total Bills Receivable amounted to	15,000
Total Bills Payable amounted to	7,000

Solution:

In the books of Mr. Paul
Bills Payable Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To Cash A/c	2,500	By Balance b/d	4,000
`` Total Creditors (for dishonor)	500	`` Total Creditors (bal. fig.)	6,000
`` Balance c/d	7,000		
	10,000		10,000

Total Creditors Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To Cash	7,500	By Balance b/d	10,000
`` Discount Received	500	`` Bills Payable(for dishonor)	500
`` Returns Outward	1,000	`` Credit Purchases (bal. fig.)	24,500
`` Bills Payable	6,000		
`` Balance c/d	20,000		
	35,000		35,000

Bills Receivable Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	12,000	By Cash	9,000
`` Total Debtors A/c (bal. fig.)	12,000	`` Balance c/d	15,000
	24,000		24,000

Total Debtors Account

Particulars	Amount (₹)		Amount (₹)
To Balance b/d	30,000	By Cash	20,000
`` Credit Sales (bal. fig.)	63,500	`` Discount Allowed	5,000
		`` Bills Receivable	12,000
		`` Bad Debts	2,500
		`` Returns Inward	4,000
		`` Balance c/d	50,000
	93,500		93,500

Notes:

- Purchase of a machine for ₹ 500 will be excluded.
- Cash Sales and Cash purchases will have no impact on Total Debtors and Total Creditors account.

Illustration 50

Mrs. Laxmi, a retail trader needs final accounts for the year ended 31-03-2012 for the purpose of taking a bank loan. However, she informs you that principle of double entry had not been followed. With following inputs, prepare a Profit & Loss A/c for the year ended 31-03-2012 and Balance sheet as on 31-03-2012. Details of receipts and payments:

- Cash deposited in bank ₹3,500
- Dividend on personal A/c deposited into bank ₹250
- Tuition fees of Laxmi's daughter paid by cheque ₹4,500



- (4) Rent for the year by cheque ₹ 9,000
- (5) Cash received from debtors ₹ 52,500
- (6) Paid to creditors ₹ 40,025
- (7) Salaries & wages paid in cash ₹ 9,000
- (8) Transportation in cash ₹ 2,750
- (9) Office electricity in cash ₹ 6,600
- (10) Electricity (house) in cash ₹ 7,200
- (11) General expenses in cash ₹ 890.

Opening and closing balances of assets & liabilities:

Particulars	31-3-2011	31-3-2012
Stock	42,500	22,500
Bank	55,500	20,500
Cash	10,850	10,500
Debtors	16,800	14,800
Creditors	15,600	22,800
Investments	15,000	15,000

She also informs you that she draws ₹6,000 from bank on monthly basis and some debtors deposit cheques directly in bank.

Solution:

Dr. **Stock Account** **Cr.**

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	42,500	By Cost of sales (bal. fig)	90,135
To Purchases (credit)	47,225	By Balance c/d	22,500
To Cash (purchases)	22,910		
	1,12,635		1,12,635

Dr . **Bank Account** **Cr.**

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	55,500	By Drawings (tuition fees)	4,500
To Cash A/c	3,500	By Rent	9,000
To Capital (dividend)	250	By Creditors	40,025
To Debtors (balancing figure)	86,775	By Drawings (@ 6000 pm)	72,000
		By Balance c/d	20,500
	1,46,025		1,46,025

Dr. Cash Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	10,850	By Bank	3,500
To Debtors	52,500	By Salaries & wages	9,000
		By Transportation	2,750
		By Electricity	6,600
		By Drawings (electricity)	7,200
		By General expenses	890
		By Purchases (balancing figure)	22,910
		By Balance c/d	10,500
	63,350		63,350

Dr. Debtors Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	16,800	By Cash	52,500
To Sales (credit Sales) (balancing figure)	1,37,275	By Bank	86,775
		By Balance c/d	14,800
	1,54,075		1,54,075

Dr. Creditors Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Bank	40,025	By Balance b/d	15,600
To Balance c/d	22,800	By Purchases (credit) (bal. fig.)	47,225
	62,825		62,825

Dr. Mrs. Laxmi's capital Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Drawings (tuition fees)	4,500	By Balance b/d (bal. fig.)	1,25,050
To Drawings (electricity)	7,200	By Bank (dividend)	250
To Drawings (bank)	72,000		
To Balance c/d	41,600		
	1,25,300		1,25,300

Dr. Trading Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Opening stock A/c	42,500	By Sales A/c	1,37,275
To Purchases A/c	70,135	By Closing sock A/c	22,500
To Gross profit c/d	47,140		
	1,59,775		1,59,775

Dr. Profit And Loss Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Rent	9,000	By Gross Profit b/d	47,140
To Salary & wages	9,000		
To Transportation	2,750		
To Electricity	6,600		
To General Expenses	890		
To Net Profit c/d	18,900		
	47,140		47,140



Balance sheet as on 31st March 2012

Particulars	Amount (₹)	Particulars	Amount (₹)
Creditors	22,800	Stock	22,500
Capital (balancing figure)	41,600	Bank	20,500
Net profit	18,900	Cash	10,500
		Debtors	14,800
		Investment	15,000
	83,300		83,300

Illustration 51

Ms. Mythily who maintained books under single entry method approaches you with the following details. You are requested to prepare statement of affairs as on 31-03-2012 and P & L A/c for the year ended 31-3-2012.

	31-3-2011	31-3-2012
Cash	1,500	8,500
Saving A/c with ICICI	2,000	10,000
Debtors	42,000	85,000
Advance received		15,000
Creditors	89,000	2,500
Advance paid		50,000
Building (depreciate 5%)	400,000	?
Car (depreciate 20%)	358,000	?
Computer (depreciate 60%)	70,000	?

₹

Credit sales during the year	10,95,000
Cash sales during the year	12,50,000
Credit purchases during the year	8,20,000

Details of cash expenses: Salary ₹ 48,000, vehicle expenses ₹ 18,000, repairs & maintenance ₹ 3,000

Details of expenses paid by cheque: rent ₹ 60,000, telephone ₹ 15,000, electricity ₹ 9,000

Discount allowed ₹ 250, discount received ₹ 550

Amount received from debtors was deposited into bank.

Advance was paid by cheque and advance received was also in the bank.

Drawings in cash ₹ 40,000, drawings through bank ?

Cash purchases during the year ?

Solution:

Dr.		ICICI Bank Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	2,000	By Telephone	15,000		
To Cash (from customers)	10,51,750	By Rent	60,000		
To Advance from Debtors	15,000	By Electricity	9,000		
		By Drawings (balancing figure)	18,800		
		By Advance to suppliers	50,000		
		By creditors	905,950		
		By Balance c/d	10,000		
	10,68,750		10,68,750		

Dr. Cash Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	1,500	By Salaries	48,000
To Sales	12,50,000	By Vehicle expenses	18,000
		By Repairs & Maintenance	3,000
		By Drawings	40,000
		By cash purchase (bal. fig.)	11,34,000
		By Balance c/d	8,500
	12,51,500		12,51,500

Dr. Debtors Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Balance b/d	42,000	By discount	250
To sales (credit Sales)	10,95,000	By Bank (bal. fig.)	10,51,750
		By Balance c/d	85,000
	11,37,000		11,37,000

Dr. Creditors Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Bank (bal fig)	9,05,950	By Balance b/d	89,000
To discount	550	By Purchases (credit)	8,20,000
To Balance c/d	2,500		
	9,09,000		9,09,000

Balance Sheet as on 31-03-2011

Liabilities	Amount (₹)	Assets	Amount (₹)
Capital (Bal. Fig.)	7,84,500	Building	400,000
Creditors	89,000	Car	358,000
		Computer	70,000
		Debtors	42,000
		Cash	1,500
		Bank	2,000
Total	8,73,500	Total	8,73,500

Dr. Ms. Mythily's Capital Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Drawings (cash)	40,000	By Balance b/d	7,84,500
To Drawings (bank)	18,800		
To Balance c/d	7,25,700		
	7,84,500		7,84,500



Dr.

Trading and P & L Account

Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To Purchases cash	11,34,000	By Sales credit	10,95,000
To Purchases credit	8,20,000	By Sales cash	12,50,000
To Salary	48,000	By Discount	550
To Vehicle expenses	18,000		
To Repairs & maintenance	3,000		
To Rent	60,000		
To Telephone	15,000		
To Electricity	9,000		
To Discount	250		
To Depreciation on building	20,000		
To Depreciation on car	71,600		
To Depreciation on computer	42,000		
To Net profit	104,700		
	23,45,550		23,45,550

Statement of Affairs as on 31st March 2012

Liabilities	Amount (₹)	Assets	Amount (₹)
Creditors	2,500	Building (4,00,000-20,000)	3,80,000
Advance from debtors	15,000	Car (3,58,000-71,600)	2,86,400
Capital	7,25,700	Computers (70,000 - 42,000)	28,000
Net profit	1,04,700	ICICI Bank	10,000
		Cash	8,500
		Debtors	85,000
		Advance to suppliers	50,000
	8,47,900		8,47,900

Study Note - 5

ACCOUNTING FOR SPECIAL TRANSACTIONS



This Study Note includes

- 5.1 Bills of Exchange
- 5.2 Consignment Accounting
- 5.3 Joint Venture Accounts
- 5.4 Sales of Goods on Approval or Return Basis

5.1 BILLS OF EXCHANGE

5.1.1 Introduction

Business activity involves exchange of goods or services for money. A business transaction gets 'closed' if the exchange is settled immediately. When goods are purchased from supermarket and paid for in cash the settlement is instant. Same is the case when we go to a restaurant, have food and pay either by cash or credit card. Most of the settlements are not on cash basis, where payment for goods or services is deferred at the behest of both parties to the transaction. Such deferred payments are done through instruments like cheques, pay order, letter of credit, promissory note, bills of exchange, hundies etc. These instruments facilitate credit transactions and hence sometimes they are referred to as credit instruments or negotiable instruments. Even in ancient times some credit instrument like hundies were extremely popular.

In case of credit transaction, the supplier normally gets a promise from the customer that he will settle the payment at a future date as agreed. It could either be a promissory note or bill of exchange. The promissory note is written by the customer as an undertaking to pay the money, whereas the bill of exchange is a note drawn by the seller and accepted by the buyer. In India, the Negotiable Instruments Act 1981 governs the provisions for bills of exchange. As per this act, the bill of exchange is defined as "an instrument in writing containing an unconditional order signed by the maker, directing a certain person to pay a certain sum of money only to the order of the certain person or to the bearer of the instrument"

Based on this definition the following features of a bill of exchange are noticed:

- (a) It's an instrument in writing.
- (b) It contains an unconditional order
- (c) It's signed by the maker.
- (d) It's drawn on a specific person
- (e) There is an order to pay a specific sum of money
- (f) It must be dated.
- (g) It specifies to whom the payment is to be made e.g. to the maker or to person mentioned by him or to the bearer.

Whereas, a bill of exchange is drawn by seller and accepted by buyer; a promissory note, on the other hand, is created by the buyer as an undertaking to pay to the seller.

Specimen of a bill of exchange:

Stamp	Address of Drawer
	Date
Three months after date pay to a sum of ₹ 50,000 (Fifty Thousands only) for the value received.	
To B accepted	
(B's signature & stamp)	A (Drawer)

5.1.2 Parties to Bill of Exchange

The parties involved in transaction that uses bill of exchange as a mode of settlement are:

- (a) **Drawer:** He is a person who draws the bill. Typically, he is the seller or a creditor.
- (b) **Drawee:** He is the person on whom the bill is drawn. Normally, he is the buyer or debtor. He has to pay the amount of the bill to the drawer on the due date.
- (c) **Payee:** He is the person to whom the amount of bill is payable. He may be the drawer himself or the creditor of the drawer.
- (d) **Endorsee:** He is the person in whose favour the bill is endorsed by the drawer. He is usually the creditor of the drawer.

Suppose, 'A' sells goods to 'B' for ₹ 1,00,000. 'A' draws a bill on 'B' who accepts the same to pay this amount after 90 days. Here, 'A' is the drawer and 'B' is the drawee. If 'A' specifies that the amount will be paid to 'C', then 'C' will be the payee.

It is necessary that the bill is accepted by the drawee. Only then it becomes a valid negotiable instrument. Such accepted and signed bill of exchange is usually 'noted' with 'notary public'. Such noting is usually done when the bill is dishonoured.

5.1.3 Holder and Holder in Due Course**Holder**

According to Sec 8 of the Negotiable Instruments Act a Holder is "Any person entitled in his own name to the possession thereof and to receive or recover the amount due thereon from the parties thereon". It indicates the person who is legally entitled to receive the money due on the instrument is called the 'Holder'.

Holder in Due Course

According to Sec 9 of the Negotiable Instruments Act, the holder in due course is a particular kind of holder. The person of a negotiable instrument is called holder if he/she satisfies the following conditions:

- (a) He/she has obtained the instrument for valuable consideration.
- (b) He/she became the holder of the instrument before the maturity of the instrument.
- (c) He/she must acquire the instrument bona fide and having no cause to believe that, any defect existed in the title of the person from whom he derived his title.



5.1.4. Dishonour of Bill

Dishonour of a Bill means that the acceptor refuses to honour his commitment on due date and for this, payment of the bill on presentation does not take place. At the time of dishonor of a bill, original relationship between the parties is restored, that is, the drawee again becomes the debtor of the drawer in his books and drawer is treated then as a creditor in the books of drawee. Moreover, the drawer becomes liable here to compensate the bank (or for that matter endorsee) if the bill is not retained by the drawer till date of the maturity.

To provide a legal evidence of dishonour, the fact of dishonour is to be noted on the bill by 'Notary Public'. The fact of dishonour which he is recording is called 'noting' and the amount charged by him for his services are called 'noting charges'. These charges are to be paid by the holder of the bill on the date of default. Actually the acceptor of the bill is liable for the dishonour, the noting charges paid by the holder are to be reimbursed by the acceptor.

The Journal Entries for dishonor of a bill are as follows:

(a) When bill is retained till due date:

Books of Drawer		Books of Acceptor	
Acceptor A/c	Dr.	Bills Payable A/c	Dr.
To Bills Receivable A/c		Noting Charges A/c	Dr.
To Cash A/c		To Drawer A/c	
(Acceptor account is debited with the amount of the bill and the amount of noting charges paid in cash)		(Drawer account is credited with the amount of the bill and the amount of the noting charges to be reimbursed through the drawer)	

(b) When bill is discounted from the bank:

Books of Drawer		Books of Acceptor	
Acceptor A/c	Dr.	Bills Payable A/c	Dr.
To Bank A/c		Noting Charges A/c	Dr.
To Drawer A/c		To Drawer A/c	
(amount of the bill plus the noting charges paid by the bank are debited to Acceptor A/c credited to Bank A/c)		(Drawer account is credited with the amount of the bill and the amount of the noting charges paid by the bank to be reimbursed through the drawer)	

5.1.5 Discounting of Bills

If the holder of a bill receivable cannot wait till the date of maturity of the bill and needs cash before the date due, then he can get the bill discounted from the bank. At the time of discounting it, the bank pays cash after deducting the discount from the value of the bill. The discount which is to be deducted depends upon the rate of interest and the remaining period of the bill and is calculated as follows.

Discount = Amount of the bill × Remaining period to maturity × Rate of interest

For example, if a bill of ₹10,000 due for payment on 15.03.2012 is discounted on 15.01.2012 at 24% p.a., the amount of discount is calculated as under:

Amount of Bill = ₹10,000

Rate of interest = 24%

Remaining period of the bill = 2 months

Discount = ₹10,000 × $\frac{2}{12}$ × $\frac{24}{100}$ = ₹400

Cash received on Discounting = ₹(10,000-400) = ₹9,600

Discount is an expenses for the holder receiving the payment and gain to the bank.

Journal Entries in the books of drawer and drawee at the time of discounting and payment on due date are as under:

Books of Drawer	Books of Drawee
1. At the time of cash received from Bank on discounting of bills: Bank(or Cash) A/c Dr. Discount A/c Dr. To Bills Receivable A/c (For bills, discounted from bank)	Discounting of bill: No entry is passed in the books of Drawee for discounting of the bill.
2. Payment of bill by drawee to Bank on due date: No entry is passed in the books of the drawer because the bill is duly honoured by the drawee.	Payment of the bill on due date : Bills Payable A/c. Dr. To, Cash (or Bank) A/c. (For payment of the bill to bank)
3. Transfer of discount to Profit and Loss Account: Profit & Loss A/c Dr. To Discount A/c	No entry

5.1.6 Tenure, Days of Grace and Date of Maturity or Due Date of Bills

Tenure

The bill is payable at sight, on demand after sight, after date etc. The period between the date of drawing of the bill and the period it becomes due is called Tenure of the Bill.

Days of Grace

In case the bill is payable on demand, it becomes due immediately on presentation for payment. In the same way if the bill is not payable on demand becomes due on the third day from the date of maturity. These three days are called Days of Grace. For example, if a bill is drawn on 1.4.2012 for 4 months, the due date or date of maturity will be 4.8.2012. The same can be computed as under:

Date of Drawing	1.4.2012
Add: Period/Tenure	4 months
	1.8.2012
Add: Days of Grace	3
Due Date / Date of Maturity	4.8.2012

Date of Maturity

Date of Maturity is also known as Due Date. The date on which the amount of the bill becomes payable is called 'Due Date' or 'Date of Maturity'. To compute due date, three days (called Grace Period) are included to the date of maturity of the period of the bill.

The date of maturity of the period of bills depends on whether (a) the bill is payable on date or bill is payable on sight. If the bill is payable on date, the date of maturity is computed by including tenure of bill to the making of the bill.

Date of maturity can be understood with the help of the following example:

Date of Drawing	12.12.2012
Tenure	+3 Months
	12.03.2013



However, If the bill becomes due at sight, the date of maturity is counted by including tenure of the bill to the date of acceptance of the bill. In that case, the due date of the bill is calculated as follows:

Date of Acceptance	16.12.2012
Tenure	+3 months
	16.3.2013

The due date of the bill after including grace period of 3 days is 15.3.2013 if the bill is payable at date and 19.3.2013 if the bill is payable at sight.

For computing the date of maturity, following points should be noted:

1. Days of grace are allowed on bills payable on maturity of a fixed period. In case of bills payable on demand, amount is required to be paid on presentation and no grace period is allowed.
2. If period of the bill matures on a date which is not there in the month in question, then the due date is taken as the last date of the month. For example, if a bill is drawn on 31.1.2012 and the period of the bill is 3 months, the period bill becomes payable on 30.4.2012 and after including grace days, due date is 3.5.2012.
3. In case the expiry date of a bill falls on a holiday, the bill becomes payable on the preceding day. But when the maturity date is a bank holiday or a Sunday and the second day of grace is also a holiday, the bill is payable on the next working day.
4. The tenure of the bill can be explained in months or in days. The due date of bill should be computed considering this fact in mind. Hence, if S draws bill on A on 31.1.2012 of one month, the maturity date of the bill is computed as follows :

Date of Drawing	31.1.2012	
Tenure	+1 month	
	29.2.2012	(2012 is a leap year.)
Days of Grace	<u>+3 days</u>	
	03.03.2012	

However, if tenure of the bill is 30 days , the expiry date of the bill is computed as follows :

Date of Drawing	31.1.2012
Tenure	<u>+30 days</u>
	01.03.2012
Days of Grace	<u>+3 days</u>
	4.3.2012

Hence, tenure of one month and 30 days are different.

5.1.7 Types of Bills of Exchange

- a) **Trade bill:** This bill is drawn to settle a trade transaction.
- b) **Accommodation bill:** This bill is used without a trade transaction and is for mutual benefit. If Mr. X is in need of money, he draws a bill on his friend Mr. Y who accepts it. This bill is then discounted with bank (bank will pay money before due date) and the money is shared between X and Y. On the due date, Y will pay to the bank and X will pay Y his share. Law generally does not recognise such bills.

5.1.8 Operating Cycle of the Trade Bill of Exchange

We will see the cycle in case of a trade bill of exchange. There is a trade transaction to begin with. The seller will then draw a bill on the buyer who will accept it and return it back to the seller. The seller has four options:

- Retain the bill with him till maturity and then present the bill to the buyer to claim the money on that date.
- Discount the bill with the bank if urgent money is needed. The bank will deduct discounting charges and pay the drawer. The bank will collect the bill from the drawee on due date.
- Endorse the bill to his creditor to settle his liability towards the creditor. Here, on the due date the creditor of the drawer will receive money from the drawee.
- Send the bill to the bank for collection. Here, the bank will keep the bill with them till maturity, collect the payment on the due date and credit it to the A/c of the drawer. Bank charges commission for such activity.

The bill of exchange, being a credit instrument, means a right to claim for the drawer and an obligation to pay for the drawee. For the drawer, the bill is Bill Receivable (often referred to as B/R) since he has to get the money on due date. This is a monetary asset shown under current assets in books of the drawer.

For the drawee, the bill is Bill Payable (often referred to as B/P) since he has to make the payment on the due date. This is shown under current liability in the books of the drawee.

For endorsee, it represents a monetary asset (B/R).

If on the due date the payment of the bill is not done, it is said to have dishonoured. When bill is dishonoured, the old claims of trade transaction is reopened.

5.1.9 Promissory Note

A person, by whom any amount is payable himself prepares and signs a written undertaking to pay. Here the credit document is called a 'Promissory Note'. It's a written document and contains an undertaking or promise to pay. As per Indian Negotiable Instrument Act, a 'Promissory Note' is "an instrument in writing (not being a bank note or a currency note) containing an unconditional undertaking signed by the maker to pay a certain sum of money to, or to the order of, a certain person." The person to whom the amount is payable is called Promisee or Payee.

A specimen of Promissory Note which is prepared by Mr. A.Chakraborty in favour of Mr.R.K.Nandy is as follows:

₹15,000	12-03-2012 J-49, B.N. Marg, New Delhi
I, promise to pay Mr. R. K. Nandy after 3 months on order, the sum of ₹15,000 (Rupees Fiteen Thousands only) for value Received.	
Place: Date : 16/03/2012	Sd/- A.Chakraborty 16-03-2012

5.1.10 Essential features of Promissory Note

Essential Features of Promissory Note are as follows:

- It is a written document and adequately signed by the maker or promisor.
- It must contain an undertaking or promise to pay a definite amount given in both figures and words.
- The amount is payable either on demand or on the maturity of a fixed period.
- The amount is payable either to a prescribed person or to his/her order. The person to whom the amount should be payable is known promisee or payee.

> 5.6 I FUNDAMENTALS OF ACCOUNTING



5.1.11 Difference between Bills of Exchange and Promissory Note

The differences between these two items are as under:

Bills of Exchange	Promissory Note
1. It is drawn by the seller.	1. It is drawn by the purchaser.
2. It involves an order to make payment.	2. It involves a promise to make payment
3. It consist of three parties, viz. the drawer, the acceptor and the payee.	3. It consist of two parties, namely, the promisor (or maker) and promisor (or payee)
4. To be effective, it must be accepted.	4. It does not need acceptance.
5. Drawer and the payee can be the same person.	5. Maker and payee cannot be the same person.
6. Acceptor is required to make payment on due date. In case of any default, drawer is liable to pay the amount to payee.	6. Drawer or maker is required to make payment on due date.

5.1.12 Methods of Accounting

Let us see what accounting entries are passed in the books of the drawer, drawee and the endorsee. These entries may be thoroughly understood. Here entries only regarding bill transactions are listed. The trade transaction that precedes the bill of exchange will be accounted for in the usual manner, hence the entries are not given here.

a) When the drawer retains the bill till maturity

Situations	Drawer's books	Drawee's books	Endorsee's books
Drawing of a bill	B/R A/c To, Drawee A/c	Dr. Drawer A/c To, B/P A/c	Dr. Not applicable
Payment on due date	Bank A/c To, B/R A/c	Dr. B/P A/c To, Bank A/c	Dr. Not applicable
Dishonoured on due date	Drawee A/c To, B/R A/c To, Bank A/c (for noting charges)	Dr. B/P A/c Noting Charges A/c To, Drawer A/c	Dr. Dr. Not applicable

b) When the drawer discounts the bill with bank before maturity

Situations	Drawer's books	Drawee's books	Endorsee's books
Drawing of a bill	B/R A/c To, Drawee A/c	Dr. Drawer A/c To, B/P A/c	Dr. Not applicable
Discounting with bank	Bank A/c Discount A/c To, B/R A/c	Dr. Dr. No Entry	Not applicable
Payment due date	No Entry	B/P A/c To, Bank A/c	Dr. Not applicable
Dishonoured on due date	Drawee A/c To, Bank A/c (bill + noting charges)	Dr. B/PA/c Noting charges A/c To, Drawer A/c	Dr. Dr. Not applicable

Proportionate Discount Charges

If the date of maturity of a bill falls on a date of a month within the accounting year, discounting of bill can be done without any problem. But when the date of maturity falls on a month of the next year i.e. the due date falls on two accounting periods, problem will arise. In such a situation, proportionate amount of discount will be charged to Profit and Loss Account. This can be understood with the help of the following example:

A bill was drawn on 1st November, 2012 for ₹20,000 for 3 months. The bill was discounted by the bank on same day @12% p.a. Therefore, the total amount of discount will be ₹600 (i.e. $20000 \times \frac{12}{100} \times \frac{3}{12}$). So 2/3rd of ₹600, i.e. ₹400 will be transferred to Profit and Loss Account for the year ended 31st December, 2012.

Treatment of Discount in the Books of the Bank

The following entries are recorded in the books of the bank:

a. When the bill is discounted:

Bill Discounted A/c	Dr.
To, Customer's Current A/c	
To, Discounting on Bill A/c	

b. When amount is received from the drawee:

Cash A/c	Dr.
To, Bills Discounted A/c	

	Transactions	Entries in the books of Drawer	Entries in the books of Drawee
1	If the bill is drawn	Bills Receivable A/c Dr. To, Drawee A/c	Drawer A/c Dr. To, Bills Payable A/c
2	If the bill is discounted by the bank	Cash/Bank A/c Dr. Discount A/c Dr. To, Bills Receivable A/c	—
3	If the bill is honoured at the due date	—	Bills Payable A/c Dr. To, Cash / Bank A/c

c) When the drawer endorses the bill to a person before maturity

Situations	Drawer's books	Drawee's books	Endorsee's books
Drawing of a bill	B/R A/c Dr. To, Drawee A/c	Drawer A/c Dr. To, B/P A/c	Not applicable
Endorsement	Endorsee A/c Dr. To, B/R A/c	No Entry	B/R A/c Dr. To Drawer A/c
Payment on due date	No Entry	B/P A/c Dr. To, Bank A/c	Bank A/c Dr. To, B/R A/c
Dishonoured on due date	Drawee A/c Dr. To, Endorsee A/c (bill + noting charges)	B/P A/c Dr. Noting Charges A/c Dr. To, Drawer A/c	Drawer A/c Dr. To, B/R A/c To, Bank A/c (noting charges)

d) When the drawer sends the bill to bank for collection before maturity

Situations	Drawer's books	Drawee's books	Endorsee's books
Drawing of a bill	B/R A/c Dr. To, Drawee A/c	Drawer A/c Dr. To, B/P A/c	No Entry
Sending for collection	Bill for Collection Dr. To, B/R A/c	No Entry	No Entry
Payment on due date	Bank A/c Dr. Collection Charges A/c Dr. To, Bill for Collection	B/P A/c Dr. To, Bank A/c	No Entry
Dishonoured on due date	Drawee A/c Dr. To, Bill for Collection A/c To, Bank A/c (bill & noting charges)	B/P A/c Dr. Noting Charges A/c Dr. To, Drawer A/c	No Entry



Illustration 1.

Mohan sold goods to Sohan for ₹ 50,000. On 1st Jan 2012, Mohan drew a bill for three months on Sohan who accepted the same. Pass necessary journal entries in the books of Mohan and Sohan in following situations:

- The bill is retained by Mohan till 31st March and Sohan paid it on that day upon presentation.
- Bill is discounted with the bank and the bank pays ₹ 49,000 to Mohan. Sohan paid the bill on due date.
- Mohan endorsed the bill to Rohan (his creditor) in settlement of his claim for ₹ 51,000. The bill is settled on the due date.
- Mohan sent the bill to the bank for collection on due date. The bank collected bill amount and after deducting collection charges of ₹ 100 paid the balance to Mohan.

Solution:

Entries in the books of Mohan

(a) Bill is retained by Mohan:

	Particulars	L.F.	Dr. (₹)	Cr. (₹)
On getting Sohan's acceptance	B/R A/c Dr. To, Sohan's A/c (Being the bill accepted by Sohan)		50,000	50,000
On payment on 31-03-12	Bank A/c Dr. To, B/R A/c (Being the payment received against the B/R)		50,000	50,000

(b) Bill is discounted by Mohan:

	Particulars	L.F.	Dr. (₹)	Cr. (₹)
On getting Sohan's acceptance	B/R A/c Dr. To, Sohan's A/c (Being the bill accepted by Sohan)		50,000	50,000
On discounting	Bank A/c Dr. Discount A/c Dr. To, B/R A/c (Being Sohan's acceptance discounted)		49,000 1,000	50,000

On the date of maturity, as the bill is settled by Sohan to bank, there will be no entry in Mohan's books.

(c) Bill is endorsed to Rohan by Mohan:

	Particulars	L.F.	Debit (₹)	Credit (₹)
On getting Sohan's acceptance	B/R A/c Dr. To, Sohan's A/c (Being the bill accepted by Sohan)		50,000	50,000
On endorsement	Rohan's A/c Dr. To, B/R A/c To, Discount A/c (Being B/R endorsed to Rohan and discount availed)		51,000	50,000 1,000

(d) Bill is sent for collection to bank by Mohan:

	Particulars	L.F.	Dr. (₹)	Cr. (₹)
On getting Sohan's acceptance	B/R A/c Dr. To, Sohan's A/c (Being the bill accepted by Sohan)		50,000	50,000
On sending bill for collection	Bill for Collection A/c Dr. To, B/R A/c (being bill sent to bank for collection)		50,000	50,000
On payment on due date	Bank A/c Dr. Collection Charges A/c Dr. To, Bills for Collection A/c (being payment received on bill collected)		49,900 100	50,000

Entries in the books of Sohan

In all four situations, since the bill was honoured, the entries will be same as below.

	Particulars	L.F.	Debit (₹)	Credit (₹)
On acceptance of bill drawn by Mohan	Mohan's A/c Dr. To, B/P A/c (Being the bill of Mohan accepted)		50,000	50,000
On payment on due date	B/P A/c Dr. To, Bank A/c (Being payment of bill)		50,000	50,000

5.1.13 Insolvency of Drawee (Acceptor)

Insolvency of acceptor means that he cannot pay the amount owed by him. Therefore, on insolvency of the acceptor, bill will be treated as dishonoured and entries for dishonor of bill will be passed in the books of respective parties. Later on, when some amount is realized from the property or estate of the insolvent acceptor, entry for cash received is passed and the balance of amount due from the insolvent acceptor is treated as bad debts. In the books of acceptor the amount not paid is transferred to deficiency account (or profit and loss account). Normally, the amount paid by the insolvent person is expressed as percentage of the amount due and is called the 'Rate of Dividend'. For example, if ₹25,000 is payable by Mr. A to Mr. B and Mr. A is declared insolvent and a dividend of 20% is declared, journal entries for the final settlement are passed as under:

In the books of Mr. A

Particulars	L.F.	Dr. (₹)	Cr. (₹)
Mr. B A/c Dr. To, Cash A/c To, Deficiency A/c		25,000	5,000 20,000

In the books of Mr. B

Particulars	L.F.	Dr. (₹)	Cr. (₹)
Cash A/c Dr. Bad Debts A/c Dr. To, Mr. A A/c		5,000 20,000	25,000



In case of insolvency, it is better to prepare acceptor's account to work out the amount finally owed by him. Then, calculate cash received on account of dividend declared and the amount of bad debts.

Illustration 2.

A owes B ₹ 21,000. On 1.1.2012 he accepts a Bill for 3 months for ₹ 20,000 in full settlement. On the same date B discounts the Bill from his Banker at 6% p.a.

Before the due date, A becomes bankrupt and B receives first and final dividend of 20 paise in the rupee.

Write up the necessary accounts to record the above transactions in the books of B.

Solution:

In the books of B					
Dr.			Cr.		
A Account					
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012			2012		
Jan. 1	To, Balance b/d	21,000	Jan. 1	By, Bills Receivable A/c	20,000
April 4	To, Bank	20,000	April 4	By, Discount A/c	1,000
	To, Discount A/c	1,000		By, Cash A/c	4,200
				By, Bad Debts A/c	16,800
		42,000			42,000

Bills Receivable Account					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Jan. 1	To, A A/c	20,000	2012 Jan. 1	By, Bank A/c	19,700
				By, Discount A/c	300
		20,000			20,000

Illustration 3.

Sagar purchased goods worth ₹ 1,000 from Ravi for which the latter drew a bill on the former, payable after one month. Sagar accepted it and returned it to Ravi. Ravi endorsed it to Kamal, and Kamal to Amal. Amal discounted the bill with State Bank of India at 6% p.a. On maturity, the bill was dishonoured, noting charge being ₹ 10.

Show the entries in the books of all the parties including the books of State Bank of India.

Solution:

In the books of Ravi					
Journal Entries					
Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)	
₹	Sagar A/c Dr. To, Sales A/c (Goods sold to Sagar)		1,000	1,000	
₹	Bills Receivable A/c Dr. To, Sagar A/c (Bills drawn and accepted by Sagar for 1 month)		1,000	1,000	
₹	Kamal A/c Dr. To, Bills Receivable A/c (Bill endorsed to Kamal)		1,000	1,000	
₹	Sagar A/c Dr. To, Kamal A/c (Bill endorsed to Kamal dishonoured by Sagar including noting charge of ₹ 10)		1,010	1,010	

**In the books of Sagar
Journal Entries**

Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)
?	Purchase A/c Dr. To, Ravi A/c (Goods purchased from Ravi)		1,000	1,000
?	Ravi A/c Dr. To, Bills Payable A/c (Bill accepted for 1 month)		1,000	1,000
?	Bill Payable A/c Dr. Noting Charge A/c Dr. To, Ravi A/c (Bill dishonoured at maturity, noting charge being ₹ 10)		1,000 10	1,010

**In the books of Kamal
Journal Entries**

Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)
?	Bills Receivable A/c Dr. To, Ravi A/c (Bill received from Ravi)		1,000	1,000
?	Amal A/c Dr. To, Bills Receivable A/c (Bill received from Ravi endorsed to Amal)		1,000	1,000
?	Ravi A/c Dr. To, Amal A/c (Bill endorsed to Amal dishonoured on maturity, noting charge being ₹ 10.)		1,010	1,010

**In the books of Amal
Journal Entries**

Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)
?	Bills Receivable A/c Dr. To, Kamal A/c (Bill received from Kamal.)		1,000	1,000
?	Bank A/c Dr. Discount A/c Dr. To, Bills Receivable A/c (Bill received from Kamal discounted by the Bank at 6% p.a.)		995 5	1,000
?	Kamal A/c Dr. To, Bank A/c (Bill received from Kamal dishonoured, noting charge being ₹ 10.)		1,010	1,010



**In the books of State Bank of India
Journal Entries**

Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)
?	Bill Discounted A/c Dr. To, Amal's Current A/c To, Discount A/c (Amal's bill discounted which is due after 1 month.)		1,000	995 5
?	Amal's Current A/c Dr. To, Bills Discounted A/c To, Cash A/c (Bill received from Amal dishonoured at maturity, noting charge being ₹ 10.)		1,010	1,000 10

5.1.14 Renewal of Bills

Sometimes the drawee of a bill is not able to meet the bill on due date. He may request the drawer to draw a new Bill for the amount due. Sometimes he pays a certain amount out and accepts a first bill for the balance for which he has to pay a certain amount of interest which is either paid in cash or is included with the fresh bill. This bill is known as Renewal of Bills. That, the amount of the new bill will be face value of the original bill minus cash payment, if any, plus interest for the renewed period.

Entries in the books of Drawer and Drawee are shown below:

Transactions	Entries in the books of Drawer	Entries in the books of Drawee
(a) For dishonour of Bills	Usual entry	Bills Payable A/c Dr. To, Drawer A/c.
(b) For interest on renewed period	Drawee A/c Dr. To, Interest A/c.	Interest A/c Dr. To, Drawer A/c.
(c) If interest is paid in Cash	Cash A/c Dr. To, Interest A/c.	Interest A/c Dr. To, Cash A/c.
(d) For fresh Bill	Bills Receivable A/c Dr. To, Drawee A/c.	Drawer A/c Dr. To, Bills Payable A/c.

Illustration 4.

Sunil owed Anil ₹ 80,000. Anil draws a bill on Sunil for that amount for 3 months on 1st April 2012. Sunil accepts it and returns it to Anil. On 15th April 2012, Anil discounts it with Citi Bank at a discount of 12% p.a. On the due date the bill was dishonoured, the bank paid noting charges of ₹ 100. Anil settles the bank's claim along with noting charges in cash. Sunil accepted another bill for 3 months for the amount due plus interest of ₹ 3,000 on 1st July 2012. Before the new bill became due, Sunil retires the bill with a rebate of ₹ 500. Show journal entries in books of Anil.

Solution:

Journal entries in the books of Anil

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
2012 April, 1	Bills Receivables A/c Dr. To, Sunil's A/c (Being acceptance by Sunil)		80,000	80,000
2012 April, 15	Bank A/c Dr. Discount A/c Dr. To, Bills Receivables A/c (Being discounting of the bill @ 12% p.a. & discounting charges for 2.5 months)		78,000 2,000	80,000

2012 June, 30	Sunil's A/c To, Bank A/c (Being dishonour of the bill & noting charges paid by bank)	Dr.		80,100	80,100
2012 June, 30	Bank A/c To, Cash (Being cash paid to bank)	Dr.		80,100	80,100
2012 July, 1	Sunil's A/c To, Interest (Being interest due from Sunil)	Dr.		3,000	3,000
2012 July, 1	Bills Receivables A/c To, Sunil's A/c (Being new acceptance by Sunil for ₹ 80,100 & interest of ₹ 3,000)	Dr.		83,100	83,100
2012 July, 1	Bank A/c Rebate A/c To, Bills Receivables A/c (Being the amount received on retirement of the bill)	Dr. Dr.		82,600 500	83,100

Illustration 5.

On 1st April 2012 Mr. Bala draws a bill of ₹ 1,20,000 on Mr. Lala for the amount due for 4 months. On getting acceptance, on 5th April 2012, Bala endorses it to Mr. Kala in full settlement of his claim of ₹1,40,000 by paying the difference in cash. Lala approached Bala on 25th July saying that he needed to renew the bill for a further period of 4 months at an interest of 12% p.a. which Bala accepted. A fresh bill including interest was accepted by Lala on 1st August 2012. Bala settled his liability to Kala by cheque. This was duly settled on the due date. Pass journal entries in the books of Bala and Lala. Also show Bills Receivables A/c and bills Payable A/c.

Solution:**Journal entries in the Books of Bala**

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
2012 April 1	Bills Receivables A/c To, Lala's A/c (Being acceptance by Lala)	Dr.	1,20,000	1,20,000
2012 April 5	Kala's A/c To, Cash A/c To, Bills Receivables A/c (Being bill endorsed to Kala & cash payment made to him)	Dr.	1,40,000	20,000 1,20,000
2012 July 25	Lala's A/c To, Kala's A/c (Being cancellation of bill for renewal)	Dr.	1,20,000	1,20,000
2012 July 25	Lala's A/c To, Interest A/c (Being interest due from Lala)	Dr.	4,800	4,800
2012 July 25	Kala's A/c To, Bank A/c (Being claim of Mr. Kala settled)	Dr.	1,20,000	1,20,000



Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
2012 August, 1	Bills Receivables A/c Dr To Lala's A/c (Being acceptance by Lala with interest)		1,24,800	1,24,800
2012 Nove., 30,	Bank A/c Dr To Bills Receivables A/c (Being payment received on due date)		1,24,800	1,24,800

Dr.			Bills Receivable Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
1-Apr-12	To Lala A/c	1,20,000	5-Apr-12	By Kala A/c	1,20,000		
1-Aug-12	To Lala A/c	1,24,800	30-Nov-12	By Bank A/c	1,24,800		
		2,44,800			2,44,800		

Journal entries in the Books of Lala

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
2012 April, 1	Bala's A/c Dr. To Bills Payable A/c (Being acceptance of Bala's bill)		1,20,000	1,20,000
2012 July, 25	Bills Payable A/c Dr. To Bala's A/c (Being cancellation of the bill for renewal)		1,20,000	1,20,000
2012 August, 1	Interest A/c Dr. To Bala's A/c (being interest due to Bala)		4,800	4,800
2012 August, 1	Bala's A/c Dr. To Bills Payable A/c (Being Bala's bill accepted with interest)		1,24,800	1,24,800
2012 Nov. 30	Bills Payable A/c Dr. To Bank A/c (Being settlement of the bill due)		1,24,800	1,24,800

Dr.			Bills Payable Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
2012 July, 25	To Bala A/c	1,20,000	2012 April, 1	By Bala A/c	1,20,000		
2012 Nov. 30	To Bank A/c	1,24,800	2012 August, 1	By Bala A/c	1,24,800		
		2,44,800			2,44,800		

Illustration 6

On 1st January, 2012, P draws three months bill of exchange for ₹ 30,000 on his debtor, Q who accepts it on the same date. P discounts the bill on 4th January, 2012 with his bankers, the discount rate being 6% p.a.

On the due date, the bill is dishonored, the noting charges being ₹ 200. Q immediately makes an offer to P to pay him ₹ 10,000 cash on account and to settle the balance by agreeing to accept one bill of exchange for ₹ 12,000 at one month and the other for the balance at three months, the latter including at 12% p.a. for both the bills.

P accepts the arrangement. The bill for ₹ 12,000 is met on the due date, but the other bill is dishonored. Show Q's Account and Bills Receivable Account in the books of P.

Solution:

In the books of P Q's Account					
Dr.					Cr.
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Jan. 1.	To, Balance b/d	30,000	2012 Jan. 1.	By, Bills Receivable A/c	30,000
April 4.	To, Bank Interest A/c ($12,000 \times \frac{12}{100} \times \frac{1}{100} + 8,200 \times \frac{12}{100} \times \frac{12}{100}$)	366	April 4.	By, Bank A/c	10,000
				By, Bills Receivable A/c	12,000
				By, Bills Receivable A/c (8,200 + 366)	8,566
July 7.	To, Bills Receivable A/c	8,566	July 7.	By Balance c/d	8,566
		69,132			69,132
July 8.	To Balance b/d	8,566			

Bills Receivable Account					
Dr.					Cr.
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Jan. 1.	To, Q' A/c	30,000	2012 Jan. 4.	By, Bank A/c	29,550
April 4.	To, Q' A/c	12,000		By, Discount A/c ($30,000 \times \frac{6}{100} \times \frac{3}{12}$)	450
	To, Q' A/c	8,566			
			May 7.	By, Bank A/c	12,000
			July 7.	By, Q' A/c	8,566
		50,666			50,666

Illustration 7.

Short owes Slow ₹ 6,000 for which the former accepts a three months bill drawn by the latter. Slow immediately discounts the bill with his banker Strong Bank, at 12%. On the due date the bill is dishonoured and Strong Bank pays ₹ 20 as noting charge.

Short pays ₹ 1,180 including interest of ₹ 200 and gives another bill at three months for the balance. Slow endorses the bill to his creditor Slim in full settlement of his debts for ₹ 5,100. Slim discounts the bill with his banker Strong Bank who charges ₹ 40 as discount. Before maturity Short becomes bankrupt and a first and final dividend of 20 paise in a rupee is realized from his estate.

Show the journal entries in the books of Slim and Strong Bank and ledger account of Short in the book of Slow.

Solution:

In the books of Slim Journal Entries

Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)
₹	Bills Receivable A/c	Dr.	5,040	
	Discount Allowed A/c	Dr.	60	
	To, Slow A/c			5,100
	(Endorsed bill received from Slow in full settlement.)			



₹	Bank A/c	Dr.		5,000	
	Discount A/c	Dr.		40	
	To, Bills Receivable A/c				5,040
	(Bill discounted by the bank.)				
₹	Slow A/c	Dr.		5,100	
	To, Bank A/c				5,040
	To, Discount Allowed A/c				60
	(Bill dishonoured at maturity.)				

**In the books of Strong Bank
Journal Entries**

Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)
₹	Bills Discounted A/c	Dr.	6,000	
	To, Slow Current A/c			5,820
	To, Discount A/c			180
	(Bill discounted which is due for 3 months.)			
₹	Noting Charges A/c	Dr.	20	
	To, Cash A/c			20
	(Noting charges incurred for dishonor of the bill.)			
₹	Slow Current Account A/c	Dr.	6,020	
	To, Bills discounted A/c			6,000
	To, Noting Charges A/c			20
	(Bill dishonoured, noting charge being ₹ 20.)			
₹	Bills Discount A/c	Dr.	5,040	
	To, Slim Current A/c			5,000
	To, Discount A/c			40
	(Bill discounted which is due for 3 months.)			
₹	Slim Current A/c	Dr.	5,040	
	To, Bills Discounted A/c			5,040
	(Bill dishonored at maturity.)			

**In the books of Slow
Short Account**

Dr.			Cr.		
Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, Balance b/d		6,000	By, Bills Receivable A/c		6,000
To, Strong Bank A/c		6,020	By, Cash A/c		1,180
To, Interest A/c		200	By, Bills Receivable A/c		5,040
To, Slim A/c		5,040	By, Cash A/c	1,008	
			By, Bad Debts A/c	4,032	5,040
		17,260			17,260

Illustration 8.

Pass journal entries in the books of Hema for the following transactions :

- (i) Hema's acceptance to Nanda for ₹ 5,000 renewed for 3 month with interest at 10% p.a.
- (ii) Nalini's acceptance to Hema was for ₹ 10,000 was retired one month before due date at a discount of 12% p.a.
- (iii) Discounted Natasha's acceptance to Hema for ₹ 4,000 with the bank for ₹ 3,920
- (iv) Neela requests Hema to renew her acceptance for ₹ 3,500 for 3 months. Hema accepted on the condition that interest of ₹ 100 was paid in cash which Neela did.
- (v) Received an acceptance from Geeta for ₹ 1,200 and it was endorsed to Seeta in full settlement of her claim.

Solution:**In the Books of Hema**

Dr.	Journal Entries		Cr.	
Date	Particulars	L.F	Debit (₹)	Credit (₹)
₹	Bills Payable A/c To, Nanda's A/c (Being cancellation of Nanda's bill for renewal)	Dr.	5,000	5,000
₹	Interest A/c To, Nanda's A/c (Being interest due to Nanda)	Dr.	125	125
₹	Bills Payable A/c To, Nanda's A/c (Being acceptance given for new bill)	Dr.	5,125	5,125
₹	Bank A/c Discount A/c To, Bills Receivable A/c (Being Nalini's acceptance retired at discount)	Dr. Dr.	9,900 100	10,000
₹	Bank A/c Discount A/c To, Bills Receivable A/c (Being Natasha's acceptance discounted)	Dr. Dr.	3,920 80	4,000
₹	Neela's A/c To, Bills Receivables A/c (Being Neela's acceptance cancelled for renewal)	Dr.	3,500	3,500
₹	Cash A/c To, Interest A/c (Being interest received from Neela in cash)	Dr.	100	100
₹	Bills Receivable A/c To, Neela's A/c (Being Neela acceptance for new bill)	Dr.	3,500	3,500

5.1.15 Retirement of Bill

Sometimes the drawee pays the bill before the date of maturity. Under the circumstances, the drawer allows certain amount of rebate or discount which is calculated on certain percentage p.a. basis. The rebate is calculated from the date of payment to the date of maturity.



Entries in the books of drawer and drawee are given below :

Transaction	Entries in the books of drawer	Entries in the books of drawee
When the bill is drawn	Bills Receivable A/c. Dr. To, Drawer A/c.	Drawer A/c. Dr. To, Bills Payable A/c.
When the bill is retired	Bank/Cash A/c. Dr. Rebate Allowed A/c. Dr. To, Bills Receivable A/c.	Bills Payable A/c. Dr. To, Cash/Bank A/c. To, Rebate Received A/c.

Illustration 9

X bought goods from Y for ₹ 4,000. Y draws a bill on 1.1.2012 for 3 months which was accepted by X for this purpose. On 1.3.2012, X arranged to retire the bill at a rebate of 12% p.a. Show the entries in the books of X and Y.

Solution:

In the books of Y Journal

Date	Particulars	L.F	Dr. (₹)	Cr. (₹)
2012 Jan 1	X A/c Dr. To, Sales A/c (Goods sold to X)		4,000	4,000
Jan 1	Bills Receivable A/c Dr. To, X A/c (Bills drawn for 3 months)		4,000	4,000
March 1	Cash A/c. Dr. Rebate Allowed A/c. Dr. To, Bills Receivable A/c. (Bills retired under a rebate of 12% p.a.)		3,954 46	4,000

Rebate = ₹ 4,000 x 12/100 x 35/365 (1st March to 4th April) = ₹ 46.

In the books of X Journal

Date	Particulars	L.F	Dr. (₹)	Cr. (₹)
2012 Jan 1	Purchase A/c Dr. To, Y A/c (Goods purchased from Y)		4,000	4,000
Jan 1	Y A/c Dr. To, Bills Payable A/c (Bills accepted for 3 months)		4,000	4,000
March 1	Bills Payable A/c. Dr. To, Cash A/c. To, Rebate Received A/c. (Bills retired under a rebate of 12% p.a.)		4,000	3,956 46

Illustration 10.

Following information is given to you by Govind from his books:

On 1st April 2011 he had with him bills of ₹ 1,50,000 accepted by his customers and ₹ 1,00,000 worth accommodation bills accepted by his friends. He had accepted bills worth ₹ 90,000 for his suppliers and ₹ 75,000 worth accommodation bills for his friends.

During the year the following transactions took place:

- (i) He raised bills of ₹ 3,75,000 which were accepted by his customers.
- (ii) He accepted bills of ₹ 2,25,000 for his suppliers.
- (iii) He accepted accommodation bills of ₹ 60,000 for his friends.
- (iv) His friend accepted accommodation bills of ₹ 1,25,000 for him.
- (v) He honoured on due dates trade bills of ₹ 1,75,000 and accommodation bills of ₹ 85,000.
- (vi) He received payments on due dates for trade bills of ₹ 4,00,000 and accommodation bills of ₹ 150,000.
- (vii) He endorsed bills of ₹ 25,000 to his suppliers, which were honoured by the acceptors.
- (viii) His customers endorsed bills of ₹ 30,000 to him which he accepted in favour of his suppliers.
- (ix) Accommodation bills were settled on the due dates and money was paid and received duly.

Prepare Bills Receivable A/c and Bills Payable A/c for both trade and accommodation bills.

Solution:

Dr.			Bills Receivable Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
2011 April, 1	To Balance b/d	1,50,000	2012 March 31	By Bank A/c	4,00,000		
2012 March 31	To Debtors A/c	3,75,000	2012 March 31	By Suppliers A/c	25,000		
			2012 March 31	By Balance c/d	1,00,000		
		5,25,000			5,25,000		

Dr.			Bills Payable Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
31-Mar-12	To, Bank A/c	1,75,000	1-Apr-11	By Balance b/d	90,000		
31-Mar-12	To, Debtors A/c	30,000	31-Mar-12	By Suppliers A/c	2,25,000		
31-Mar-12	To, Balance c/d	1,10,000					
		3,15,000			3,15,000		

Dr.			Accommodation Bills Receivable Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
2011 April, 1	To, Balance b/d	1,00,000	2012 March, 31	By, Bank A/c	1,50,000		
2012 March, 31	To, Friends A/c (acceptors)	1,25,000	2012 March, 31	By, Balance c/d	75,000		
		2,25,000			2,25,000		

Dr.			Accommodation Bills Payable Account			Cr.	
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)		
2012 March, 31	To, Bank A/c	85,000	2011 April, 1	By, Balance b/d	75,000		
2012 March, 31	To, Balance c/d	50,000	2012 March, 31	By, Friends A/c (drawers)	60,000		
		1,35,000			1,35,000		



Dr. Friends (acceptors of bills) Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 March, 31	To, Bank A/c	1,50,000	2011 April, 1	By, Balance b/d	1,00,000
2012 March, 31	To, Balance c/d	75,000	2012 March, 31	By, Accommodation BR A/c	1,25,000
		2,25,000			2,25,000

Dr. Friends (drawers of bills) Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2011 April, 1	To, Balance b/d	75,000	2012 March, 31	By, Bank A/c	85,000
2012 March, 31	To, Accommodation BP A/c	60,000	2012 March, 31	By, Balance c/d	50,000
		1,35,000			1,35,000

5.1.16 Operating Cycle of the Accommodation Bill

The basis for accommodation bill is not a trade transaction. It is drawn to accommodate the financial requirements of drawer or even a drawee. This transaction presupposes trust and understanding between the parties to the transaction. The drawer normally discounts this bill with the bank. The amount received from bank is either retained by the drawer for himself or shared between the drawer and the drawee. On the date of maturity, the drawee settles the bill with bank by effecting payment. The drawer will pay the drawee either full amount of the bill or his share. Accounting entries for accommodation bill are:

Situations	Drawer's books	Drawee's books
Drawing of a bill	B/R A/c To, Drawee A/c	Dr. Drawer A/c To, B/P A/c
Discounting with bank	Bank A/c Discount A/c To, B/R A/c	Dr. No Entry Dr.
Payment on due date	Drawee A/c To, Bank A/c	Dr. B/P A/c To, Bank A/c

Illustration 11.

Vijay draws a bill for ₹ 60,000 and Anand accepts the same for mutual accommodation of both of them to the extent of Vijay 2/3rd and Anand 1/3rd. Vijay discounts it with bank for ₹ 56,400 and remits 1/3rd share to Anand. Before the due date, Anand draws another bill for ₹ 84,000 on Vijay in order to provide funds to meet the first bill on same sharing basis. The second bill is discounted at ₹ 81,600. With these proceeds, the first bill is settled and ₹ 14,400 were remitted to Vijay. Before the due date of the second bill, Vijay becomes insolvent and Anand receives a dividend of only 50 paise in a rupee in full satisfaction. Pass journal entries in the books of Vijay.

Solution:

In case of accommodation bills, the proceeds of discounting are shared by parties as agreed. The discounting charges are also shared in agreed proportion. Here, the ratio between Vijay and Anand is given as two-thirds and one-third. The first bill of ₹ 60,000 is discounted at ₹ 56,400 which means the discounting charges are ₹ 3,600. The share of each one is:

	1st Bill		2nd Bill	
	Proceeds (₹)	Discount (₹)	Proceeds (₹)	Discount (₹)
Vijay (2/3rd)	37,600	2,400	59,400	1,600
Anand (1/3rd)	18,800	1,200	27,200	800
Total	56,400	3,600	81,600	2,400

Further, as Vijay has become insolvent, the amount due to Anand is settled at 50% of total. To calculate this amount, it's necessary to post all transactions to Anand's account and arrive at the balance.

**In the Books of Vijay
Journal Entries**

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
?	Bills Receivable A/c Dr. To, Anand's A/c (Being bill drawn on Anand)		60,000	60,000
?	Bank A/c Dr. Discount A/c Dr. To, Bills Receivables A/c (Being discounting of bill)		56,400 3,600	60,000
?	Anand's A/c Dr. To, Bank A/c To, Discount A/c (Being 1/3rd proceeds paid to Anand)		20,000	18,800 1,200
?	Anand's A/c Dr. To, Bills payable A/c (being acceptance of bill)		84,000	84,000
?	Bank A/c Dr. Discount A/c Dr. To, Anand's A/c (Being proceeds of discounting 2nd bill)		14,400 1,600	16,000
?	Bills Payable A/c Dr. To, Anand's A/c (Being dishonour of bill)		84,000	84,000
?	Anand's A/c Dr. To, Bank A/c To, Deficiency A/c (Being payment of 50% & balance proved to be bad)		56,000	28,000 28,000

Dr.		Anand's Account		Cr.	
Particulars	Amount ₹	Particulars	Amount ₹		
To, Bank A/c	18,800	By B/R A/c	60,000		
To, Discount A/c	1,200	By Bank A/c	14,400		
To, B/P A/c	84,000	By Discount A/c	1,600		
		By B/P A/c	84,000		
To, Bank A/c	28,000				
To, Deficiency A/c	28,000				
	1,60,000				160,000

Illustration 12.

Rahim, for mutual accommodation, draws a bill for ₹ 3,000 on Ratan. Rahim discounted it for ₹ 2,925. He remits ₹ 975 to Ratan. On the due date, Rahim is unable to remit his dues to Ratan to enable him to meet the bill. He, however, accepts a bill for ₹ 3,750 which Ratan discounts for ₹ 3,625. Ratan sends ₹ 175 to Rahim after discounting the above bill. Rahim becomes insolvent and a dividend of 80 paise in the rupee is received from his estate.

Pass the necessary journal entries in the books of both the parties.



Solution:

In the books of Rahim

Journal Entries

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
?	Bills Receivable A/c Dr. To, Ratan A/c (Bill drawn for mutual accommodation and accepted by Ratan.)		3,000	3,000
?	Bank A/c Dr. Discount A/c Dr. To, Bills Receivable A/c (Bill discounted by the bank.)		2,925 75	3,000
?	Ratan A/c Dr. To, Bank A/c "Discount A/c ($\frac{1}{3}$ Proceeds remitted to Ratan.)		1,000	975 25
?	Ratan A/c Dr. To, Bills Payable A/c (Bill accepted.)		3,750	3,750
?	Bank A/c Dr. Discount A/c Dr. To, Ratan A/c (Proceeds received from Ratan including discount charges.)		175 75	250
?	Bills Payable A/c Dr. To, Ratan A/c (Bill dishonored since e became insolvent.)		3,750	3,750
?	Ratan A/c Dr. To, Bank A/c " Deficiency A/c (Cash paid to Ratan @80 paise in the rupee and balance transferred to deficiency account.)		2,250*	1,800 450

* This amount can be ascertained by preparing Ratan's Account in Rahim's book.

**In the books of Ratan
Journal Entries**

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
?	Rahim A/c To, Bills Payable A/c (Bill accepted for mutual accommodation).	Dr.	3,000	3,000
?	Bank A/c Discount A/c To, Rahim A/c ($\frac{1}{3}$ proceeds received from Rahim including discount.)	Dr. Dr.	975 25	1,000
?	Bills Receivable A/c To, Rahim A/c (Bill drawn and accepted by Rahim.)	Dr.	3,750	3,750
?	Bank A/c Discount A/c To, Bills Receivable A/c (Bill discounted.)	Dr. Dr.	3,625 125	3,750
?	Rahim A/c To, Bank A/c "Discount A/c (Proceeds remitted to Rahim including discount.)	Dr.	250	175 75
?	Rahim A/c To, Bank A/c (Bill honoured at maturity.)	Dr.	3,750	3,750
?	Bills Payable A/c To, Bank A/c (Bill honoured at maturity.)	Dr.	3,000	3,000
?	Bank A/c Bad Debt A/c To, Rahim A/c (Amount realised from the official liquidator of Rahim @ 80 paise in the rupee and the balance proved bad.)	Dr. Dr.	1,800 450	2,250

Note:

Sharing discount:

After discounting of the 1st bills, Rahim received ₹ 2,000 (including discount)Add: Amount remitted by Ratan (after discounting of the 2nd bill). ₹ 175**Total benefit received by Rahim.**₹ 2,175**Now,**After discounting of the 2nd bill Ratan received ₹ 3,675 (Net)
$$\therefore \text{Proportion of Rahim to Ratan} = \frac{₹ 2,175}{₹ 3,625} \times 125 = ₹ 75$$

$$\therefore \text{Rahim is to bear} = ₹ 75 \text{ of discounting charges, and the balance by Ratan.}$$
Illustration 13.

On 1.7.2012 Salil, for mutual accommodation of himself and Sunil, drew on the other a bill for ₹ 10,000 payable at 3 months date. The bill was discounted with Central Bank of India at 5% and half of the proceeds were remitted to Sunil on 2.7.2012.



On 2.7.2012, Sunil drew a bill on Salil for ₹ 4,000 payable at 3 months' date. He discounted the bill with Bank of India at 10% and remitted half the proceeds to Salil.

Sunil became bankrupt on 31.8.2012 and only 25% was received by Salil on 15.9.2012 as the first and final dividend from his estate. Write the journal entries in the books of Salil.

Solution:

**In the books of Salil
Journal Entries**

Date	Particulars	L.F.	Dr. (₹)	Cr. (₹)
2012 July 1.	Bills Receivable A/c Dr. To, Sunil A/c (Bill drawn for mutual accommodation for 3 months.)		10,000	10,000
July 2.	Bank A/c Dr. Discount A/c Dr. To, Bills Receivable A/c (Bill discounted by the bank.)		9,875 125	10,000
"	Sunil A/c Dr. To, Bank A/c To, Discount A/c (Half the proceeds remitted to Sunil.)		5,000	4,937.5 62.5
"	Sunil A/c Dr. To, Bills Payable A/c (Bill accepted for 3 months.)		4,000	4,000
"	Bank A/c Dr. Discount A/c Dr. To, Sunil A/c (Proceeds received from Sunil.)		1,950 50	2,000
Aug. 31	Sunil A/c Dr. To, Bank A/c (Bill dishonoured as Sunil became insolvent.)		10,000	10,000
Sept. 15	Bank A/c Dr. Bad Debts A/c Dr. To, Sunil A/c (Amount realized from the official liquidator of Sunil @ 25% and the balance proved bad.)		1,750 5,250	7,000
Oct. 5.	Sunil A/c Dr. To, Bank A/c (Bill honoured at maturity.)		4,000	4,000

Illustration 14.

On 1.1.2012, Pandit, for mutual accommodation of himself and Thakur, drew upon the latter a 3 months' bill for ₹ 12,000 which was duly accepted. Pandit discounted the bill at 6% p.a. on 4.1.2012 and remitted half of the proceeds to Thakur.

On 1.2.2012, Thakur drew and Pandit accepted a bill at 3 months' for ₹ 4,800. On 4.2.2012, Thakur discounted the bill at 6% p.a. and remitted half of the proceeds to Pandit.

At maturity Pandit met his acceptance but Thakur failed to meet his and Pandit had to take it up. Pandit drew and Thakur accepted a new bill at 2 months on 4.5.2012 for the amount due to Pandit plus ₹ 100 as interest. On 1.7.2012, Thakur became insolvent and first and final dividend of 50 paise in the rupee was received from his estate on 30.09.2012.

Pass necessary journal Entries in the books of Pandit.

Solution:

In the books of Pandit
Journal Entries

Date	Particulars	L. F.	Dr. (₹)	Cr. (₹)
2012 Jan. 1	Bills Receivable A/c Dr. To, Thakur A/c (Bill Drawn on Thakur.)		12,000	12,000
Jan.4	Bank A/c Dr. Discount A/c Dr. To, Bills Receivable A/c (Bill discounted by bank.)		11,820 180	12,000
Jan.4	Thakur A/c Dr. To, Bank A/c To, Discount A/c (Half of the proceeds remitted to Thakur.)		6,000	5,910 90
Feb. 1	Thakur A/c Dr. To, Bills Payable A/c (Bill accepted.)		4,800	4,800
Feb. 1	Bank A/c Dr. Discount A/c Dr. To, Thakur A/c (Half of the proceeds received from Thakur.)		2,364 36	2,400
Apr. 4	Thakur A/c Dr. To, Bank A/c (Bill dishonoured at maturity.)		12,000	12,000
May 4	Bills Payable A/c Dr. To, Bank A/c (Bills honoured at maturity.)		4,800	4,800
May 4	Thakur A/c Dr. To, Interest A/c (Interest becomes due)		100	100
May 4	Bills Receivable A/c Dr. To, Thakur A/c (Fresh bill drawn on Thakur.)		8,500	8,500
July 1	Thakur A/c Dr. To, Bills Receivable A/c (Bill dishonoured at maturity.)		8,500	8,500
Sept. 30	Bank A/c Dr. Bad Debts A/c Dr. To, Thakur A/c (Dividend received from Thakur's estate @ 50 in a rupee)		4,250 4,250	8,500



5.2 CONSIGNMENT ACCOUNTING

5.2.1 Introduction

The sales activity of any business can be organized in different ways. With the customers spread all over, the business entity cannot afford to have only minimum selling points nor can it have its own resources to have the outlets all over. The business volumes cannot be limited in any case. The core competence of a manufacturing company is to produce a good quality product. It creates a network of its own outlets, dealers, commission agents, institutions etc to distribute its products efficiently and effectively. Thus the selling may be handled directly through own salesmen or indirectly through agents.

In case of direct selling, the company usually has depots all over. The stocks are transferred to these depots and from there finally sold to ultimate customers. This involves huge expenses and problems of maintaining the same on a permanent basis. Hence, the firm could appoint agents to whom stocks will be given. These agents distribute the products to ultimate customers and receive commission from the manufacturer. One such way of indirect selling is selling through consignment agents. The relationship between consignor and consignee is that of Principal-Agent relationship.

5.2.2 Main Terms of Consignment Trade

Consignor – He is the person who sends goods to agents e.g. a manufacturer or wholesaler.

Consignee – He is the agent to whom goods are sent for selling.

Ordinary Commission – This is a fee payable by consignor to consignee for sale of goods when the consignee does not guarantee the collection of money from ultimate customer. The % of such commission is generally lower.

Del Credre Commission – This is additional commission payable to the consignee for taking over additional responsibility of collecting money from customers. In case, the customers do not pay of the consignee takes over the loss of bad debts in his books. *Although it's paid for taking over risk of bad debts that arise out of credit sales only, this commission is calculated on total sales and not on credit sales.*

Account Sales – This is a periodical statement prepared by consignee to be sent to the consignor giving details of all sales (cash and credit), expenses incurred and commission due for sales.

5.2.3 Operating Cycle of Consignment Arrangement

- (i) Goods are sent by consignor to the consignee
- (ii) Consignee may pay some advance or accept a bill of exchange
- (iii) Consignee will incur expenses for selling the goods
- (iv) Consignee maintains records of all cash and credit sale.
- (v) Consignee prepares a summary of results called as Account sales
- (vi) Consignor pays commission to the consignee

Sometimes, the consignor may send the goods at a price higher than cost so that the consignee gets no knowledge of the real cost of goods which is confidential for the consignor.

5.2.4 Accounting for Consignment Business

The consignor and consignee keep their own books of accounts. The consignor may send goods to many consignees. Also, a consignee may act as agent for many consignors. It is appropriate that both of them would want to know profit or loss made on each consignment. There are certain new accounts that are to be opened in addition to regular accounts as cash or bank. Let us see the entries in the books of consignor as well as consignee.

Situations	Consignor's books	Consignee's books
On sending goods	Consignment A/c Dr To Goods Sent on Consignment	No Entry
On expenses for sending goods	Consignment A/c Dr To Cash/ Bank A/c	No Entry
On consignee accepting bill of exchange	Bill Receivables A/c Dr To Consignee's Personal A/c	Consignor's Personal A/c Dr To Bills Payable A/c
On expenses incurred by consignee	Consignment A/c Dr To Consignee's Personal A/c	Consignor's Personal A/c Dr To Cash/ Bank A/c
On consignee reporting sales	Consignee's Personal A/c Dr To Consignment A/c	Cash/ Bank A/c Dr To Consignor's Personal A/c
For commission	Consignment A/c Dr To Consignee's Personal A/c	Consignor's Personal A/c Dr To Commission A/c
On closing stock	Stock on Consignment A/c Dr To Consignment A/c	No Entry

The Consignment Account in the books of consignor will ultimately show the net profit or loss on account of consignment business. It must be noted that a separate consignment account must be opened for different agents. This will enable him to know profit or loss on each consignment.

Credit Sales Accounting in books of Consignor

In case consignee sales goods on cash and credit both, the responsibility of collection from customers may be either with consignee or consignor. The risk of non-collection is usually borne by the consignor. If consignor want this to be shouldered by the consignee, additional commission in the form of 'Del Credere' commission is payable. It may be noted that in case of credit sales, the personal accounts of debtors are to be maintained by the consignor and not the consignee. The entry for credit sales will be:

Consignment Debtors A/c Dr
To Consignment A/c

5.2.5 Del Credere Commission and Bad Debts

Sometimes the consignor allows an extra commission to the consignee in order to cover the risk of collection from customer on account of credit sales which is known as Del Credere Commission. Naturally, if debt is found to be irrecoverable the same must be borne by the consignee. There will be no effect in the books of consignor. In short, credit sales will be treated as cash sales to consignor. If no Del credere commission is given by the consignor to the consignee, the amount of Bad debts must be borne by the consignor.

Entries in the Books of Consignor

(a) When Del Credere Commission is given

(i)	For Credit Sales – Consignee's Personal A/c Dr. To, Consignment A/c
(ii)	For Bad Debts – No Entry
(iii)	For Del Credere Commission — Consignment A/c Dr. To, Consignee's Personal A/c



(b) When Del Credere Commission is not given

(i)	For Credit Sales – Consignment Debtors A/c Dr. To, Consignment A/c
(ii)	For Bad Debts – Consignment A/c Dr. To, Consignment Debtors A/c
(iii)	(a) For realization of Cash – Cash A/c Dr. } To, Consignment Debtors A/c } if collected by Consignor
	(b) Consignee's Personal A/c Dr. } To, Consignment Debtors A/c } if collected by Consignee

Entries in the Books of Consignee

(a) When Del Credere Commission is given

(i)	For Credit Sales – Consignment Debtors A/c Dr. To, Consignor A/c
(ii)	For Bad Debts – Bad Debts A/c Dr. To, Consignment Debtors A/c
(iii)	For realization of cash from cash from Debtors – Cash/ Bank A/c Dr. To, Consignment Debtors A/c
(iv)	For Closing Bad Debts A/c- Commission Received A/c Dr. To, Bad Debts A/c

(b) When Del Credere Commission is not given –

There will be no entry against bad debts in the books of consignee.

5.2.6 Valuation of Stock

Unsold stock on consignment should properly be valued; otherwise final accounts cannot be prepared. Usually, unsold stock on consignment is value at cost price plus proportionate expenses of the consignor plus proportionate non recurring expenses of consignee.

Alternatively, total cost of goods plus total expenses incurred by the consignor plus total non recurring expenses of the consignee are to be added and stock should valued on the basis of proportionate unsold goods.

But it must be remember while valuing stock on consignment, the usual principle for valuation of stock, that stock should be valued at cost price or market price whichever is less.

The entry will be:

Stock on Consignment A/c Dr.
To, Consignment A/c

Needless to say that unsold stock on consignment will appear in the asset side of Balance Sheet.

Illustration 15.

Sree Traders of Gujrat purchased 10,000 sarees @ ₹ 100 per saree. Out of these 6,000 sarees were sent on consignment to Nirmala Traders of Kolkata at the selling price of ₹ 120 per saree. The consignors paid ₹ 3,000 for packing and freight.

Nirmala Traders sold 5,000 sarees @ ₹ 125 per saree and incurred ₹ 1,000 for selling expenses and remitted ₹ 5,00,000 to Gujrat on account. They are entitled to a commission of 5% on total sales plus a further of 25% commission on any surplus price realized over ₹ 120 per saree.

3,000 sarees were sold at Gujrat @ ₹ 110 per saree.

Owing to fall in market price, the value of stock of saree in hand is to be reduced by 5%. You are required to prepare (i) Consignment Account, and (ii) Nirmala Traders Account.

Solution:

**(i) In the books of Sree Traders
Consignment Account**

Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Goods Sent on Consignment A/c (6,000 x ₹ 100)	6,00,000	By Nirmala Traders A/c : Sale proceeds (5,000 x ₹ 125)	6,25,000
To, Bank A/c (Packing and Freight)	3,000	By, Stock on Consignment A/c (W.N.2)	90,250
To, Nirmala Traders A/c: Selling Expenses	1,000		
Commissions(W.N.1)	37,500		
To, Profit & Loss A/c (Profit on consignment)	73,750		
	7,15,250		7,15,250

Note:

3,000 sarees which were sold at Gujrat @ ₹ 110 per saree are not to be taken into consideration since it is not a consignment transaction and hence the same is extended from Consignment Account.

Although the consignor purchased 10,000 sarees, only 6,000 sarees are related to consignment transaction, balance is not to be taken into Consignment Account at all.

(ii) Nirmala Traders Account

Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To Consignment A/c : Sales Proceeds	6,25,000	By, Bank A/c (Advance)	5,00,000
		By, Consignment A/c (Exp. + Com.)	38,500
		By, Balance c/d	86,500
	6,25,000		6,25,000

Workings:

1. Calculation of Commission payable to Nirmala Traders:

	₹
Total Sales @ ₹ 125 per saree	6,25,000
Less: Amount ₹ 120 per saree	6,00,000
Surplus Price Realised	25,000
Less: @ 5% on total Sales (₹ 6,25,000 x 5%)	31,250
Add: 25% on ₹ 25,000	6,250
	37,500

2. Valuation of Unsold Stock:

Since market price has fallen by 5%, valuation of unsold stock on consignment will be calculated as under:



	(₹)
Total Cost (1,000 x ₹ 100) (without Considering expenses)	1,00,000
Less: 5% in reduction	5,000
	95,000
Less: Consignee's Com. @ 5%	4,750
Stock on Consignment	90,250

5.2.7 Losses on Consignment

There are two types of losses which may arise in case of a consignment transaction, viz.

- (a) Normal Loss, and
- (b) Abnormal Loss

(a) Normal Loss – Normal Losses arise as a result of natural causes, e.g. evaporation, leakage, breakage etc., and they are inherent in nature. Since normal loss is a charge against gross profit no additional adjustment is required for this purpose. Moreover, the same is a part of cost of goods, when valuation of unsold stock is made in case of consignment account the quantity of such loss (not the amount) should be deducted from the total quantity of the goods received by the consignee in good condition. Thus,

$$\text{Value of closing stock will be} = \text{Total Value of goods sent} \times \frac{\text{Unsold quantity}}{\text{Good quantity received by consignee}}$$

Illustration 16.

From the following particulars ascertain the value of unsold stock on Consignment.

Goods sent (1,000 kgs.)	₹ 20,000
Consignor's expenses	₹ 4,000
Consignees non-recurring expenses	₹ 3,000
Sold (800 kgs.)	₹ 40,000
Loss due to natural wastage (100 kgs.)	

Solution:

Value of unsold stock	₹
Total cost of goods sent	20,000
Add : Consignor's expenses	4,000
Add : Non-recurring expenses	3,000
Cost of (1,000 kgs – 100 kgs) = 900 kgs.	<u>27,000</u>

$$\therefore \text{Value of unsold stock (1,000 – 800 – 100) = 100 kgs. will be} = ₹ 27,000 \times \frac{100 \text{ kgs.}}{900 \text{ kgs.}} \\ = ₹ 3,000$$

(b) Abnormal Losses - Abnormal Losses arises as a result of negligence/ accident etc., e.g., theft, fire etc. Before ascertaining the result of the consignment, value of abnormal loss should be adjusted. The method of calculation is similar to the method of calculating unsold stock. Sometimes insurance company admits the claim in part or in full. The same should also be adjusted against such abnormal loss.

Treatment of Abnormal Loss

- (i) For abnormal Loss –
 Abnormal Loss A/c Dr
 To Consignment A/c
- (ii) If goods are insured and admitted or covered by Insurance Company.
 Insurance Co./Bank A/c Dr
 To Abnormal Loss A/c
- (iii) If goods are not insured:
 Profit & Loss A/c Dr
 To Abnormal Loss A/c
- (iv) For the balance (i.e. which is not covered/ admitted by Insurance Co.):
 Profit & Loss A/c Dr
 To Abnormal Loss A/c

Illustration 17.

5,000 shirts were consigned by Raizada & Co. of Delhi to Zing of Tokyo at cost of ₹ 375 each. Raizada & Co. paid freight ₹ 50,000 and Insurance ₹ 7,500.

During the transit 500 shirts were totally damaged by fire. Zing took delivery of the remaining shirts and paid ₹ 72,000 on custom duty.

Zing had sent a bank draft to Raizada & Co. for ₹ 2,50,000 as advance payment. 4,000 shirts were sold by him at ₹ 500 each. Expenses incurred by Zing on godown rent and advertisement etc. amounted to ₹ 10,000. He is entitled to a commission of 5%

One of the customer to whom the goods were sold on credit could not pay the cost of 25 shirts.

Prepare the Consignment Account and the Account of Zing in the books of Raizada & Co. Zing settled his account immediately. Nothing was recovered from the insurer for the damaged goods.

Solution:**In the books of Raizada & Co.**

Dr.	Consignment Account		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Goods Sent on Consignment A/c (5,000 x ₹ 375)	18,75,000	By, Zing A/c :	
To, Bank A/c :		- Sale proceeds (3,975 x ₹ 500)	19,87,500
- Freight 50,000		By, Consignment Debtors A/c	
- Insurance 7,500	57,500	- Credit Sales (25 x ₹ 500)	12,500
To, Zing A/c :		By, Abnormal Loss A/c (W.N. 1)	1,93,250
- Custom Duty 72,000		By, Stock on Consignment A/c : (W.N.2)	2,01,250
- Godown Rent, Adv. etc 10,000			
- Commissions @5% on total Sales 1,00,000	1,82,000		
To, Consignment Debtors A/c:			
- Bad Debts	12,500		
To, Profit and Loss A/c :			
- Profit on Consignment transferred	2,67,500		
	23,94,500		23,94,500



Dr. Zing Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment A/c : Sale Proceeds	19,87,500	By, Bank Draft A/c : Advance	2,50,000
		By, Consignment A/c : Expenses & Com.	1,82,000
		By, Bank A/c : Final Settlement	15,55,500
	19,87,500		19,87,500

Dr. Abnormal Loss Account Cr.

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment A/c	1,93,250	By, Profit and Loss A/c	1,93,250
	1,93,250		1,93,250

Workings:

1. Valuation of goods Lost-in-transit and unsold Stock: (₹)

Total Cost	18,75,000
Add: Consignor's Expenses	57,500
C.P. of 5,000 Shirts	19,32,500
Less: Lost-in-transit	
$\left(\frac{₹ 19,32,500 \times 500}{5,000} \right)$	(1,93,250)
Add: Non-recurring Ex. of Consignee	72,000
C.P. of 4,500 Shirt	18,11,250

2. Value of under Stock $\frac{₹18,11,250 \times 500}{4,500} = ₹ 2,01,250$

Note:

Since Del Credere Commission is not given by the consignor to the consignee, amount of bad debt is to be charged against Consignment Account.

Simultaneous Normal Loss and Abnormal Loss

Illustration 18.

Lubrizols Ltd. of Mumbai consigned 1,000 barrels of lubricant oil costing ₹ 800 per barrel to Central Oil Co. of Kolkata on 1.1.2012. Lubrizols Ltd. paid ₹ 50,000 as freight and insurance. 25 barrels were destroyed on 7.1.2012 in transit. The insurance claim was settled at ₹ 15,000 and was paid directly to the consignor.

Central Oil took delivery of the consignment on 19.1.2012 and accepted a bill drawn upon them by Lubrizols Ltd., for ₹ 5,00,000 for 3 months. On 31.3.2012 Central Oil reported as follows:

- (i) 750 barrels were sold as ₹ 1,200 per barrel.
- (ii) The other expenses were:

	(₹)
Clearing charges	11,250
Godown Rent	10,000
Wages	30,000
Printing, Stationery, Advertisement	20,000

25 barrels of oil were lost due to leakage which is considered to be normal loss.

Central Oil Co. is entitled to a commission of 5% on all the sales affected by them. Central Oil Company paid the amount due in respect of the consignment on 31st March itself.

Show the Consignment Account, the Account of Central Oil Co., and the Lost –in-Transit Account as they will appear in the books of Lubrizols Ltd.

Solution:

**In the books of Lubrizols Ltd.
Consignment to Kolkata Account**

Dr.				Cr.		
Date	Particulars	Amount (₹)	Amount (₹)	Date	Particulars	Amount (₹)
2011 Jan. 1	To Goods sent on Consignment A/c (1,000 x ₹ 800)		8,00,000	2012 Jan. 7	By, Abnormal Loss A/c	
Mar.31	To, Bank A/c – Expenses		50,000	Mar.31	By, Central Oil Co. A/c	21,250
	To, Central Oil Co. A/c :				Sale proceeds (750 x ₹ 1,200)	9,00,000
	Freight	11,250			By, Stock on Consignment A/c	1,76,842
	Godown Rent	10,000				
	Wages	30,000				
	Printing etc.	20,000	71,250			
	To, Central Oil Co. A/c :					
	Commissions @5%		45,000			
	To, Profit on Consignment A/c:					
	Transferred to Profit & Loss A/c		1,31,842			
			10,98,092			10,98,092

Dr.				Central Oil Co. Ltd. Account		Cr.
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)	
2012 Mar.31	To, Consignment to Kolkata A/c -Sale Proceeds	9,00,000	2012 Jan.7 Mar.31	By, Bills Receivable A/c By, Consignment to Kolkata A/c - Expenses - Commission By, Bank (amount due)	5,00,000 71,250 45,000 2,83,750	
		9,00,000			9,00,000	

Dr.			Abnormal Loss Account			Cr.
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)	
2012 Jan. 7	To, Consignment to Kolkata A/c	21,250	2012 Jan.7 Mar.31	By Bank-Insurance Claim A/c By, Profit and Loss A/c (bal. fig.)	15,000	
		21,250			6,250	
					21,250	

Workings:



Valuation of Goods Lost-in-transit and Unsold Stock:

	(₹)
Total Cost (1,000 x ₹ 800)	8,00,000
Add: Consignor's Expenses	50,000
Value of 1,000 barrels	8,50,000
Less: Lost-in-transit 25 x $\frac{₹ 8,50,000}{1,100}$	21,250
Add: Non-recurring expenses of Consignee	11,250
Value of (1,000 – 25 – 25) = 950 Kg.	8,40,000

Therefore, Value of Stock = $200 \times ₹ \frac{₹ 8,40,000}{950} = ₹ 1,76,842$ (App.)

5.2.8 Invoice Price Method

Generally, this method is used where the consignor does not want to disclose the real price of the goods which are sent to the consignee for a number of reasons. For this purpose, he sends goods at invoice price. It means, certain amount of profit is added to the cost price of goods. Profit/ Loading is calculated after charging certain percentage either on Cost or Sale/ Invoice price.

Naturally, for finalization of accounts, such loading should be adjusted accordingly. Loading is usually calculated on:

(a) Goods Sent on Consignment or, Goods returned by consignee; (b) Any Abnormal Cost; or (c) Unsold Stock.

Entries to be Recorded in the Books of Consignor

a. For Goods Sent on Consignment -

Consignment A/c	Dr.	} At Invoice Price.
To, Goods sent on Consignment A/c		

b. For Loading of Goods sent on Consignment –

Goods Sent on Consignment A/c	Dr.	} With the Amount of Loading on Goods Sent.
To, Consignment A/c		

c. For Loading on Abnormal Loss –

Consignment A/c	Dr.	} With the Amount of Loading on Abnormal Loss.
To, Abnormal Loss A/c		

d. For Loading on Unsold Stock-

Consignment A/c	Dr.	} With the Amount of Unsold Stock
To, Stock Suspense A/c / Stock Reserve A/c		

Note: Other entries are as usual.

Illustration 19.

Mr. X, the consignor, consigned goods to Mr. Y 100 Radio sets valued ₹ 50,000. This was made by adding 25% on cost. Mr. X paid ₹ 5,000 for freight and insurance. 20 sets are lost – in- transit for which Mr. X received ₹ 5,000 from the Insurance company.

Mr. Y received remaining goods in good condition. He incurred ₹ 4,000 for freight and miscellaneous expenses and ₹ 3,000 for godown rent. He sold 60 sets for ₹ 50,000. Show the necessary ledger account in the books of Mr. X assuming that Mr. Y was entitled to an ordinary Commission of 10% on sales and 5% Del Credere Commission on sales. He also reported that ₹ 1,000 were proved bad.

Solution:

Dr.

Cr.

In the books of Mr.X

Consignment Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Goods Sent on Consignment A/c	50,000	By, Goods Sent on Consignment A/c (Loading) (₹ 50,000x100/125)	10,000
To, Bank A/c – Expenses	5,000	By, Y A/c – Sale Proceeds	50,000
To, Y A/c		By, Abnormal Loss A/c	11,000
- Freight and Misc. Expenses	4,000		
- Godown Rent	3,000		
To, Abnormal Loss A/c (Loading)	2,000	By, Stock on Consignment A/c	12,000
To, Stock surplus A/c	2,000		
To, Y A/c			
- Commission (ordinary) @ 10%	5,000		
- Del credere Commission @ 5%	2,500		
To, Profit and Loss A/c			
- Profit on Consignment A/c	9,500		
	83,000		83,000

Dr.

Cr.

Y Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment A/c – Sale proceeds	50,000	By, Consignment A/c	
		- Expenses	7,000
		- Commission	7,500
		By, Balance C/d	35,500
	50,000		50,000

Dr.

Cr.

Abnormal Loss Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment A/c	11,000	By, Consignment A/c (Loading)	2,000
		By, Bank A/c – Insurance Claim	5,000
		By, Profit and Loss A/c	4,000
		- Loss transferred	
	11,000		11,000

**Workings:**

(1) Calculation of Loading:	I.P.	Load	C.P.
	125	25	100
	5,000	$\frac{100 \times 50,000}{125}$	= ₹ 40,000

∴ Loading = ₹(50,000 – 40,000) = ₹ 10,000

Loading Per Set = ₹ 10,000 ÷ 100 = ₹ 100

(2) Valuation of Goods Lost – in – transit and Unsold stock

	₹
Total Invoice Price	50,000
Add: Consignor's Expenses	5,000
Invoice Price of 100 sets	55,000
Less: Lost In Transit –	11,000
$\frac{20 \times 55,000}{100}$	44,000
Add: Non recurring Expenses of Mr. Y	4,000
I. P. of 80 sets	48,000
∴ For Unsold Stock of (100 – 20 – 60) = 20 sets	
= $\frac{48,000 \times 20}{80}$	= ₹ 12,000

(3) Loading on Abnormal Loss = 20 x ₹ 100 = ₹ 2,000

(4) Stock Suspense = 20sets x ₹ 100 = ₹2,000

(5) Since Del Credere Commission is given there will not be any entry for bad debts.

Illustration 20.

From the following two statements, prepare Consignment A/c and Consignee's A/c in the books of Consignor, presuming that the goods were invoiced at 20% above cost.

M/s Vijay & Company
Mumbai
No 2355

To: M/s Jyoti Electric House
Pune
Proforma Invoice Date: 21st April 2012

Particulars of goods sent on consignment:	Amount (₹)	Amount (₹)
800 Fans @ ₹ 1680 per fan		13,44,000
Add: Expenses Paid:		
Freight	4000	
Insurance	6000	
Sundries	2000	12,000
Total		13,56,000
E & O E	sd/-	
Mumbai	For Vijay & Company	

M/s Jyoti Electric House To: M/s Vijay & Company Pune Mumbai (Account sales of 800 fans received from Vijay & Company, Mumbai)		
Date: 21st September 2012		
	Amount (₹)	Amount (₹)
Sale proceeds of 600 Fans @ ₹ 2000 per fan		12,00,000
Less: Expenses Paid :		
Advertising	4,500	
Insurance	1,500	
Octroi	12,000	
Commission @10%	1,20,000	(1,38,000)
Total		10,62,000
Less: Bill Accepted		7,50,000
Less: Bank draft enclosed		3,12,000
E & O E	sd/-	
Mumbai	Jyoti Electric House	

Solution:

Dr.		Consignment to Pune Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Goods Sent on Consignment A/c	13,44,000	By, M/s Jyoti Electric House's A/c	12,00,000		
To, Bank A/c	12,000	By, Goods Sent on Consignment A/c (loading)	2,24,000		
(freight, Insurance & Sundries)		By, Consignment Stock A/c (@ invoice value)	3,42,000		
To, M/s Jyoti Electric House's A/c					
Expenses	18,000				
Commission	120,000				
To, Stock Reserve A/c (loading on stock)	56,000				
To, P & L A/c	216,000				
	17,66,000				17,66,000

Dr.		Jyoti Electric House's Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Consignment A/c	12,00,000	By, Consignment A/c (expenses)	18,000		
		By, Consignment A/c (commission)	1,20,000		
		By, Bank A/c	3,12,000		
		By, Bills Receivable A/c	7,50,000		
	12,00,000				12,00,000



Loading on consignment	₹
Invoice price of fans consigned	1,680
Loading is 20% on cost	
Thus loading to be removed $20/120 \times 1680$	280
Total loading removed (800×280)	2,24,000
Value of closing Stock	
Original invoice value	13,44,000
Consignor's expenses	12,000
Consignee's non-recurring expenses (Octroi only)	12,000
Loading on consignment	13,68,000
Total fans sent	800
Fans sold	600
In Stock	200
Hence, stock value $(13,68,000/800 \times 200)$	3,42,000
Loading to be removed (200×280)	56,000

Illustration 21

On 1.7.2012, Mantu of Chennai consigned goods of the value of ₹ 50,000 to Pandey of Patna. This was made by adding 25% on cost. Mantu paid that on ₹ 2,500 for freight and ₹ 1,500 for insurance.

During transit $\frac{1}{10}$ th of the goods was totally destroyed by fire and a sum of ₹ 2,400 was realised from the insurance company. On arrival of the goods, Pandey paid ₹ 1,800 as carriage to godown. During the year ended 30th June 2013, Pandey paid ₹ 3,600 for godown rent and ₹ 1,900 for selling expenses.

$\frac{1}{9}$ th of the remaining goods was again destroyed by fire in godown and nothing was received from the insurance company. On 1.6.2013, Pandey sold half ($\frac{1}{2}$) the original goods for ₹ 30,000 and changed a commission of 5% on sales. As on 30.6.2013, Pandey sent a bank draft to Mantu for the amount so far due from him.

You are required to prepare the following ledger accounts in the books of Mantu of Chennai for the year ended 30.6.2013.

- (a) Consignment to Patna Account; (b) Goods Destroyed by Fire Account; and (c) Personal Account of Pandey.

Solution:

In the books of Mantu of Chennai Consignment to Patna Account				
Dr.				Cr.
Particulars		Amount (₹)	Particulars	Amount (₹)
To Goods Sent on Consignment A/c		50,000	By, Goods Sent on Consignment A/c.	10,000
To, Bank A/c :			- Loading	
Freight	2,500			
Insurance	1,500	4,000	By, Pandey A/c :	30,000
To, Pandey A/c :			Sale Proceeds	
Carriage Inward	1,800		By, Goods Destroyed by Fire A/c	11,000
Godown Rent	3,600		By, Stock on Consignment A/c	16,800
Selling Expenses	1,900	7,300		
To, Pandey A/c :				
Commission (5% on ₹ 30,000)		1,500		
To, Goods Destroyed by Fire A/c :		2,000		
Loading				
To, Stock Suspense A/c :		3,000		
Loading on unsold stock				
		67,800		67,800

Note: There is no normal Profit or Loss on Consignment.

Goods Destroyed by Fire Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment to Patna A/c :		By, Consignment to Patna A/c :	2,000
In transit	5,400	Loading	
In Godown	5,600		
		By, Bank A/c – Insurance claim	2,400
		By, Profit & Loss A/c	6,600
	11,000		11,000

Pandey Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment to Patna A/c		By, Consignment to Patna A/c :	
Sale proceeds	30,000	Expense	7,000
		Commission	1,500
		By, Draft A/c	21,200
	30,000		30,000



Working:

Valuation of goods destroyed by fire and unsold stock

Particulars	Amount (₹)
Total Insurance Claim	50,000
Add: Consignor's Expenses	4,000
	54,000
Less: Lost-in-Transit ($\frac{1}{10} \times ₹ 54,000$)	5,400
Goods received ($\frac{9}{10}$ th of ₹ 54,000)	48,600
Add: Non- recurring expenses of Pandey	1,800
	50,400
Less: Value of goods destroyed by fire in godown	5,600
($\frac{1}{9}$ th of ₹ 50,400)	
Value of $\frac{8}{10}$ th	44,800

$$\therefore \text{Value of unsold stock} = \frac{9}{10} - (\frac{1}{9} \text{ th of } \frac{9}{10}) = \frac{9}{10} - \frac{1}{10} = \frac{8}{10}$$

$$\text{Goods sold } \frac{1}{2} \text{ i.e., } = \frac{8}{10} - \frac{1}{2} = \frac{3}{10} \text{ th}$$

$$\therefore \text{Value of unsold stock} = ₹ 44,800 \times \frac{3}{10} \times \frac{10}{8} = ₹ 16,800$$

$$\text{Loading on goods destroyed} = ₹ 10,000 \times \frac{2}{10} = ₹ 2,000$$

$$\text{Loading on unsold stock} = ₹ 10,000 \times \frac{3}{10} = ₹ 3,000.$$

Illustration 22.

Usha sent goods costing ₹ 75,50,000 on consignment basis to Gayatri on 1st Feb 2012 @ 8.5% commission. Usha spent ₹ 8,25,000 on transportation. Gayatri spent ₹ 5,25,000 on unloading. Gayatri sold 88% of the goods for ₹ 90,00,000, 10% of the goods for ₹ 10,00,000 and the balance are taken over by her at 10% below the cost price. She sent a cheque to Usha for the amount due after deducting commission.

Show Consignment to Gayatri A/c and Gayatri's A/c in the books of Usha.

Solution

Calculation of sales	Cost (₹)	Invoice (₹)
Goods sent	75,50,000	
88% of the goods	66,44,000	90,00,000
10% of goods	7,55,000	10,00,000
Total sales	<u>73,99,000</u>	<u>1,00,00,000</u>
Goods taken over by Gayatri	1,51,000	1,35,900

There is no closing stock here as all unsold goods were taken over by Gayatri. The commission is payable only on sales to outsiders and not on goods taken over by Gayatri.

Thus, commission is 8.5% on ₹ 10,00,000 i.e. ₹ 8,50,000

The required ledger A/cs are shown below.

Dr.		Consignment to Gayatri Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To Goods Sent on Consignment A/c	75,50,000	By Gayatri's A/c (sales)	10,00,000		
To Bank A/c (transportation)	8,25,000	By Gayatri's A/c (goods taken over)	1,35,900		
To Gayatri's A/c :					
Unloading charges	5,25,000				
Commission	8,50,000				
To P & L A/c	3,85,900				
	1,01,35,900		1,01,35,900		

Dr.		Gayatri's Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To Consignment A/c	1,01,35,900	By Consignment A/c (expenses)	5,25,000		
		By Consignment A/c (commission)	8,50,000		
		By Bank A/c	87,60,900		
	1,01,35,900		1,01,35,900		

Illustration 23.

Shri Babubhai oil mills of Baroda sent 10000 kg of oil to M/s Gupta & Sons in Delhi. The cost of oil is ₹ 40 per kg. Babubhai paid ₹ 5,000 as freight and ₹ 2,500 as insurance. In transit 250 kg of oil was accidentally destroyed for which insurance company paid ₹ 450 in full settlement to Babubhai.

M/s Gupta & Sons took delivery of the balance. Later they reported that 7500 kg was sold @ ₹ 60 per kg. Expenses incurred by them were rent ₹ 2,000, advertisement ₹ 5,000 and salaries ₹ 5000. M/s Gupta & Sons are entitled to commission of 3% and Del Credre commission of 1.5%. One customer who purchased 1000 kg paid only 80% of the amount due. M/s Gupta & Sons also reported loss of 100 kg due to leakage. The final amount due was settled. Prepare necessary ledger accounts in the books of Babubhai.

Solution

Dr.		In the Books of Shri Babubhai Consignment to Delhi Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Goods Sent on Consignment A/c	4,00,000	By, M/s Gupta & Sons' A/c (sales)	4,50,000		
To, Bank A/c (Freight and Insurance)	7,500	By, Abnormal Loss A/c	10,188		
To, M/s Gupta & Sons' A/c :		By, Consignment Stock A/c	86,849		
Expenses	12,000				
Commission	20,250				
To P & L A/c (Balancing figure)	1,07,287				
	5,47,037		547,037		

Dr.		M/s Gupta & Sons' Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Consignment A/c	4,50,000	By, Consignment A/c (expenses)	12,000		
		By, Consignment A/c (commission)	20,250		
		By, Bank A/c	4,17,750		
	4,50,000		450,000		



Calculation of Abnormal Loss: 250 kg of oil lost in transit		
Cost of 250 kg @ 40/kg	10,000	
Proportionate expenses of Babubhai (250/10000*7500)	188	10,188
Calculation of closing stock		
	Kg	
Oil consigned to Delhi	10,000	
Less: Lost in transit	(250)	
Less: Normal loss due to leakage	(100)	
Less: Quantity sold	(7,500)	
Stock in hand	2,150	
	₹	
Basic cost of stock consigned @ ₹ 40	400,000	
Less : Cost of abnormal loss	(10,188)	
Cost of stock after normal loss of 100kg	389,812	
Thus cost of 2150 kg (389812/9650*2150)	86,849	
Calculation of commission		
Ordinary @ 3% on 450000	13,500	
Del Credre @ 1.5% on 450000	6,750	
	20,250	

As the consignee has paid Del Credre Commission, the responsibility of bad debts is his. Hence no entry is needed to be passed in the books of consignor.

Illustration 24.

Sangita Machine Corporation sent 200 sewing machines to Rita agencies. It spent ₹ 7500 on packing. The cost of each machine was ₹ 2,000, but it was invoiced at 20% above cost. 20 machines were lost in transit & insurance company accepted claim of ₹ 20,000 only.

Rita agencies paid freight of ₹ 9,000, carriage ₹ 3,600, Octroi ₹ 1,800 and rent ₹ 1800. They sold 150 machines at ₹ 3,500 per machine. They were entitled to commission of 5% on invoice price and additional 20% of any excess realized on invoice price and 2% Del Credre commission. They accepted a bill drawn by Sangita Machine Corporation for ₹ 3,00,000 and remitted the balance by demand draft along with account sale. Draw up necessary ledger accounts in the books of Sangita Machine Corporation and Rita Agencies.

Solution:

Books of Sangita Machine Corporation
Consignment to Rita Agencies Account

Dr.		Consignment to Rita Agencies Account		Cr.	
Particulars		Amount (₹)	Particulars		Amount (₹)
To, Goods Sent on Consignment A/c		4,80,000	By Rita Agencies' A/c (sales 150 @ 3500)		5,25,000
To, Bank A/c : (Packing Expenses)		7,500	By Abnormal Loss A/c		48,750
To Rita Agencies A/c : Freight		9,000	By Consignment Stock A/c		75,525
Carriage		3,600	By Goods Sent on Consignment A/c (loading)		80,000
Octroi		1,800			
Rent		1,800			
Commission		61,500			
To Abnormal loss A/c (load removed)		8,000			
To Stock Reserve A/c		12,000			
To P & L A/c (balancing figure)		1,44,075			
		7,29,275			7,29,275

Dr.		Rita Agencies Account		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)	
To Consignment A/c	5,25,000	By Consignment A/c (expenses)	16,200	
		By Consignment A/c (commission)	61,500	
		By Bills Receivable A/c	3,00,000	
		By Bank A/c (balancing figure)	1,47,300	
	5,25,000		5,25,000	

Calculation of abnormal loss 20 machines lost in transit

Cost of 20 machines @ ₹ 2400	₹ 48,000
Proportionate expenses of Babubhai (20/200*7500)	₹ 750
	₹ 48,750

Calculation of Closing Stock

	₹
Invoice value of 30 machines @ 2400	72,000
Add : Consignor's proportionate expenses	1,125
Add : Consignee's proportionate expenses	2,400
	75,525
Stock reserve 30 machines @ ₹400	12,000



Calculation of Commission

Invoice price of machines sold		
(2400*150)	₹ 360,000	
Commission @ 5% on this	₹ 18,000	(a)
Excess over invoice value		
(525000-360000)	₹ 165,000	
Commission @ 20% on this	₹ 33,000	(b)
Del Credre Commission @ 2% on 525000	₹ 10,500	(c)
Total Commission (a+b+c)	₹ 61,500	

Books of Rita Agencies

Dr. Sangita Machine Corporation Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Cash A/c (expenses)	16,200	By, Consignment A/c (sales)	5,25,000
To, Commission A/c	61,500		
To, Bills Payable A/c	3,00,000		
To, Bank A/c (balancing figure)	1,47,300		
	5,25,000		5,25,000

5.2.9 Advance from Consignee as Security Money:

Usually the consignor takes certain some of money as advance by way of cash/draft/bill etc from the consignee against the goods that are sent for sale to the consignee. The so called advance money is automatically adjusted against the total dues in order to determine the net amount payable. If the advance money is not treated as security money, then the entire amount of advance money may be adjusted even if a part of goods are sold. But if the advance money is treated as security money, in that case, the proportionate amount of such advance money will be carried forward as the same is related to the unsold stock. The entries in the books of both consignor and consignee will be:

In the books of Consignor		In the books of Consignee	
Cash/ Draft/Bill Receivable A/c	Dr.	Consignor A/c	Dr.
To, Consignee's Personal A/c		To, Cash/ Draft/B/P A/c	

Illustration 25.

Ram of Patna consigns to Shyam of Delhi for sale at invoice price or over. Shyam is entitled to a commission @ 5% on invoice price and 25% of any surplus price realized. Ram draws on Shyam at 90 days sight for 80% of the invoice price as security money. Shyam remits the balance of proceeds after sales, deducting his commission by sight draft.

Goods consigned by Ram to Shyam costing ₹ 20,900 including freight and were invoiced at ₹ 28,400. Sales made by Shyam were ₹ 26,760 and goods in his hand unsold at 31st Dec, represented an invoice price of ₹ 6,920. (Original cost including freight ₹ 5,220). Sight draft received by Ram from Shyam upto 31st Dec was ₹ 6,280. Others were in- transit.

Prepare necessary Ledger Accounts.

Solution:

In the books of Ram
Consignment to Delhi Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Goods Sent on Consignment A/c	28,400	By, Goods Sent on Consignment A/c (Loading) ₹ (28,400- 20,900)	7,500
To, Y A/c – Commission	2,394	By, Shyam A/c – Sale proceeds	26,760
To, Stock Reserve A/c ₹(6,920 – 5,220)	1,700	By, Stock on Consignment A/c	6,920
To, Profit and Loss A/c- Profit on consignment transferred	8,686		
	41,180		41,180

Shyam Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment to Delhi A/c	26,760	By, Bills Receivable A/c	22,720
To, Balance c/d (₹ 6,920 x 80%)	5,536	By, Consignment to Delhi A/c - commission	2,394
		By, Draft A/c	6,280
		By, Draft- in- Transit A/c	902
	32,296		32,296

Goods sent on Consignment Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment to Delhi A/c	7,500	By, Consignment to Delhi A/c	28,400
To, Trading A/c (bal.fig)	20,900		
	28,400		28,400

Workings:

Calculation of Commission:	₹
Invoice value of goods	28,400
Less: Unsold stock	<u>6,920</u>
Invoice value of goods sold	<u>21,480</u>
Total sale proceeds	26,760
Less: Invoice value of goods sold	<u>21,480</u>
Surplus price	<u>5,280</u>
Commission @ 5% on ₹ 21,480	= 1,074
Add: @ 25% on ₹ 5,280	= 1,320
	<u>2,394</u>



5.3 JOINT VENTURE ACCOUNTS

5.3.1 Introduction

Joint Venture is a temporary form of business organization. There are certain business activities or projects that may involve higher risks; higher investments and even they demand multi-skills. In such cases, an individual person may not be able to muster all resources. Hence two or more people having requisite skill sets come together to form a temporary partnership. This is called a Joint Venture. There is a Memorandum of Undertaking (MOU) signed for this purpose.

The business activities for which Joint Ventures (JV) are formed could be :

- Construction of dams, bridges, roads etc
- Buying & selling of goods for a particular season
- Producing a film
- Purchasing land selling plots

The basic features of a Joint Venture business are :

- (i) It is done for a specific purpose and hence has a limited duration.
- (ii) The partners are called co-venturers.
- (iii) The profit or loss on joint venture is shared between the co-venturers in the agreed ratio.
- (iv) The co-venturers may or may not contribute initial capital.
- (v) The JV is dissolved once the purpose of the business is over.
- (vi) The accounts of the co-venturers are settled immediately on dissolution.
- (vii) A joint venture has no name.

5.3.2 Accounting Entries

There may be three ways of maintaining the books of account for the joint venture business. They are:

- (a) Where separate books of accounts are maintained
- (b) Where no separate books of accounts are maintained
- (c) Memorandum Joint Venture

5.3.2.1 (a) When Separate Books are Maintained

As the business duration is short, the books of accounts are not very comprehensive. The basic purpose is to know profit or loss on account of the joint venture.

- (a) Like a normal P & L A/c, a "Joint Venture A/c" is opened which records all transactions related to the activities carried out. The net result of this a/c will be either profit or loss.
- (b) To record cash/bank transactions a "Joint Bank A/c" is maintained. This could take a form of cash book with cash and bank column. It will record, the initial contributions made by each co-venturer, proceeds of sales, expenses and distribution of net balances among co-venturers on dissolution of the venture.
- (c) To record transaction related to co-venturers, "Co-Venturers' personal A/cs" are also maintained.

The accounting entries are normally as follows:

No.	Transaction	Entry
1	Contribution of co-venturers	Joint Bank A/c Dr. To, Co-Venturers A/c
2	Goods sent by co-venturer out of his own stock	Joint Venture A/c Dr. To, Co-Venturers A/c
3	Expenses paid by co-venturers	Joint Venture A/c Dr. To, Co-Venturers A/c

No.	Transaction	Entry
4	Materials purchased out of joint venture funds	Joint Venture A/c Dr. To Joint Bank A/c
5	For expenses out of joint bank A/c	Joint Venture A/c Dr. To Joint Bank A/c
6	For goods sold for cash	Joint Bank A/c Dr. To Joint Venture A/c
7	Contract / sale price received in form of shares / cash	Joint Bank A/c Dr. Shares A/c Dr. To Joint Venture A/c
8	Commission / salary to co-venturers	Joint Venture A/c Dr. To Co-Venturers A/c
9	Unsold goods taken over by co-venturers	Co-Venturers A/c Dr. To Joint Venture A/c
10	Shares taken over by co-venturers	Co-Venturers A/c Dr. To Shares
11	If shares are sold in open market	Joint Bank A/c Dr. To Shares
12	For profit on joint venture	Joint Venture A/c Dr. To Co-Venturers A/c
13	For loss on joint venture	Co-Venturers A/c Dr. To Joint Venture A/c
14	For final distribution of funds	Co-Venturers A/c Dr. To Joint Bank A/c

Illustration 26

Aditya and Amit entered into a joint venture to buy and sale Ganesh idols for the Ganesh festival. They opened a Joint Bank A/c. Aditya deposited ₹ 2,00,000 and Amit ₹ 1,50,000. Aditya supplied Ganesh idols worth ₹ 25,000 and Amit supplied decoration material worth ₹ 15,000.

The following payments were made by the venture:

- Cost of Ganesh idols purchased ₹ 2,50,000
- Transportation charges ₹ 12,000
- Advertising ₹ 7,500 and Sundry Expenses ₹ 2,500

They sold idols for ₹ 4,00,000 for cash. Aditya took over some idols for ₹ 30,000 and Amit took over remaining for ₹ 10,000. The profit or losses were to be shared equally between co-venturers. Prepare Joint Venture A/c, Joint Bank A/c and each Co-Venturer's A/c.

Solution

Dr.	Joint Venture Account		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Aditya Materials A/c	25,000	By, Joint Bank A/c –sales	4,00,000
To, Amit Materials A/c	15,000	By, Aditya A/c	30,000
To, Joint Bank Material A/c	2,50,000	By, Amit A/c	10,000
To, Joint Bank Transport A/c	12,000		
To, Joint Bank Advertising A/c	7,500		
To, Joint Bank sundry A/c	2,500		
To, Profit on Venture A/c :			
Aditya	64,000		
Amit	64,000		
	4,40,000		4,40,000



Dr.		Joint Bank Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Aditya A/c	2,00,000	By, Joint Venture A/c : materials	2,50,000		
To, Amit A/c	150,000	By, Joint Venture A/c : transport	12,000		
To, Joint Venture A/c - sales	400,000	By, Joint Venture A/c : advertising	7,500		
		By, Joint Venture A/c : sundry	2,500		
		By, Aditya A/c : closing	2,59,000		
		By, Amit A/c : closing	2,19,000		
	7,50,000		7,50,000		

Dr.		Aditya's Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To Joint Venture A/c - material	30,000	By, Joint Bank	2,00,000		
To Joint Bank A/c - closing	2,59,000	By, Joint Venture - materials	25,000		
		By, Joint Venture – profit	64,000		
	2,89,000		2,89,000		

Dr.		Amit's Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To Joint Venture A/c - material	10,000	By Joint Bank A/c	1,50,000		
To Joint Bank A/c - closing	2,19,000	By Joint Venture A/c - materials	15,000		
		By Joint Venture A/c – profit	64,000		
	2,29,000		2,29,000		

Illustration 27

Prabir and Mihir doing business separately as building contractors undertake jointly to build a skyscraper for a newly started public limited company for a contract price of ₹ 1,00,00,000 payable as ₹ 80,00,000 in cash and the balance by way of fully paid equity shares of the new company. A Bank A/c was opened for this purpose in which Prabir paid ₹ 25,00,000 and Mihir ₹ 1,50,00,00. The profit sharing ratio was agreed as 2:1 between Prabir and Mihir. The transactions were:

- Advance received from the company ₹ 50,00,000
- Wages to contractors ₹ 10,00,000
- Bought materials ₹ 60,00,000
- Material supplied by Prabir ₹ 10,00,000
- Material supplied by Mihir ₹ 1,50,000
- Architect's fees paid from Joint Bank account ₹ 21,00,000

The contract was completed and the price was duly paid. The joint venture was duly closed by Prabir taking all the shares at ₹ 18,00,000 and Mihir taking over the balance material for ₹ 3,00,000. Prepare the Joint Venture A/c, Joint Bank A/c, Co-venturer's A/cs and Shares A/c.

Solution:

Dr.		Joint Venture Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Joint Bank A/c – wages	10,00,000	By, Joint Bank A/c - advance	50,00,000		
To, Joint Bank A/c - material	60,00,000	By, Joint Bank A/c - balance price	30,00,000		
To, Joint Banks A/c - Architect	21,00,000	By, Shares A/c – received	20,00,000		
To, Prabir A/c - material	10,00,000	By, Mihir A/c - stock taken	300,000		
To, Mihir A/c - material	15,00,000	By, Prabir A/c - 2/3rd loss	10,00,000		
To, Shares A/c - loss	2,00,000	By, Mihir A/c - 1/3rd loss	5,00,000		
	1,18,00,000		1,18,00,000		

Dr.		Joint Bank Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Prabir A/c	25,00,000	By, Joint Venture A/c – wages	10,00,000		
To, Mihir A/c	15,00,000	By, Joint Venture A/c – materials	60,00,000		
To, Joint Venture A/c - advance	50,00,000	By, Joint Venture A/c – Architect	21,00,000		
To, Joint Venture A/c - balance	30,00,000	By, Prabir A/c - balance paid	7,00,000		
		By, Mihir A/c - balance paid	22,00,000		
	1,20,00,000		1,20,00,000		

Dr.		Prabir's Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Shares A/c – taken	18,00,000	By, Joint Bank A/c	25,00,000		
To, Joint Venture A/c - loss	10,00,000				
To, Joint Bank A/c - Balance paid	7,00,000	By, Joint Venture A/c - material	10,00,000		
	35,00,000		35,00,000		

Dr.		Mihir's Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Joint Venture A/c – stock taken	300,000	By, Joint Bank A/c	15,00,000		
To, Joint Venture A/c – Loss	500,000				
To, Joint Bank A/c - Balance paid	22,00,000	By, Joint Venture - material	15,00,000		
	30,00,000		30,00,000		

Dr.		Shares Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)		
To, Joint Venture A/c	20,00,000	By, Prabir A/c	18,00,000		
		By, Joint Venture A/c - loss	2,00,000		
	20,00,000		20,00,000		

Illustration 28.

P and Q entered into a joint venture for underwriting the subscription at par of 25,000 shares of ₹ 10 each of a Joint Stock Company. They agreed to share profits or losses in the ratio of $\frac{3}{5}$ and $\frac{2}{5}$, respectively. The consideration for guaranteeing the subscription was 250 other shares of ₹ 10 each fully paid to be issued to them.

The public took up 24,000 of the shares and the remaining shares of the guaranteed issue were taken up by P and Q who provide cash equally. The entire shareholding of the venture was then sold through other brokers, 60% at a price of ₹ 9.50 less brokerage 50 paise per share, 20% at a price of ₹ 9.75 less brokerage 50 paise per share and the balance were taken over by P and Q equally at ₹ 9.00 per share.

Prepare a Joint Venture Account, the Joint Bank Account, and Capital Accounts of P and Q.



Solution :

In the books of P and Q Joint Venture Account			
Dr.			Cr.
Particular	Amount (₹)	Particular	Amount (₹)
To, Joint Bank A/c Cost of 1,000 shares @ ₹ 10	10,000	By, Joint Bank A/c Sale proceeds of shares	9,063
To, Capital A/c – Profit on Venture : – P-788 – Q-525	1,313	By, P's Capital A/c Shares taken	1,125
		By, Q's Capital A/c Shares taken	1,125
	11,313		11,313

Joint Bank Account			
Dr.			Cr.
Particular	Amount (₹)	Particular	Amount (₹)
To, P's Capital A/c	5,000	By, Joint Venture A/c (Cost of shares)	10,000
To, Q's Capital A/c	5,000	By, P's Capital A/c	4,662
To, Joint Venture A/c	9,063	By, Q's Capital A/c	4,400
	19,063		19,063

Capital Account					
Dr.					Cr.
Particular	P Amount (₹)	Q Amount (₹)	Particular	P Amount (₹)	Q Amount (₹)
To, Joint Venture A/c – Shares taken	1,125	1,125	By Joint Book A/c (Cost of shares)	5,000	5,000
“Joint Bank A/c — Final Payment	4,663	4,400	“Joint Venture Profit A/c	788	
	5,788	5,525	“Joint Venture Profit A/c		525
				5,788	5,525

Working :

Cost of 1,000 shares @ ₹ 10 = ₹ 10,000 to be contributed by P and Q equally, i.e., ₹ 5,000 each
Calculation of sale proceeds :

	₹
Share purchased	1,000
Taken as Com.	<u>250</u>
	1,250
60% of 1,250 = 750 × ₹ 9 (i.e. ₹ 9.50 – .50) =	₹ 6,750
20% of 1,250 = 250 × ₹ 9.25 (i.e. ₹ 9.75 – .50) =	₹ <u>2,313</u>
80%	<u>9,063</u>
20% of 1,250 = 250 × ₹ 9 = ₹ 2,250 to be taken by P and Q equally, i.e. ₹ 1,125 each.	

5.3.2.2 (b) When no Separate Books of Accounts are Maintained

The co-venturers may decide not to keep separate books of account for the venture if it is for a very short period of time. In this case, all co-venturers will have account for the transactions in their own books. Here no Joint Bank A/c is opened and the co-venturers do not contribute in cash. Goods are supplied by them from out of their stocks and expenses for the venture are also settled the same way.

Each co-venturer will prepare a Joint Venture A/c and the other Co-Venturer's A/c in his books. Naturally, the profit or loss is separately calculated by each co-venturer. Each co-venturer will take into A/c all transactions i.e. done by himself and by his co-venturer as well.

The accounting entries are:

In books of Co-venturer A		In books of co-venturer B	
<i>When goods are supplied and expenses paid by A</i>			
Joint Venture A/c	Dr.	Joint Venture A/c	Dr.
To, Goods A/c		To, A's A/c	
To, Cash / Bank A/c			
<i>When goods are supplied by B and expenses paid by B</i>			
Joint Venture A/c	Dr.	Joint Venture A/c	Dr.
To, B's A/c		To, Goods A/c	
		To, Cash / Bank A/c	
<i>When advance is given by A to B or bill accepted by A</i>			
B's A/c	Dr.	Cash / Bank A/c	Dr.
To, Cash / Bank A/c		B/R A/c	Dr.
To, B/P A/c		To, A's A/c	
<i>When sale proceeds are received by A</i>			
Cash / Bank A/c	Dr.	A's A/c	Dr.
To, Joint Venture A/c		To, Joint Venture A/c	
<i>When sale proceeds are received by B</i>			
B's A/c	Dr.	Cash / Bank A/c	Dr.
To, Joint Venture A/c		To, Joint Venture A/c	
<i>For unsold goods taken over by A</i>			
Goods A/c	Dr.	A's A/c	Dr.
To Joint Venture A/c		To Joint Venture A/c	
<i>For unsold goods taken over by B</i>			
B's A/c	Dr.	Goods A/c	Dr.
To, Joint Venture A/c		To, Joint Venture A/c	
<i>For profit on joint venture business</i>			
Joint Venture A/c	Dr.	Joint Venture A/c	Dr.
To, B's A/c		To, A's A/c	
To, P & L A/c		To, P & L A/c	
<i>For loss on joint venture business</i>			
B's A/c	Dr.	A's A/c	Dr.
P & L A/c	Dr.	P & L A/c	Dr.
To, Joint Venture A/c		To, Joint Venture A/c	

After closure the business of joint venture, the co-venturer who has received surplus cash will remit it to the other co-venturer.

As a variation from this system, the co-venturers may decide to maintain a separate 'Memorandum Joint Venture A/c' in joint books. In this transactions made by each co-venturer is shown against their name. This A/c will show profit or loss. The co-venturers will keep an account called "Joint venture with co-venturer A/c" wherein all transactions done by him only are recorded.

Illustration 29.

John and Smith entered into a joint venture business to buy and sale garments to share profits or losses in the ratio of 5:3. John supplied 400 bales of shirting at ₹ 500 each and also paid ₹ 18,000 as carriage & insurance. Smith supplied 500 bales of suiting at ₹ 480 each and paid ₹ 22,000 as advertisement & carriage. John paid ₹ 50,000 as advance to Smith.

John sold 500 bales of suiting at ₹ 600 each for cash and also all 400 bales of shirting at ₹ 650 each for cash. John is entitles for commission of 2.5% on total sales plus an allowance of ₹ 2,000 for looking after business. The joint venture was closed and the claims were settled.

Prepare Joint Venture A/c and Smith's A/c in the books of John and John's A/c in the books of Smith.



Solution:

Books of John			
Joint Venture Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Goods A/c - shirting (400x500)	2,00,000	By, Cash A/c – sales	
To, Bank A/c - carriage & insurance	18,000	shirting (500 x 600)	3,00,000
To, Smith A/c - suiting (500x480)	2,40,000	suiting (400 x 650)	2,60,000
To, Smith A/c - advt & Carriage	22,000		
To, Commission A/c - 2.5%	14,000		
To, Allowance A/c	2,000		
To, P & L A/c (5/8th share)	40,000		
To, Smith A/c (3/8th share)	24,000		
	5,60,000		5,60,000

Smith's Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Cash A/c - advance	50,000	By, Joint Venture A/c - suiting	240,000
To, Cash A/c - balance paid	2,36,000	By, Joint Venture A/c - expenses	22,000
		By, Joint Venture A/c - profit	24,000
	2,86,000		2,86,000

Books of Smith			
John's Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Joint Venture A/c - sales	560,000	By, Cash A/c - advance	50,000
		By, Joint Venture A/c - shirting	2,00,000
		By, Joint Venture A/c - expenses	18,000
		By, Joint Venture A/c - commission	14,000
		By, Joint Venture A/c - Allowance	2,000
		By, Joint Venture A/c – profit	40,000
		By, Cash A/c - balance paid	2,36,000
	560,000		5,60,000

5.3.2.3 (c) Memorandum Joint Venture Account

When all the parties keep accounts, the method adopted for recording the transactions relating to joint venture, is called Memorandum Joint venture method. Here each Co-Venturer records only those joint venture transactions which are affected by him with the help of a personal account designed as 'Joint Venture with.....(Name of the other Co-Venturer).....Account'. It is debited with the amount of purchases/supplies made and expenses incurred by the Venturer.

Each Co-Venturer sends a periodic statement of joint venture transactions effected by him only, to the other Co-Venturer and on receipt of the aforesaid statement, each Co-Venturer prepares Memorandum Joint Venture Account in order to ascertain the profit/loss on Joint Venture transactions.

Since this account is in fact, not a part and parcel of double entry system the word 'memorandum' is prefixed.

Journal Entries: The journal entries which may be required at any point of time, are summarized below:

1.(a) On receipt of any amount/Bills Receivable from other Co-Venturer: Cash/Bank/Bills Receivable A/c To, Joint Venture with A/c	Dr.	
1.(b) On discounting Bills Receivable: Bank A/c Joint Venture with A/c To, Bills Receivable A/c	Dr. Dr.	(with net proceeds) (with discount) (with total)
2. On purchase of goods: Joint Venture with A/c To, Cash/Bank A/c To, Supplier's A/c	Dr.	(with total) (with cash purchase) (with credit purchase)
3. On making payment to supplier Supplier's A/c To, Cash/Bank/Bills Payable A/c To, Joint Venture with A/c	Dr.	(with total) (with payment made) (with discount received)
4. On supply of goods out of own stock: Joint Venture with A/c To, Purchases/Goods sent on Joint Venture A/c To, Sales A/c	Dr.	(if supplies at cost) (if supplies at profit)
5. On payment of expenses: Joint Venture with A/c To, Cash/Bank A/c To, Creditor's A/c	Dr.	(with total) (with cash expenses) (with outstanding expenses)
6. On sale of goods: Cash/Bank A/c Customer's A/c To, Joint Venture with A/c	Dr. Dr.	(with cash sales) (with credit sales) (with total)
7. On receiving payment from a customer: Cash/Bank A/c Joint Venture with A/c To, Customer's A/c	Dr. Dr.	(with the payment received) (discount allowed/bad debt) (with total)
8. On taking away of unsold goods: Goods sent on Joint Venture A/c To, Joint Venture with A/c	Dr.	
9. On considering some commission/salary to the Co-Venturer: Joint Venture with A/c To, Commission/Salary A/c	Dr.	
10. On recording the share of Profit/Loss: (a) When profit- Joint Venture with A/c To, Profit & Loss A/c (b) When loss- Profit & Loss A/c To, Joint Venture with A/c	Dr. Dr.	
11. On settlement of balance of Joint Venture with A/c: (a) When there is a debit balance: Cash/Bank A/c To, Joint Venture with A/c (b) When there is a credit balance: Joint Venture with A/c To, Cash/Bank A/c	Dr. Dr.	



Illustration 30

Ravi and Suresh entered into a Joint Venture for purchase and sale of electronic goods, sharing profit & loss in this ratio of 3:2. They also agreed to receive 5% commission on their individual sales and the following information was extracted from the records.

July 1, 2012 : Ravi purchased goods worth ₹ 1,90,000 financed to the extent of 90% out of his funds and balance by loan from his uncle Shyam.

Aug. 1 2012 : Ravi sent goods costing ₹ 1,70,000 to Suresh and paid ₹ 1,410 as freight. Suresh paid ₹ 13,410 to Ravi.

Oct. 1 2012 : Suresh sold all the goods sent to him. Ravi paid the loan takes from his uncle including interest of ₹ 350.

All sales by either party were made at as uniform profit of 40% after cost. On Nov. 30, 2012, they decided to close the venture by transforming the balance of goods unsold lying with Ravi at a cost of ₹ 9,000 to a wholesale dealer. You are required to prepare the Memorandum Joint Venture Account, Joint Venture with Ravi in the books of Suresh and Joint Venture with Suresh in the books of Ravi. They further disclosed that goods worth ₹ 4,000 were taken personally by Ravi at an agreed price of ₹ 5,000.

Solution:

Dr.			Memorandum Joint Venture Account			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)			
2012 July 1.	To, Ravi – Purchase 1,71,000 To, Loan – Purchase <u>19,000</u>	1,90,000	2012 Oct. 1. Nov.30.	By, Suresh–Sale Proceeds (₹ 1,70,000 + 40%)	2,38,000 5,000			
Aug. 1.	To, Ravi – Freight	1,410		By, Ravi – Stock taken	5,000			
Oct. 1.	To, Ravi – Interest on Loan	350		By, Ravi – Sale Proceeds (₹1,90,000–₹1,70,000 – ₹ 9,000 – ₹ 4,000) = ₹ 7,000 + 40% of 7,000	9,800			
	To, Suresh – Commission (5% on ₹ 2,38,000)	11,900						
Nov.30.	To, Ravi – Commission	490		By, Ravi - Stock (transferred to wholesale dealer)	9,000			
	(5% on ₹ 9,800)							
	To, Profit on Venture:							
	Ravi - ($\frac{3}{5}$) 34,590							
	Suresh - ($\frac{2}{5}$) <u>23,060</u>	57,650						
		2,61,800			2,61,800			

In the books of Ravi Joint Venture with Suresh					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 July 1.	To, Bank (Purchase of goods)	1,90,000	2012 Aug. 1.	By, Cash	13,410
Aug. 1.	To, Bank (freight)	1,410	Nov.30.	By, Stock taken	5,000
Oct. 1.	To, Bank (Interest on loan)	350		By, Stock transferred to wholesale dealer	9,000
Nov.30.	To, Commission	490		By, Bank(Sale Proceeds)	9,800
	To, Share of Profit	34,590		By, Bank (final settlement)	1,89,630
		2,26,840			2,26,840

In the books of Suresh Joint Venture with Ravi					
Dr.			Cr.		
Date	Particulars	Amount (₹)	Date	Particulars	Amount (₹)
2012 Aug. 1.	To Cash	13,410	2012 Oct 1	By Bank(Sale Proceeds)	2,38,000
Oct. 1.	`` Commission	11,900			
Nov.30.	`` Share of Profit	23,060			
	`` Bank (final settlement)	1,89,630			
		2,38,000			2,38,000

Illustration 31.

M and N decided to work in partnership with the following scheme, agreeing to share profits as under :

M — $\frac{3}{4}$ th share.

N — $\frac{1}{4}$ th share.

They guaranteed the subscription at par of 10,00,000 shares of ₹ 1 each in U. Ltd. And to pay all expenses up to allotment in consideration of U. Ltd. issuing to them 50,000 other shares of ₹ 1 each fully paid together with a commission @ 5% in cash which will be taken by M and N in 3 : 2.

M and N introduced cash as follows:

	₹
M— Stamp Charges, etc.,	4,000
Advertising Charges	3,000
Printing Charges	3,000
N— Rent	2,000
Solicitor's Charges	3,000

Application fell short of the 10,00,000 shares by 30,000 shares and N introduced ₹ 30,000 for the purchase of those shares.

The guarantee having been fulfilled, U. Ltd. handed over to the venturers 50,000 shares and also paid the commission in cash. All their holdings were subsequently sold by the venturer N receiving ₹ 18,000 and M ₹ 50,000.

Write-up necessary accounts in the books of both the parties on the presumption that Memorandum Joint Venture Account is opened for the purpose.



Solution :

Memorandum Joint Venture Account					
Dr.			Cr.		
Particulars	Amount (₹)	Amount (₹)	Particulars	Amount (₹)	Amount (₹)
To, N : Cost or Shares		30,000	By M : Commission ($\frac{3}{5}$)		30,000
To, M : Stamp Charges etc,	4,000		N : Commission ($\frac{2}{5}$)		20,000
Advertising Charges	3,000		By M : Sale Proceeds		50,000
Printing Charges	3,000	10,000	N : Sale Proceeds		18,000
To, N : Rent	2,000				
Solicitor's Charges	3,000	5,000			
To, Profit on Venture :					
To, M — $\frac{3}{4}$	54,750				
To, N — $\frac{1}{4}$	18,250	73,000			
		1,18,000			1,18,000

In the books of M

Joint Venture with N			
Dr.		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Bank : Stamp, Adv. And Printing Charges	10,000	By, Bank : Commission	30,000
To, Share of Profit	54,750	By, Bank : Sale Proceeds	50,000
To, Bank (Remittance)	15,250		
	80,000		80,000

In the books of N

Joint Venture with M			
Dr.		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Bank : Cost of Shares	30,000	By, Bank : Commission	20,000
To, Bank : Rent and Solicitor's Charges	5,000	By, Bank : Sale Proceeds	18,000
To, Share of Profit	18,250	By, Bank (Remittance)	15,250
	53,250		53,250

5.3.3 Joint Venture Business on Consignment Principle

The co-venturers may decide to appoint an agent for selling goods on their behalf on consignment basis. He is allowed expenses and commission on sales. The agent would remit the cash to co-venturers. In such case in addition to Joint Venture A/c and the co-venturer's A/c a separate Account is maintained for the agent as well.

The Agent's A/c is debited with the sales proceeds received by him and credited with the expenses incurred and commission payable to him.

Hence additional entries are:

- (i) Goods sold by the agent
 Agent's A/c Dr.
 To, Joint Venture A/c

- (ii) Expenses & commission entitled to agent
 Joint Venture A/c Dr.
 To, Agent's A/c
- (iii) Payment received from agent
 Bank A/c Dr.
 To, Agent's A/c
- (iv) Cash paid by agent to co-venturers
 Co-Venturers' A/c Dr.
 To, Agent's A/c

Illustration 32

Sahani and Sahu entered into a joint venture to sale 800 bags of food grains. The business risks are to be shared in the ratio of 3:2 between them. Sahani supplied 400 bags at ₹ 800 per bag and paid freight ₹ 8,000 and insurance ₹ 2,000. Sahu sent 400 bags at ₹ 1,000 per bag. He paid ₹ 2,500 as freight, Insurance ₹ 8,000 and sundry expenses as ₹ 500. Sahani paid ₹ 50,000 as advance to Sahu.

They appointed Sandeep as agent for sale of grains. Sandeep sold all bags at ₹ 1,200 per bag. He deducted ₹ 21,000 as his expenses and commission of 5% on sales. He remitted ₹ 6,00,000 by cheque to Sahani and the balance to Sahu by way of a bill of exchange. The co-venturers settled their accounts. Prepare Joint Venture A/c Sahu's A/c and Sandeep's A/c in the books of Mr. Sahani.

Solution:

Books of Sahani			
Dr.	Joint Venture Account		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Food grains A/c (400*800)	3,20,000	By, Sandeep A/c - sales (800*1200)	9,60,000
To, Bank A/c - freight & insurance	10,000		
To, Sahu A/c - food grains (400*1000)	4,00,000		
To, Sahu A/c - expenses	11,000		
To, Sandeep A/c - expenses	21,000		
To, Sandeep A/c - commission 5%	48,000		
To, Profit & Loss A/c 3/5th share	90,000		
To, Sahu A/c 2/5th share	60,000		
	9,60,000		9,60,000

Dr.	Sahu's Account (Co-venturer)		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Bank A/c - advance	50,000	By, Joint Venture A/c - grains	400,000
To, Sandeep A/c - bill	2,91,000	By, Joint Venture A/c - expenses	11,000
To, Bank A/c - final balance	1,30,000	By, Joint Venture A/c - profit share	60,000
	4,71,000		4,71,000

Dr.	Sandeep's Account (Agent)		Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Joint Venture A/c - sales	9,60,000	By, Joint Venture A/c - expenses	21,000
		By, Joint Venture A/c - commission	48,000
		By, Bank A/c - cheque received	6,00,000
		By, Sahu A/c - Bill	2,91,000
	9,60,000		9,60,000

5.3.4 Conversion of Consignment in to JV

A variation could be that an ongoing consignment arrangement may get converted into a joint venture arrangement. In Such case, a normal accounting for consignment business is done till the conversion. Upon the conversion, the balance stock on consignment is transferred to the Joint Venture A/c and from that day onwards, accounting is done on the basis of principles followed for joint venture.



Illustration 33.

Daga of Kolkata sent to Lodha of Kanpur goods costing ₹ 40,000 on consignment at a commission of 5% on gross sales. The packaging and forwarding charges incurred by consignor amounted to ₹ 4,000. The consignee paid freight and carriage of ₹ 1,000 at Kanpur. Three-fourth of the goods were sold for ₹ 48,000. Then the consignee remitted the amount due from him to consignor along with the account sale, but he desired to return the goods still lying unsold with him as he was not agreeable to continue the arrangement of consignment. He was then persuaded to continue on joint venture basis sharing profit or loss as Daga 3/5th and Lodha 2/5th.

Daga then supplied another lot of goods of ₹ 20,000 and Lodha sold out all the goods in his hand for ₹ 50,000 (gross). Daga paid expenses ₹ 2,000 and Lodha ₹ 1,700 for the second lot of goods.

Show necessary Ledger A/c in the books of both parties. No final settlement of balance due is yet made.

Solution:

Books of Daga			
Consignment to Lodha Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Goods Sent on Consignment A/c	40,000	By, Lodha's A/c (sales)	48,000
To, Bank A/c (packing & dispatching)	4,000	By, Joint Venture with Lodha A/c (stock transferred on conversion to JV)	11,250
To, Lodha's A/c : Freight & Carriage	1,000		
Commission	2,400		
To, P & L A/c	11,850		
	59,250		59,250

Lodha's Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To Consignment A/c - sales	48,000	By, Consignment A/c- expenses	1,000
		By, Consignment A/c - commission	2,400
		By, Cash A/c	44,600
	48,000		48,000

Joint Venture with Lodha Account			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Consignment to Lodha A/c	11,250	By, Balance c/d	42,280
To, Goods A/c	20,000		
To, Bank A/c - expenses	2,000		
To, P & L A/c (profit)	9,030		
	42,280		42,280

Books of Lodha			
Daga's Account (as consignor)			
Dr.			Cr.
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Cash A/c- expenses	1,000	By, Bank A/c – sales	48,000
To, Commission A/c	2,400		
To, Bank A/c - remittance	44,600		
	48,000		48,000

Dr. Joint Venture with Daga Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Cash A/c - expenses	1,700	By, Bank A/c – sales	50,000
To, P & L A/c (profit)	6,020		
To, Balance c/d	42,280		
	50,000		50,000

Working note:

Dr. Memorandum Joint Venture Account		Cr.	
Particulars	Amount ₹	Particulars	Amount ₹
To, Daga A/c - goods	11,250	By, Lodha A/c – sales	50,000
To, Daga A/c- goods	20,000		
To, Daga A/c- expenses	2,000		
To, Lodha A/c- expenses	1,700		
To, Net Profit :			
Daga 3/5th Share	9,030		
Lodha 2/5th share	6,020		
	50,000		50,000

Illustration 34

Satish and Sunit made a JV to underwrite the subscription at par of the equity share capital of Soft Systems Ltd. consisting of 100,000 shares of ₹ 10 each. They agreed to pay all expenses up to the allotment of shares. They agreed to share profits or losses in the ratio of 3:2. The consideration in return for this underwriting was allotment of 12,000 other shares of ₹ 10 each at par to be issued to them fully paid. Satish provided for ₹ 12,000 registration fees, ₹ 11,000 advertisement, ₹ 7,500 for printing & distributing prospectus and ₹ 2,000 for printing & stationery. Sunit paid ₹ 3,000 office rent, ₹ 13,750 as legal charges, and ₹ 9,000 salary of clerks. The issue fell short by 15,000 shares. Satish took these over on joint A/c by paying for the same in full. He sold the entire holding at ₹ 12 (net). Sunit sold the 12,000 shares allotted as consideration at the same price.

Prepare necessary ledger accounts in the books of both parties.

Solution:

Dr. Books of Satish Joint Venture Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Bank A/c - expenses :		By, Bank A/c- sales	
Registration Fees	12,000	15000 shares @12	1,80,000
Advertising	11,000	By, Sunit's A/c – sales	
Prospectus Printing	7,500	12000 shares @12	1,44,000
Printing & Stationery	2,000		
To, Sunit's A/c - expenses :			
Office rent	3,000		
Legal charges	13,750		
Salary	9,000		
To, Bank A/c - 15,000 shares @ ₹ 10	1,50,000		
To, P & L A/c (3/5th share)	69,450		
To, Sunit A/c (2/5th share)	46,300		
	3,24,000		3,24,000



Dr. Sunit's Account		Cr.	
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Joint Venture A/c - sales	1,44,000	By, Joint Venture A/c – expenses	25,750
		By, Joint Venture A/c - profit	46,300
		By, Bank A/c - balance paid	71,950
	1,44,000		1,44,000

Dr. Books of Sunit		Cr.	
Satish's Account			
Particulars	Amount (₹)	Particulars	Amount (₹)
To, Joint Venture A/c - sales	1,80,000	By, Joint Venture A/c - expenses	32,500
To, Bank A/c - balance paid	71,950	By, Joint Venture A/c - cost of shares	1,50,000
		By, Joint Venture A/c - profit	69,450
	2,51,950		2,51,950

5.4 SALE OF GOODS ON APPROVAL OR RETURN BASIS

5.4.1 Introduction

Sometimes goods are sent to Customs with an option either to accept the goods or to reject the goods within a stipulated time. This type of transactions is known as "Sale on Approval Basis" or "Sale on Return Basis". The main purpose of this type of sale is to boost up sales although this facility usually goes to very few reliable customers.

It must be remembered that when goods are sold on approval basis it is nothing but a mere transfer of goods and not the ownership. Since the ownership is not transferred it cannot be called a sale. It will be treated as a sale only when the approval of customer is received about the goods.

5.4.2 Methods of Accounting

Three methods of accounting are usually followed for recording "sale on approval or return basis" transactions, viz.

- When there are only a few transactions
- When there are considerable number of transactions
- When there are many transactions.

(a) When there are only a Few Transactions

Accounting steps

- When goods are sent
 Debtors A/c. Dr.
 To, Sales A/c.
- If goods are taken or approval is received
 NO ENTRY
- When goods are returned
 Sales A/c. Dr.
 To, Debtors A/c.
- When goods are not taken or returned
 Closing stock A/c. Dr.
 To, Trading A/c.
 (at cost price)

(v) If the consent of the customer is not yet received

(a) Sales A/c. Dr.

To, Customer A/c.

(b) Closing stock A/c. Dr.

To, Trading A/c.

Illustration 35.

Mr. Haridas sends goods to his customers on sale or return basis. The following transactions took place during the month of April 2012 :

	₹
April 4. Goods sent on Sale or Return basis at cost plus 20%	60,000
8. Goods returned by customers	15,000
20. Sale information received from customers	30,000
30. No intimation received about the goods (i.e., neither sold nor returned)	12,000

Assume that the accounts are closed on 31st March every year and Haridas records the above transactions as ordinary sales basis.

Solution:

In the books of Haridas Journal

Date	Particulars	L.F	Debit ₹	Credit ₹
4.4.2012	Debtors A/c Dr. To, Sales A/c (Being goods sent on sale or approval basis and treated as sales))		60,000	60,000
8.4.2012	Returns Inward/ Sales A/c Dr. To, Debtors A/c (Being goods returned by customers)		15,000	15,000
20.4.2012	NO ENTRY		1,000	1,000
30.4.2012	Sales A/c. Dr. To, Trading A/c. (Being the cancellation entry)		12,000	12,000
	Closing Stock A/c. Dr. To, Trading A/c. (Recorded at cost price)		10,000	10,000

(b) When there are Considerable Number of Transactions

Under the circumstances, the recording of transactions is not done as per above method. In this case, a separate Sales or Return Day Book is maintained. It is divided into four parts viz.,

- First column – for recording goods sent on approval
- Second column – for recording goods which are sold
- Third column – for recording goods which are returned, and
- Fourth column – for recording balance of stock of goods

**Illustration 36.**

Mr. X sends out the following goods to his customers on sale or return basis in the month of April 2012. You are requested to prepare Sale of Return Day Book for the month of April 2012 for the following transactions assuming that the transactions are in considerable numbers.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars
April 1	A Sen	2,000	April 5	Retained all
5	P Das	1,000	9	Returned all
12	T Mukherjee	3,000	20	50% retained and 50% returned
18	H Banerjee	500	25	Goods returned value ₹400 and no intimation was received for the balance
30	C Saha	1800		Neither intimation received nor goods returned

Solution:**Sale or Return Day Book**

Goods sent out			Goods sold			Goods returned		Balance
Date 2012	Particulars	Amount (₹)	Date 2012	LF	Amount (₹)	Date 2012	Amount (₹)	Amount (₹)
April 1	A Sen	2,000	April 5		2,000			
5	P Das	1,000				April 9	1,000	
12	T Mukherjee	3,000	20		1,500	20	1,500	
18	H Banerjee	500				25	400	100
30	C Saha	1,800						1,800

Value of stock amounted to ₹1,900 and valuation should be made on the basis of cost price or market price whichever is lower.

(c) When there are many Transactions

This method is applicable where the number of transactions in a period is fairly large and numerous in character. Under this circumstances, the following three books are opened :

- (i) Sale or return Day Book;
- (ii) Sale or Return Journal; and
- (iii) Sale or Return Ledger

(i) Sale or Return Day Book;

Sale or Return Day Book records the transactions relating to goods sent on sale or return on approval basis where such transactions are accrued. This book can be compared with the subsidiary books, viz. Sale Day Book, Purchase Day Book, etc.

Format of Sale or Return Day Book is given below :

Sale or Return Day Book

Date	Particulars, Name of the parties	Sale or return ledger folio no.	Amount (₹)

(ii) Sale or Return Journal

Goods sold					Goods returned			
Date	Particulars	Sale or return No.	LF	Amount (₹)	Date	Particulars	Sale or return No.	Amount (₹)

(iii) Sale or Return Ledger:

Like ordinary sale, i.e., when sales are made, they are at first recorded in Sales Book and then personal account is debited and Sales Account is credited. In the same manner, transactions which are recorded in the Sale or Return Book, i.e., personal account are debited and Sale or Return account credited. Thus, a separate ledger viz., Sale or Return ledger is opened for recording the transactions of the parties to whom goods have been sent on Sale or Return Basis.

Illustration 37.

X Ltd. sends out the following goods to their customers during the period April 2012 on Sale or Return basis.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars
April 1	S Bose	2,000	April 8	Retained all
5	S Basu	1,000	12	Returned all
8	S Sen	500	18	Goods sold for ₹ 400 and the balance returned
20	S Mukherjee	1,500	25	Goods returned ₹ 800 but no intimation regarding the balance
25	S Das	1,200		

Show how the transactions will be recorded in the books of the firm assuming that the transactions are large in number.

Solution:

**In the books of X Ltd.
Sale or Return Day Book**

Date 2012	Particulars, Name of the Parties	Sale or Return Ledger Folio No.	Amount (₹)
April 1	S Bose	15	2,000
5	S Basu	16	1,000
8	S Sen	17	500
20	S Mukherjee	18	1,500
25	S Das	19	1,200
			<u>6,200</u>
			S or R L.F. No. 1

Sale or Return Journal

Goods sold					Goods returned			
Date 2012	Particulars	Sale or Return LF No.	Sales LF No.	Amount (₹)	Date 2012	Particulars	Sale or Return LF No.	Amount (₹)
April 1	S Bose	15	40	2,000	April 12	S Basu		1,000
8	S Sen	17	45	400	8	S Sen		100
					25	S Mukherjee		800
				<u>2,400</u>				<u>1,900</u>
				S or Ret LF No. 1				S or Ret LF No. 1

**Sale or Return Ledger
Goods on Sale or Return Account**

Dr.				Cr.	
Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
April	To, Sundries (Sales)	2,400	April	By Sundries	6,200
	To, Sundries (Returns)	1,900			
	To, Balance c/d	1,900			
		<u>6,200</u>			<u>6,200</u>



Dr. S Bose Account Cr.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
April 1	To, Goods on Sale or Return A/c.	2,000	April 8	By, Goods on Sale or Return A/c. (Sales)	2,000
		2,000			2,000

Dr. S Basu Account Cr.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
April 5	To, Goods on Sale or Return A/c.	1,000	April 12	By, Goods on Sale or Return A/c. (Returns)	1,000
		1,000			1,000

Dr. S Sen Account Cr.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
April 8	To, Goods on Sale or Return A/c.	500	April 18	By, Goods on Sale or Return A/c. (Sales)	400
				By, Goods on Sale or Return A/c. (Returns)	100
		500			500

Dr. S Mukherjee Account Cr.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
April 20	To, Goods on Sale or Return A/c.	1,500	April 25	By, Goods on Sale or Return A/c. (Returns)	800
				By, Balance c/d	700
		1,500			1,500

Dr. S Das Account Cr.

Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
April 1	To, Goods on Sale or Return A/c.	2,000	April 8	By, Goods on Sale or Return A/c. (Sales)	2,000
		2,000			2,000

Trial Balance as at 30th April 2012

Heads of Income	Debit (₹)	Credit (₹)
Goods on Sale or Return A/c.		1,900
S Mukherjee A/c.	700	
S Das A/c.	1,200	
	1,900	1,900

Illustration 38

S Ltd. sells goods on Sale or Return basis. Customers having the choice of returning the goods within 9 months. During April 2012, the following are the details of the goods sent.

Date 2012	Customers	Value (₹)	Proforma Invoice No.
April 2	G	20,000	002
4	H	36,000	005
16	I	50,000	017
20	J	16,000	020
24	K	42,000	031
28	L	60,000	060

Within the stipulated time G and I returned the goods while H, J and K informed that they have accepted the goods. Show the following accounts in the books of the firm.

Sale on Approval Account and Customers for Sale on Approval Account as on 15th May 2012.

Solution.

In the books of S Ltd.
Sale on Approval Account

Dr.			Cr.		
Date 2012	Particulars	Amount (₹)	Date 2012	Particulars	Amount (₹)
April	To, Customers for Sale on Approval A/c.		April	By, Customer for Sale on Approval A/c.	
2	- Returned by G	20,000	-	G	20,000
4	- Sold to H	36,000	-	H	36,000
16	- Returned by I	50,000	-	I	50,000
20	- Sold to J	16,000	-	J	16,000
24	- Sold to K	42,000	-	K	42,000
30	To, Balance c/d	60,000	-	L	60,000
		2,24,000			2,24,000

Dr.			Customers for Sale on Approval Account			Cr.		
Date 2012	Particulars		Amount (₹)	Date 2012	Particulars		Amount (₹)	
April	To, Sale on Approval A/c.			April	By, Sale on Approval A/c.			
2	-	G	20,000		-	Returned by G	20,000	
4	-	H	36,000		-	Sold to H	36,000	
16	-	I	50,000		-	Returned by I	50,000	
20	-	J	16,000		-	Sold to J	16,000	
24	-	K	42,000		-	Sold to K	42,000	
	-	L	60,000		By, Balance c/d		60,000	
			2,24,000				2,24,000	

Study Note - 6

FUNDAMENTALS OF COST ACCOUNTING



This Study Note includes

- 6.1 Introduction
- 6.2 Generally Accepted Cost Accounting Principles (GACAP) & Cost Accounting Standards (CASs)
- 6.3 Definitions
- 6.4 Methods of Costing
- 6.5 Evolution of Cost and Management Accounting
- 6.6 Cost & Cost Object
- 6.7 Cost Organization
- 6.8 Costing System
- 6.9 Cost Determination

6.1 INTRODUCTION

In the previous study note, the students would have learnt the basic accounting concepts, the rules of accounting and their applications in different business transactions as well as different forms of business organisations. It was also clear that the financial statements are used as a conduit of information to the outside world i.e. various stakeholders of the business. In short, whatever may be the form of business organisation; financial accounting is concerned with the preparation of financial statements, which summarise the results of operations for selected period of time and show the financial position of the business as of a particular date. Over years financial accounting has developed into a very effective tool at the hands of all stakeholders to enable them to broadly understand the business results. It has become a very structured mechanism with advent of professional accounting bodies that emerged all over the world. Existence of research based accounting standards ensures uniformity of accounting treatment. The disclosure requirements of accounting standards make the financial statements more vivid and stakeholders get complete information about business activity. But still there are certain limitations like:

- It offers information late i.e. after the end of accounting year. For certain organisations (companies listed on stock exchanges) publishing of quarterly financials is compulsory. But still it is after a time gap and the information is only summarised.
- Stakeholders will understand 'what' has happened during an accounting period, won't know 'why' it has happened. Financial statement may show a loss and very broadly bring out the details thereof, but there is absence of further information which could help them understand the qualitative aspects thereof.
- It could be seen that the financial statements i.e. P & L Account and Balance Sheet portray the overall results of the business. Even if the firm is engaged in manufacturing of more than one type of product; these statements exhibit the business in totality. A balance sheet, for example, does not give financial position of Television Division, DVD Division, and Audio Products Division for an electronics manufacturing company. For listed companies, although reporting for business segment-wise results is mandatory, the disclosure requirement is very superfluous.
- If the business is doing well, how to better the performance? If it is not doing well, what can be done to improve the results? This is the domain of internal management of the organisation. Financial statements are meant for those people who are external to the organisation or for those people who are not part of day to day decision making within the organisation.

Can the business be run without making decisions? Even doing nothing is a decision! *Decision is 'making a choice from among the available alternative courses of action'*. How is this choice made? Why a particular alternative is chosen and the others are not? What is the basis for this choice? The most obvious basis is an economic evaluation of the alternatives available. Economic evaluation means comparing benefits with costs. The alternative that brings more benefit than the cost will be the obvious choice. As such measurement of both, benefits and costs, becomes very crucial. Managers must evaluate the financial implications of decisions that require trade-offs between costs and benefits of different alternatives.

A decision maker will definitely need information to be able to decide. This information is both quantitative as well as qualitative. The financial accounting information will not serve this purpose as it talks about '*how to deal with transaction when they occur*'. The information needed will be more specific and relevant to the decision to be made. Let us consider some decisions taken in managing or running a business:

- (a) How much quantity should be produced during the coming year?
- (b) At what price should the product be sold in various markets?
- (c) In what quantities should the material be procured?
- (d) How much should be paid to the workers and how to control their performance?
- (e) What level of capacity should be used?
- (f) Whether a particular order should be taken or not?
- (g) Whether to expand or close a particular line of business?
- (h) Assessing the performance of different divisions

The information based on which such decisions are made cannot always come through financial statements. As stated earlier, the information should be the most relevant and specific to the decision making. Financial implications are important when considering the decisions for the above named situations.

The basic aim of business is to make profit. In other words, it must ensure that the business transactions are profitable. This would mean that decision to do a business transaction must be as accurate as possible. It is therefore logical that the decisions must be taken on the basis of correct and timely information pertaining only to the issue under consideration. A very basic definition of profit is the difference between revenue (i.e. selling price) and costs. In today's market driven world economy, selling price is almost decided by the market forces viz. demand and supply. If that be so, how does one increase profits? There's only one way and that is to keep costs to absolute minimum possible. Knowledge of costs therefore is imperative. Costs and information do go hand in hand. The art and science of Cost and Management Accounting provides knowledge to effective decisions for cost control, enhancement of profitability and internal reporting.

Cost and Management Accounting is internal to the business. It is a very potent tool in the hands of management to achieve goals by making effective decisions with the aid of well developed cost accounting techniques and management accounting tools. These enable the management to answer "*why*" than merely understanding "*what*". The evolution of Cost & Management Accounting is as old as the business activity in the world. Let us get a perspective of the same. Remember, Cost and Management Accounting has developed on the platform of very strong science of Financial Accounting.

6.2 GENERALLY ACCEPTED COST ACCOUNTING PRINCIPLES (GACAP) & COST ACCOUNTING STANDARDS (CASs)

Like Generally Accepted Accounting Principles (GAAP) for Financial Accounting, the Cost accounting has the Generally Accepted Cost Accounting Principle (GACAP) which are followed by the Indian industry are summarized as below.

Before proceeding with element wise cost accounting principles, let us see the principles applicable to all the elements.



- (a) When an element of cost is accounted at standard cost, variances due to normal reasons are treated as a part of the element wise cost. Variances due to abnormal reasons will not form part of the cost.
- (b) Any subsidy / grant / incentive and any such payment received / receivable with respect to the input cost is reduced from the cost of the cost object to which such amount pertains.
- (c) Any abnormal cost where it is material and quantifiable will not form part of the cost.
- (d) Penalties, damages paid to statutory authorities or other third parties will not form part of the Total cost.
- (e) Cost reported under various elements of cost will not include imputed costs.
- (f) Finance costs incurred in connection with the acquisition of resources such as material, utilities and the like will not form part of the cost of such resources
- (g) Any credits or recoveries from employees or suppliers or other parties towards the costs incurred by the entity for a resource will be netted against such cost.
- (h) Except otherwise stated, the measurement of costs for cost accounting purposes will follow the same principles as set out in Generally Accepted Cost Accounting Principles applicable to the concerned entity.

6.2.1 Generally Accepted Cost Accounting Principles – Element wise

(i) Material Cost:

- (a) Material cost usually includes all costs required to bring the materials to the present condition and location.
- (b) Material receipt is valued at purchase price including duties and taxes, freight inwards, insurance and other expenditure directly attributable to procurement (net of trade discounts, rebates, taxes and duties refundable or to be credited by taxing authorities) that can be quantified with reasonable accuracy at the time of acquisition.
- (c) Normal loss due to shrinkage or evaporation and gain due to elongation or absorption or moisture ...etc before the material is received is absorbed in material cost to the extent they are normal, with corresponding adjustment in quantity.
- (d) Normal loss or spoilage of material prior to reaching the factory or at places where the services are provided is absorbed in the cost of balance of materials net of amounts recoverable from suppliers, insurers, transporters or recoveries from disposal.
- (e) The foreign exchange component of imported material cost is converted at the rate on the date of transaction. Any subsequent change in the exchange rate till payment or otherwise will not form part of the material cost.
- (f) Self manufactured materials are valued at cost including direct material cost, direct employee cost, direct expenses, factory overheads and share of administrative overheads relating to production. Share of other administrative overheads, finance cost and marketing overheads are excluded.
- (g) Material cost of abnormal scrap/defectives should not be included in the material cost, but treated as loss after giving credit to the realizable value of such scrap/defectives.
- (h) When material is processed or part is manufactured by a third party according to the specifications provided by the buyer, the processing / manufacturing charges payable to third party is treated as part of the material cost.
- (i) Material costs are assigned to cost objects on the basis of material quantity consumed where traceable and technical norms or estimates may be taken as basis where the quantity consumed cannot be traced.

(ii) Employee Cost:

- (a) Employee Cost or labour cost is ascertained taking into account the gross pay including all allowances payable along with the cost to the employer of all benefits
- (b) Bonus whether payable as a statutory minimum or on a sharing of surplus and ex gratia payable in lieu of or in addition to bonus is treated as part of the employee cost
- (c) Remuneration payable to managerial personnel including executive directors on the board and other officers of a corporate body under a statute is considered as part of the employee cost of the year under reference, whether whole or part is computed as a percentage of profits.
- (d) Gratuity, Superannuation, and other benefits measured using actuarial valuation method or any other methods are part of employee cost.
- (e) Separation costs related to voluntary retirement, retrenchment, termination etc. should be amortized over the period benefiting from such costs.
- (f) Recruitment costs, training costs and other such costs is treated as overheads and dealt with accordingly

(iii) Direct Expenses:

- (a) The identification of direct expenses is based on the traceability in an economically feasible manner and if an item of expense does not meet the test of materiality, it can be treated as part of overheads.
- (b) Expenses paid or incurred in lump sum or which is in the nature of 'one-time' payment is amortized on the basis of the estimated output or benefit to be derived from such expenses.
- (c) Direct expenses are by definition directly traceable to cost objects and hence no special principles are involved for them to be assigned to cost object.

(iv) Utilities:

- (a) The cost of utilities purchased is measured at cost of purchase including duties and taxes, transportation cost, insurance and other expenditure directly attributable to procurement.
- (b) The cost of generated utilities includes direct materials, direct labour, direct expenses and factory overheads.
- (c) Cost of utilities generated for the purpose of inter unit transfers is arrived as cost of self generated utilities with distribution cost added.
- (d) Cost of utilities generated for the purpose of intercompany transfers is arrived as cost of self generated utilities with distribution costs plus share of administrative overheads.
- (e) Cost of utilities generated for sale to outside parties is arrived as cost of self generated utilities with distribution cost plus share of administrative and marketing overheads.
- (f) Cost of standby utilities includes the committed cost of maintaining such utility.
- (g) The most appropriate basis for distribution of cost of a utility to the departments consuming services is to be derived from usage parameters.

(v) Repairs & Maintenance Cost:

- (a) The Cost of repairs and maintenance is the aggregate of direct and indirect cost relating to repairs and maintenance activity.
- (b) Cost of in-house repairs and maintenance activity will include cost of materials, consumable stores, spares manpower, equipment usage, utilities and other resources used in the activity.
- (c) Cost of repairs and maintenance activity carried out by outside contractors within the factory / entity, will include the charges payable to the contractor in addition to the in-house materials / spares cost issued.



- (d) When a high value spare is replaced and the replaced spare is reconditioned and such spare is expected to result in future economic benefit & it is taken into stock, the such spare is valued at an amount that measures its service potential in relation to the new spare, the amount of which will not exceed the cost of reconditioning the spare. The difference between the total of the cost of new spare and the reconditioning cost and the value of reconditioned spare should be treated as Repairs and Maintenance.
- (e) Cost of major overhaul is to be amortized on a rational basis.

(vi) Production Overheads:

- (a) Production overheads are indirect costs involved in the production process or in rendering services. Production overheads include administration cost relating to production, factory, works or manufacturing. Production related expenses incurred at administrative office for example Design office expenses, industrial relations dept, materials management dept...etc.
- (b) While assigning the overheads, traceability to a cost object in an economically feasible manner shall be the guiding principle. The costs which can be traced directly to a cost object shall be directly assigned.
- (c) Assignment of overheads to cost objects shall be based on either of the following principles.
- (d) *Cause & Effect*: Cause is the process or operation or activity and effect is the incurrence of cost.
- (e) *Benefits Received*: Overheads are to be apportioned to the various cost objects in proportion to the benefits received by them.
- (f) It is not good practice to allocate overheads to Cost centres / Cost objects on the basis of what the traffic will bear – That is by size of the user.
- (g) Production overheads of production cost centres have to be segregated between fixed overheads and variable overheads. The fixed overheads are to be absorbed by products based on the normal capacity or actual capacity utilization whichever is higher. Variable overheads are absorbed by products based on actual capacity utilized. Under absorbed fixed overheads are charged off to Costing Profit and Loss account.

(vii) Administrative Overheads:

Administrative overheads are the aggregate cost of resources consumed in activities relating to general management and administration of an organization.

Since most of the administrative overheads are fixed in nature, it is preferable to charge them to users on 'readiness to serve' basis such as installed capacity, budgeted sales etc. rather than actual production or actual sales.

In case of leased assets, if it is on operating lease then entire rental will be treated as a part of administrative overheads, while in case of financial lease, the finance cost portion will be segregated and treated as a part of finance cost. The assignment of administrative overheads to cost objects is based on either of the principles of Cause & Effect or Benefits received, if it is not traceable.

(viii) Selling and Distribution Overheads:

The acceptable basis for apportionment of selling costs to customers/ products are:

- (a) Weight
- (b) Units/ Equivalent Units
- (c) Value of goods
- (d) Any other appropriate and equitable basis

The acceptable bases for assigning common transport cost to products are:

- (a) Weight
- (b) Volume of Goods

- (c) Tonne Kilometre
- (d) Value of goods
- (e) Units / Equivalent units

(ix) Interest and Finance Charges:

Many entities started including the financing charges in computing the Cost of Sales. Normally these costs are assigned to products before arriving margin by product/ product line.

Normally interest charges are grouped under two categories i.e interest on long-term borrowings and interest on working capital. The interest on long-term funds is assigned to products based on the fixed capital investment in such products. Interest on working capital may be assigned based on the net working capital of the product lines.

6.2.2 Cost Accounting Standards

(i) Preface to Cost Accounting Standards:

The council of the Institute of Cost Accountants of India, has constituted 'Cost Accounting Standards Board' (CASB) with the objective of formulating cost accounting standards, after recognizing the need for structured approach to the measurement of cost so as to provide guidance to the user organizations, government bodies, regulators, research agencies, academic institutions and others to achieve uniformity and consistency in classification, measurement and assignment of costs.

The composition of the CASB will be broad based and ensure participation of all interest groups in the standard setting process. The chairman of the CASB will be nominated by the council of the Institute. Apart from six members of the council nominated on the CASB the following will be represented on the CASB:

- (1) A nominee of the central government representing Ministry of Corporate Affairs
- (2) Adviser (Cost), cost audit branch, Ministry of Corporate Affairs, Government of India
- (3) A nominee of the central government representing the Central Board of Excise and Customs, Government of India
- (4) A nominee of the central government representing the Central Board of Direct Taxes
- (5) Two members of the institute representing leading companies
- (6) Four nominees from regulators i.e. CAG, RBI, SEBI, IRDA, TRAI...etc
- (7) Two nominees from professional institutions i.e. ICAI and ICSI
- (8) Three nominees of industry associations viz ASSOCHAM, CII, FICCI....etc
- (9) Two nominees from academic institutions like IIM, MDI, Universities...etc
- (10) Four eminent practicing members of the institute
- (11) President is authorized to include a maximum of two eminent persons having knowledge and expertise in the cost and management accounting / Accounting standards not falling under the categories as defined in the constitution

(ii) Objectives and Functions of the Cost Accounting Standards Board:

The objectives of the CASB are to develop high quality Cost Accounting Standards to enable the management to take informed decisions and to enable regulators to function more effectively by integrating, harmonizing and standardizing cost accounting principles and practices.

The following will be the functions of the CASB:

- (a) To issue the framework for the Cost Accounting Standards
- (b) To equip the cost & management accounting professionals with better guide lines on cost accounting principles
- (c) To assist the members in preparation of uniform cost statements under various statutes



- (d) To provide from time to time interpretations on Cost Accounting Standards
- (e) To issue application guidance relating to particular standard
- (f) To propagate the Cost Accounting Standards and to persuade the users to adopt them in the preparation and presentation of general purpose cost statement
- (g) To persuade the government and appropriate authorities to enforce Cost Accounting Standards, to facilitate the adoption thereof, by industry and corporate entities in order to achieve the desired objectives of standardization of cost accounting practices
- (h) To educate the users about the utility and the need for compliance of Cost Accounting Standards

Overview of Cost Accounting Standards issued till date are as follows:

CAS No	Title	Objective
CAS 1	Classification of Cost	For preparation of Cost Statements
CAS 2	Capacity Determination	To bring uniformity and consistency in the principles and methods of determination of capacity with reasonable accuracy
CAS 3	Overheads	To bring uniformity and consistency in the principles and methods of determining overheads with reasonable accuracy
CAS 4	Cost of Production for Captive consumption	To determine the assessable value of excisable goods used for captive consumption
CAS 5	Average (Equalized) Cost of Transportation	To determine averaged / equalized transportation cost
CAS 6	Material Cost	To bring uniformity and consistency in the principles and methods of determining the material cost with reasonable accuracy in an economically feasible manner
CAS 7	Employee Cost	To bring uniformity and consistency in the principles and methods of determining the employee cost with reasonable accuracy
CAS 8	Cost of Utilities	To bring uniformity and consistency in the principles and methods of determining the cost of utilities with reasonable accuracy
CAS 9	Packing Material Cost	To bring uniformity and consistency in the principles and methods of determining the packing material cost with reasonable accuracy
CAS 10	Direct Expenses	To bring uniformity and consistency in the principles and methods of determining the Direct Expenses with reasonable accuracy
CAS 11	Administrative Overheads	To bring uniformity and consistency in the principles and methods of determining the Administrative overheads with reasonable accuracy
CAS 12	Repairs and Maintenance	To bring uniformity and consistency in the principles and methods of determining the Repairs and Maintenance cost with reasonable accuracy
CAS 13	Cost of Service Cost Centre	To bring uniformity and consistency in the principles and methods of determining the Cost of Service cost centre with reasonable accuracy
CAS 14	Pollution Control Cost	To bring uniformity and consistency in the principles and methods of determining the Pollution control costs with reasonable accuracy
CAS 15	Selling and Distribution overheads	To bring uniformity and consistency in the principles and methods of determining the selling and Distribution overheads with reasonable accuracy

Each of the Cost Accounting Standard has been explained in brief as follows

CAS -1: Classification of Costs

Objective:

- (a) The objective of this standard is to prescribe the classification of costs for ascertainment of cost of a product or service and preparation of cost statements on a consistent and uniform basis with a view to effect the comparability of the same of an enterprise with that of previous periods and of other enterprises
- (b) The classification and its disclosure are aimed at providing better transparency in the cost statement
- (c) The standard is also for better adoption of uniform costing and inter-firm comparison

Scope:

The standard on classification of cost should be applied in assessment of cost of a product or service, application of costing technique and in case of management decision making by the manufacturing industries in India.

The standard is to be followed by an enterprise, whether covered under section 209(1)(d) of the Companies Act, 1956 or not, to classify cost in order to prepare cost statement on uniform basis to make it relevant and understandable for effective cost management.

The standard has also to be followed for the purpose of assessment of cost of production or valuation of product or the valuation of stock to be certified for calculation of duties and taxes, tariffs and other purposes as the case may be. The cost statement prepared based on standard will be used for assessment of excise duty and other taxes, anti-dumping measures, transfer pricing etc.

Basic Rules for Classification of Costs

- (a) Classification of cost is the arrangement of items of costs in logical groups having regard to their nature (subjective classification) or purpose (objective classification).
- (b) Items should be classified by one characteristic for a specific purpose without ambiguity.
- (c) Scheme of classification should be such that every item of cost can be classified.

Basis of classification:

- (a) Nature of expense
- (b) Relation to object – traceability
- (c) Functions / activities
- (d) Behaviour - fixed, semi-variable or variable
- (e) Management decision making
- (f) Production Process
- (g) Time period

CAS -2: Capacity Determination

This standard deals with the principles and methods of determining the capacity of a manufacturing facility of an entity. Capacity is determined for assignment of overheads to cost objects. Principles of assignment of overheads have been stipulated in Cost Accounting Standard – 3 (Revised 2011) on Overheads. This standard deals with the principles and methods of classification and determination of capacity of a plant of an entity for ascertainment of the cost of product, and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determination of capacity with reasonable accuracy.

**Scope:**

This standard shall be applied to the cost statements, including those requiring attestation, which require determination of capacity for assignment of overheads.

Determinants of Capacity: Installed capacity is determined based on the following factors:

- (a) Manufacturers' Technical specifications
- (b) Capacities of individual or interrelated production centres.
- (c) Operational constraints / capacity of critical machines
- (d) Number of shifts
- (e) Any other factor

Practical capacity or achievable capacity should be determined after adjustment of the following with the installed capacity.

- (i) Available production hours taking into consideration holidays, normal shut down days and normal idle time.
- (ii) Normal time loss in batch change over, break downs of machines, repairs etc
- (iii) Loss in efficiency due to ageing of the machines/ equipment
- (iv) Number of shifts
- (v) Any other factor

CAS-3: Cost Accounting Standard on Overheads

This standard deals with the principles and methods of determining the Overheads. This standard deals with the principles and methods of classification, measurement and assignment of Overheads, for determination of the cost of product or service, and for the presentation and disclosure in cost statements.

Objectives:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the Overheads with reasonable accuracy.

Scope:

This standard shall be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of Overheads including those requiring attestation.

Disclosures

The cost statements shall disclose the following:

1. The basis of assignment of overheads to the cost objects.
2. Overheads incurred in foreign exchange.
3. Overheads relating to resources received from or supplied to related parties
4. Any Subsidy / Grant / Incentive or any amount of similar nature received / receivable reduced from overheads.
5. Credits / recoveries relating to overheads
6. Any abnormal cost not forming part of the overheads
7. Any unabsorbed overheads

CAS-4: Cost Accounting Standard on Cost of Production for Captive Consumption

The Cost Accounting principle for determination of cost of production is well established. Similarly, rules for levy of excise duty on goods used for captive consumption are also well defined. Captive Consumption

means the consumption of goods manufactured by one division and consumed by another division(s) of the same organization or related undertaking for manufacturing another product(s). Liability of excise duty arises as soon as the goods covered under excise duty are manufactured but excise duty is collected at the time of removal or clearance from the place of manufacture even if such removal does not amount to sale. Assessable value of goods used for captive consumption is based on cost of production. According to the Central Excise Valuation (Determination of Price of Excisable Goods) Rules 2000, the assessable value of goods used for captive consumption is 115% **(110% w.e.f. 05-08-2003)** of cost of production of such goods, and as may be prescribed by the Government from time to time.

Objective

- (a) The purpose of this standard is to bring uniformity in the principles and methods used for determining the cost of production of excisable goods used for captive consumption.
- (b) The cost statement prepared based on standard will be used for determination of assessable value of excisable goods used for captive consumption.
- (c) The standard and its disclosure requirement will provide better transparency in the valuation of excisable goods used for captive consumption.

Scope

The standard is to be followed for determining the cost of production to arrive at an assessable value of excisable goods used for captive consumption.

Cost of production will include various cost components. They are already defined in Cost Accounting Standard-1 ('Classification of Cost' – CAS-1). Thus, this standard has to be read in conjunction with CAS 1.

CAS-5: Cost Accounting Standard on Determination of Average (Equalized) Cost of Transportation

The cost accounting principles for tracing/identifying an element of cost, its allocation/apportionment to a product or service are well established. Transportation cost is an important element of cost for procurement of materials for production and for distribution of product for sale. Therefore, Cost Accounting Records should present transportation cost separately from the other cost of inward materials or cost of sales of finished goods. The Finance Act 2003 also specifies the certification requirement of transportation cost for claiming deduction while arriving at the assessable value of excisable goods cleared for home consumption/ export. There is a need to standardize the record keeping of expenses relating to transportation and computation of transportation cost.

Objective

- (a) To bring uniformity in the application of principles and methods used in the determination of averaged/equalized transportation cost.
- (b) To prescribe the system to be followed for maintenance of records for collection of cost of transportation, its allocation/apportionment to cost centres locations or products.
- (c) To provide transparency in the determination of cost of transportation.

Scope:

This standard should be applied for calculation of cost of transportation required under any statute or regulations or for any other purpose. For example, this standard can be used for :

- (a) Determination of average transportation cost for claiming the deduction for arriving at the assessable value of excisable goods
- (b) Insurance claim valuation
- (c) Working out claim for freight subsidy under Fertilizer Industry Coordination Committee
- (d) Administered price mechanism of freight cost element
- (e) Determination of inward freight costs included or to be included in the cost of purchases attributable to the acquisition.



- (f) Computation of freight included in the value of inventory for accounting on inventory or valuation of stock hypothecated with Banks / Financial Institution ...etc

CAS-6: Cost Accounting Standard on Material Cost

This standard deals with principles and methods of determining the Material Cost. Material for the purpose of this standard includes raw materials, process materials, additives, manufactured / bought out components, sub-assemblies, accessories, semi finished goods, consumable stores, spares and other indirect materials. This standard does not deal with Packing Materials as a separate standard is being issued on the subject.

This standard deals with the principles and methods of classification, measurement and assignment of material cost, for determination of the Cost of product or service, and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the material cost with reasonable accuracy.

Scope:

This standard should be applied to cost statements which require classification, measurement, assignment, presentation and disclosure of material costs including those requiring attestation.

CAS-7: Cost Accounting Standard on Employee Cost

This standard deals with the principles and methods of determining the employee cost. This standard deals with the principles and methods of classification, measurement and assignment of employee cost, for determination of the cost of product or service and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the employee cost with reasonable accuracy.

Scope:

This standard should be applied to cost statements which require classification, measurement, assignment, presentation and disclosure of employee cost including those requiring attestation.

CAS-8: Cost Accounting Standard on Cost of Utilities

This standard deals with the principles and methods of determining the cost of Utilities. This standard deals with the principles and methods of classification, measurement and assignment of cost of utilities, for determination of the cost of product or service and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the cost of utilities with reasonable accuracy.

Scope:

This standard shall be applied to cost statements which require classification, measurement, assignment, presentation and disclosure of cost of utilities including those requiring attestation.

For determining the cost of production to arrive at an assessable value of excisable utilities used for captive consumption, Cost Accounting Standard 4 on Cost of Production for Captive Consumption (CAS 4) shall apply. This standard shall not be applicable to the organizations primarily engaged in generation and sale of utilities. This standard does not cover issues related to the ascertainment and treatment of carbon credits, which shall be dealt with in a separate standard.

CAS-9: Cost Accounting Standard on Packing Material Cost

This standard deals with the principles and methods of determining the Packing Material Cost. This

standard deals with the principles and methods of classification, measurement and assignment of Packing Material Cost, for determination of the cost of product, and the presentation and disclosure in cost statements. Packing Materials for the purpose of this standard are classified into primary and secondary packing materials.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the packing material cost with reasonable accuracy.

Scope:

This standard should be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of Packing Material Cost including those requiring attestation.

CAS-10: Cost Accounting Standard on Direct Expenses

This standard deals with the principles and methods of determining the Direct Expenses. This standard deals with the principles and methods of classification, measurement and assignment of Direct Expenses, for determination of the cost of product or service, and the presentation and disclosure in cost statements.

Objectives:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the Direct Expenses with reasonable accuracy.

Scope:

This standard should be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of Direct Expenses including those requiring attestation.

CAS-11: Cost Accounting Standard on Administrative Overheads

This standard deals with the principles and methods of determining the administrative overheads.

This standard deals with the principles and methods of classification, measurement and assignment of administrative overheads, for determination of the cost of product or service, and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the administrative overheads with reasonable accuracy.

Scope:

The standard should be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of administrative overheads including those requiring attestation.

CAS-12: Cost Accounting Standard on Repairs and Maintenance

This standard deals with the principles and methods of determining the repairs and maintenance cost.

This standard deals with the principles and methods of classification, measurement and assignment of repairs and maintenance cost, for determination of the cost of product or service, and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the repairs and maintenance cost with reasonable accuracy.

Scope:

The standard should be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of repairs and maintenance cost including those requiring attestation.



CAS-13: Cost Accounting Standard on Cost of Service Cost Centre

This standard deals with the principles and methods of determining cost of service cost centres. This standard deals with the principles and methods of classification, measurement and assignment of cost of service cost centre, for determination of the cost of product or service, and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the cost of service cost centre with reasonable accuracy.

Scope:

The standard should be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of cost of service cost centres including those requiring attestation. It excludes Utilities and Repairs & Maintenance Services dealt with in CAS-8 and CAS-12 respectively.

CAS-14: Cost Accounting Standard on Pollution Control Cost

This standard deals with the principles and methods of determining Pollution Control Cost. This standard deals with the principles and methods of classification, measurement and assignment of pollution control costs, for determination of the cost of product or service, and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the pollution control costs with reasonable accuracy.

Scope:

The standard should be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of pollution control costs including those requiring attestation.

CAS-15: Cost Accounting Standard on selling and Distribution overheads

This standard deals with the principles and methods of determining the Selling and Distribution Overheads.

This standard deals with the principles and methods of classification, measurement and assignment of Selling and Distribution Overheads, for determination of the cost of sales of product or service, and the presentation and disclosure in cost statements.

Objective:

The objective of this standard is to bring uniformity and consistency in the principles and methods of determining the Selling and Distribution Overheads with reasonable accuracy.

Scope:

This standard should be applied to cost statements, which require classification, measurement, assignment, presentation and disclosure of Selling and Distribution Overheads including those requiring attestation.

6.3 DEFINITIONS

Before embarking on the journey into the world of Cost and Management Accounting, it is helpful for a student to understand some basic definitions.

- (a) **Cost** – *It is a measurement, in monetary terms, of resources used for some purpose.* The resources may be tangible (material or machinery) or intangible (wages, power, time spent). The use of resources is implicit in the term 'cost'. The measurement is in monetary terms obviously because money is common denominator. One cannot measure the combined effect of using 500 kg of material and 50 hours of labour unless they are expressed in terms of money. Further, cost

always relates to a *purpose*. The purpose could be products, departments, projects, services or any activity for which monetary measurement of resources is needed. Purpose here also could mean a context, without which cost does not convey anything. The word 'cost' cannot be used in isolation and has to be always with a reference to a context. With change in context, the interpretation of 'cost' will change. Hence, probably there are many definitions of this term available, each of them linking 'cost' to a reference or context. In coming sessions, all such cost terms are explained in depth.

- (b) **Costing** – *It is defined as the process of ascertainment of cost.* The cost may have to be ascertained for a product or service or a department or any activity carried out by the business. The word 'costing' here is used as a form of verb 'to cost'. It denotes accumulating all such expenses incurred for producing a product or rendering a service or carrying out business activity. These expenses are mainly in the form of material, labour and other expenses. Many methods of costing exist depending on the nature of product, type of business. These are Job Costing, Contract Costing, Process Costing, Service Costing etc. These are explained in the coming sections.
- (c) **Cost Accounting** – *It involves the process of classifying, identifying and recording of expenditure with the intention of ascertaining cost of a cost centre or cost unit for the purpose of cost control.* Rather than viewing the organisation as a whole, cost accounting attempts to look at individual components of the organisation like a department, a job, or a process etc. It tries to compare the cost of these individual components vis-à-vis the benefits they offer in order to determine the efficiency and effectiveness of each resource used in the business. The main purpose of costing is to determine a unit cost. It may be a historical cost or an estimated cost. The Broad process of Costing or Cost Accounting Comprises of:
- **Cost Book-keeping** is recording of costs according to preset classification. As will be seen later, cost classification is done on the basis of nature of organisation, nature of product or service it deals in and requirements of management. At present, cost book keeping is done concurrently with financial accounting. ERP accounting systems provide facility of recording financial as well as costing aspect of a transaction. This is called an integrated accounting. A transaction is recorded with respect not only to the double entry effects, but also as per classification of costs and link with the respective cost centre or cost object. The costing provides basis for certain aspects of reporting in financial statements. The most crucial item in financial statements which is not transaction based, is valuation of inventories. Accounting principles define it as lower of the cost or market price. The valuation of cost of stock is the domain of costing. The maintenance of cost data presupposes very strong database for other quantitative information. For example, recording of material cost incurred is not sufficient, but also the quantity of material used assumes equal importance, like-wise labour cost & labour hours, machine costs & machine hours etc. This quantitative dimension makes costing a very potent tool in ascertainment of a unit cost. This will better understood as we go along.
 - **Cost Control** is evaluating what level of cost is the most ideal for a given activity. It provides mechanism to keep costs within those predetermined limits. The word control is not used with its restrictive meaning, but also to ensure to maintain cost to the levels what ought to be. Organisations can sustain competition only if they understand the cost structure very well. Based on this understanding, companies are able to innovate to offer more value to the customer. For example, when offering machinery to the customer, they could effectively explain how the cost of production could be reduced. So the control ideology is not based on the restrictive aspect but more on value proposition. To facilitate this, cost data is to be pre-classified and entries are made accordingly.
 - **Cost Analysis** tries to link costs with their determinants or drivers and also provides tools to measure reasons of why costs are out of sync and fix responsibility there for. It comprises of techniques of standardizing costs or estimating costs which could be effectively used to take managerial decisions. Hence, the primary emphasis is cost and its determination, analysis, interpretation and reporting.



- (d) Cost Accountancy** – *This is a broader and comprehensive term. The Chartered Institute of Management Accountants (CIMA) London defines it as “The application of costing and cost accounting principles, methods and techniques to the science, art and practice of cost control and the ascertainment of profitability. It includes the presentation of information, derived there from for the purpose of managerial decision making.”*

As a science it tries to establish a relationship between costs and the cost drivers. As an art it demands a very high level of analytical mindset, good logic and judgmental capability to interpret these relationships. As a practice, it sets a very high standard of professional integrity so that correct information could be made available in the most relevant manner, which will strengthen the decision making process in an organisation. Although art and science of costing has an internal focus, it helps take decisions that improve its customer service by offering product or service in the most cost effective manner. Companies that achieve cost leadership within their industry scale greater heights. During the time of recession, companies can operate by improving efficiency and effectiveness by making decisions that are based on sound cost.

- (e) Management Accountancy** – *It is an integral part of management that is concerned with identifying, presenting and interpreting information for formulating strategy, planning & controlling activities, decision making, optimizing use of resources, and reporting to external and internal stakeholders. It is application of appropriate techniques and concepts in processing historical and projected economic data of an entity to assist management in establishing plans for reasonable economic objectives and in the making of rational decisions with a view to achieve these objectives. It is the process of analysis and interpretation of financial data collected with the help of financial accounting and cost accounting, with the intention to draw inferences there from, in order to assist management in the process of decision making. Management Accounting is a relatively younger field. The main facets of management accounting are:*

- (1) The focus is on analysis of information. It is done with the help of concepts or techniques that emerge from financial accounting, cost accounting, economics, mathematics, statistics and more importantly information technology.
- (2) Accumulation, synthesis and analysis of the quantitative and qualitative data are an integral part of management accounting. The qualitative data used could be from various angles such as legal, commercial, manpower, environment in which the business entity conducts itself, the socio-economic events and political factors all over the world.
- (3) The thrust is measuring performance of various facets of business and comparing it with the targets set to enable management to take corrective actions in time to meet the objectives. There is a continuous monitoring of deviations from the standards or plans.
- (4) It equips management for strategy formulation by providing decision making tools for short term and long term.
- (5) Business needs to acquire and use resources (financial and otherwise). Management accounting helps in optimizing the resource mobilization and utilization. Remember resources are limited and the uses to which they could be put are unlimited. Effective resource utilization is important for a consistent and profitable running of business.

6.3.1 Difference between Cost Accounting and Financial Accounting :

The difference between Cost Accounting and Financial Accounting are enumerated below :

SI No.	Point of Difference	Cost Accounting	Financial Accounting
1	Meaning	Cost accounting records the different techniques of cost, principles and also the various methods for determining costs. It also presents the variance in comparison with the standards. It also explains their reasons.	Financial accounting, on the other hand, keeps records for all monetary transactions and presents the operating result and financial position.
2	Scope	Cost accounting presents to the management the required information which are useful for decision-making purposes.	Financial accounting supplies information about the results of the firm i.e. profit or loss and the financial position at a particular date.
3	Aims	The main purpose of cost accounting is to ascertain and allocates the different types of cost at their respective places.	The main purpose of financial accounting is to maintain records for ascertaining profit or loss by preparing income statement and Balance sheet.
4	Valuation of Stock	Stocks should always be valued as per cost price. Market price is ignored here.	Stocks are valued as per cost price or market price whichever is lower.
5	Applicability	Cost accounting is applicable in various manufacturing firms and service industries at the same time.	Financial accounting is applicable irrespective of caste and creed i.e. everywhere.

Difference between Cost Accounting and Management Accounting :

The significant points of difference between Cost Accounting and Management Accounting are :

SI No.	Point of Difference	Cost Accounting	Management Accounting
1	Meaning	Cost accounting records the different techniques of cost, principles and also the various methods for determining costs. It also present the variance in comparison with the standards. It also explains the reasons therefor.	Management accounting on the other hand, is the presentation of accounting information to formulate the various policies to be adopted by the management.
2	Areas	The area of cost accounting is limited. It does neither record the matters relating to management accounting and nor the financial accounting.	Management accounting covers a wide range of activities i.e., matters relating to financial activities.
3	Techniques	Cost accounting supplies required information by applying Marginal Costing, Standard Costing etc.	Management accounting supplies required information to the management relating to financial decisions by taking the required data from financial accounting.
4	Periods	It takes a specific accounting period.	It does not relate to a specific accounting period.
5	Applicability	The area of cost accounting is limited.	It covers a wide range of activities.
6	Aims	The aim of cost accounting is to ascertain and allocate costs.	The aim of management accounting is to provide the required information to the management for decisions making purposes.
7	Maintenance of Records	Cost accounting keeps various sets of accounting records which are necessary for ascertaining cost.	Management accounting taken the date from financial accounting, as such, no accounting records are maintained.



6.4 METHODS OF COSTING

There are different methods of costing. The methods can be divided into :

- A. Job Costing;
- B. Process Costing; and
- C. Farm Costing

These are detailed as below:

A. Job Costing

Under this method costs are compiled for a specific quantity of products equivalents, repairs or other services which move through the process of production. The main objective of Job Costing is to determine the cost and profit or loss for each job which are undertaken by the firm. It may be mentioned here that the job may consist of one item or a group of items. Cost of each job is separately determined. This method of costing is applicable in case where a specific job is done against a fixed price, viz. Printing Press, Machine tools etc.

Now, the job costing is sub-divided into :

- (a) Batch Costing;
- (b) Contract Costing; and
- (c) Multiple or Composite Costing

These are explained as below:

- (a) Batch Costing** – It is a method of accounting in which costs are accumulated by batches. Costs are collected as per Batch order number and total costs are divided by the total number in a batch to find out the cost per unit of each batch. It is applicable to toy making industries, biscuit factories, medicine industries etc.
- (b) Contract Costing** – According to CIMA, “That form of specific order costing which applies where work is undertaken to customer’s special requirement and each order is of long duration (compared with those to which job costing applies). The work is usually constructions and, in general, the method is similar to Job Costing.” That is, it is a special type of job costing. It deals with the business relating to constructions of building or engineering projects etc.
- (c) Multiple or Composite Costing** – This costing applies where both job costing and process costing are jointly used. This costing is applicable where neither job costing nor process costing is successfully used, e.g. in a motor car industries, a variety of components are produced and assembled subsequently. So, this costing is applicable in Motor car industries, T. V. producing industries etc.

B. Process Costing

Process costing is a method of cost accounting whereby costs are charged to process and not charged over units produced. It is primarily employed where a finished product is the result of a more or less continuous operations, e.g. paper mills, refineries, chemical plants etc.

Process costing is sub-divided into :

- (a) Single or output or unit costing;
- (b) Operating costing;
- (c) Operation costing; and
- (d) Departmental costing

These are explained as below:

- (a) **Single or Output or Unit Costing** – where there is a continuous manufacturing process and units which are produced are identical, this costing is used. The total cost of production is divided by the total number of units produced to get the cost of production per unit i.e., single output cost. This costing is applicable in mines, paper mills etc.
- (b) **Operating Costing** – Operating costing refers to the costs of undertakings who do not manufacture any product but renders services, e.g., transport undertaking, hospitals, hotels etc. In other words, it is used to find out the cost of services which are rendered, for example, in cost of a transport undertaking the cost per k.m. for running a taxi or a bus etc. is to be ascertained. Needless to say that the total costs are divided into fixed costs and variable costs. In order to ascertain the unit cost, the total cost is divided by the units of service that are rendered by the particular transport.
- (c) **Operation Costing** – This costing refers to the ascertainment of cost of operation and not the processes. Under the circumstances, each operation is considered as the cost centre. This costing is found where production is carried on by various distinctive operations. Cost of each operation is separately determined and transfer cost of finished product can be determined easily.
- (d) **Departmental Costing** – Under this method of costing, in order to find out the cost per unit, the total cost of each department is determined first which is divided by the total number of units that are produced in that particular department. But if one particular product passes through various department for its completion, the cost of each department should be ascertained separately and the total cost per unit should be the price after adding the cost per unit of various departments, the product passes through for its completions. The cost so ascertained will be the cost per unit of the product.
- (e) **Farm Costing** – Farm costing constitutes activities agriculture, dairy, nursery etc. This costing is the application of costing principles and techniques to farming activities. It is known to us that farms activity is largely affected by the natural activities, viz. water, air, sun etc. Thus, farm costing is totally different than other costing systems which are applicable to manufacturing industries. That is, a new method of costing should be applied to farm which will be found most suitable for farms and the same is taken as farm costing.

In addition to above, there are other methods of costing also like (a) Standard Costing, (b) Uniform Costing, (c) Marginal Costing etc.

6.5 EVOLUTION OF COST AND MANAGEMENT ACCOUNTING

As mentioned in the preceding paragraphs, the emergence of Cost and Management Accounting dates back to the history of business in the world. It owes its existence, among other reasons, to the platform of financial accounting that have evolved over centuries now. The evolution and growth of cost and management accounting systems are corresponding to that of changes in the business activity. When business was relatively simpler and the need for information was limited, the systems were primitive and suited the purpose. Further, the management and ownership was in the hands of the owner for a very larger period of history of the business, more so till the industrial revolution began in the Europe in the 17th century. As owner themselves used to be decision-makers, they could decide on their own, without having to depend on system vending out information.

World over the socio-economic conditions underwent changes over the last couple of centuries. In some parts of world capitalism flourished whereas in the other parts the kingdoms ruled people. The business activity, in whatever form it existed, had not yet gone beyond the country borders. They just meant to serve the customers by distributing the products they made. With industrial revolution the world saw many changes in the manner of conducting business. The customer base expanded, the production got automated, transportation revolutionized the market and the business activities started becoming more complex. The competition added a different flavour as companies started to use newer techniques of producing and marketing. Research and development activities were in full swing and the most exciting innovations and inventions in the later part of 18th century and entire 19th century changed the whole business world.

> 6.18 | FUNDAMENTALS OF ACCOUNTING



New forms of business organisations saw a shift from sole proprietorships to limited companies which meant separation of ownership and management. This period saw business activities coming under regulation through statutes and laws of various countries. Trade organisations and bodies for commerce were developed to foster changing needs of business.

In the background of this development, the art and science of accounting also was changing. The double entry accounting dates back to 1491, but the history of cost and management accounting is more recent than this. The First World War and the great depression that followed were responsible for emergence of costing and cost accounting techniques. The innovations in costing were brought about around this time. The whole world went through the crisis of cutting costs. But the knowledge of ascertaining cost was very primitive. The economists kept on researching rigorously to find out ways to standardize the process of ascertaining cost. The concept of 'cost' existed more from an economic point of view. The techniques of the application of the concept of cost to various business situations got developed during this period.

The period between 1850 and 1920 saw emergence of costing and cost accounting. The focus was more on 'product costs' and 'operating efficiencies'. The application was limited to industrial organisations which were relatively big in size and complex in nature. Then onwards till 1950s when matching concept got evolved, the focus shifted to cost determination and financial control. This period also witnessed development of accounting bodies and the process of professionalizing of 'accounting' began around this period. The management accounting innovations during 1950s to through the eighties focused on information for management. It is during this time that use of information technology started developing at a much faster pace. Use of quantitative techniques and their application in the area of accounting started in this period. These techniques were transportation & assignment, queuing theory, probability, linear programming, simulation, PERT and CPM. Application of these techniques using accounting and costing data added a completely new dimension to the decision making process, which became future oriented. These tools then started getting integrated with development of financial models for effective decisions.

As manufacturing technologies got revolutionized especially the post 2nd world war in Japan and the US, the management accounting also progressed to align to those changes. The manufacturing became CAD based; robotics became integral and Japanese techniques of Total Quality Management (TQM), Just in Time (JIT), Kaizen, Lean Management etc started ruling the business world. The management accounting responded very well with development of tools such as Activity Based Costing (ABC), Balanced Scorecard (BS), Product Lifecycle Management (PLM), and Target Costing. Robert D. Kaplan was responsible for most of the innovations in management accounting tools and techniques after 1980. The various tools of management accounting developed and used very effectively by organisations world over are:

- (a) Material Requirement Planning (MRP)
- (b) Enterprise Resource Planning (ERP)
- (c) Customer Relationship Management (CRM)
- (d) Supply Chain Management (SCM)
- (e) Earned Value Management (EVM)
- (f) Economic Value Addition (EVA)
- (g) Balance Score Card (BSC)
- (h) Enterprise-wide Risk Management (ERM)

The newer concepts that are quite widely used and have become part & parcel of management accounting profession are:

- (a) Activity Based Management (ABM)
- (b) Theory of Constraints (TC)
- (c) Throughput Accounting (TA)
- (d) Direct Product Profitability (DPP)
- (e) Life Cycle Costing (LCC)

The post 1990 period witnessed the emergence of internet and web based technologies that totally revolutionized the management accounting profession. The focus has now clearly shifted from transaction management to enhancement of stakeholders' value, from supplying a product or service to customer relations, from vendor management to business partnerships and so on. Today's management accounting function helps management to assess the value of business by continuously comparing various performance parameters with the benchmarks set by the organisation. Regardless of the size of the organisation, these tools are used quite commonly. The developers of these tools have configured them to suit and affordable even to smaller companies. These tools act as excellent Decision Support System (DSS) and assist management in business restructuring, mergers and acquisitions, shared services etc. The application of management accounting in its present form is expanded to cover service sector as BPO, KPO, shared services etc. The fast emergence of banking, insurance & financial services sector has thrown open entirely new fields of application of management accounting concepts. Experts have been able to customize these concepts to suit the needs of these sectors. Even in manufacturing segment, contemporary management accounting focuses more on process management than a traditional 'push' production flow system. The credit of the most modern 'pull' systems like JIT and Back Flush Accounting goes to Toyota Corporation of Japan.

For beginner of the Management Accounting course, therefore, it is necessary to grasp not only the basic of financial, cost and management accounting concepts; but also various aspects of business encompassing other functions such as R & D, procurement, production, marketing, human resources etc. in order to play an effective and contributory role as a Management Accountant.

Over years the Management Accounting Profession has become more formalized. Structured training in this profession is available from professional bodies. Some of the important professional bodies are Chartered Institute of Management Accountants (CIMA), London, The Institute of Certified Management Accountants (CMA), US. In India, The Institute of Cost Accountants of India (ICAI) is doing a commendable work in this area.

The scope of Management Accounting covers both financial & cost accounting, Controller's function, taxation, management audit, systems and procedures, corporate governance etc. As it is not a pure science, it's highly subjective. The information supplied for decision making must be relevant, accurate and timely.

6.6 COST AND COST OBJECT

Commonly understood 'Cost' is expenditure incurred for creation of a value. However, cost can very rarely stand alone and should always be qualified as to its nature and limitations. A number indicated as cost would mean differently under different circumstances. Further this number may be an approximation. It may not necessarily be an actual cost, but may be estimation. Cost may always have to be used together with an adjective to convey the meaning that was intended. If we say "cost of a pen is ₹ 15" it does not convey the full meaning. In order to make it meaningful the term cost is always preceded by a phrase which explains it further. It is very important that the purpose or a context is known, so that the decision taken based on the cost information is as correct as possible. When it is said "cost of the pen is ₹ 15"; does it mean total cost? Estimated cost? Actual cost? Material cost? It could be any of these or anything else! So unless specified, the meaning will not be complete.

The term cost may denote any of the following:

- an expense that is related to a product or service e.g. cost of material used to produce a TV set.
- an expense that may be related to time i.e. deferred cost, the benefit from which is yet to be received.
- an expense that is lost i.e. there won't be a benefit accruing out of the incurrence of the cost e.g. cost of stock damaged in a fire.

A cost accountant must be able to differentiate cost with respect to product or service, time and the benefit related to it. The purpose is to identify cost with a thing to which it is related to.

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Therefore the term cost should always be linked with a cost object to be more meaningful. Cost object is the technical name for a product or a service, a project, a department or any activity to which a cost relates. In oil exploration company 'a barrel' is the cost object. In a hospital, 'Cost Object' could be different wards, dispensary, various services such as x-ray, ECG etc. relating to which costs are accumulated. The integrated accounting packages do provide for having a very comprehensive system for setting up and using such cost objects. Without any duplication, a cost is booked to its object simultaneously when passing the basic accounting entry.

The cost object could be defined broadly or narrowly. In a broader sense, for a CTV manufacturing company, a TV set may be a broad cost object. To narrow it down, it could be an LCD panel or a flat screen TV. To make it narrower, it could be 42" TV, 32" TV and so on. Depending on the need and purpose the cost objects are to be defined. There is no standard list of cost object and every organisation has to build them on merit basis.

Establishing relevant cost object is very crucial for a sound cost accounting system. When costs are accounted for, they are to be booked (i.e. entered under) to a correct cost object. If at this first level of cost data collection, the entry is not made to correct cost object, it will affect the whole process of cost ascertainment and will not aid business decisions. For example, if the need is to ascertain cost of a flat screen TV and LCD TV, both of them must be established as valid cost objects. Material bought in for Flat Screen TV must be entered to the cost object related to it, whereas material bought in for LCD TVs must be booked under its relevant cost object. Similarly, cost of wages paid to workers who are assembling the TV sets must be booked under the relevant cost object.

At a broader level a cost object may be named as a cost centre, whereas at a lowermost level it may be called as a cost unit.

6.6.1 Cost Centre

Commonly understood, cost centres are sub-units of an organisation. We use the terms such as departments, divisions, regions, and zones etc. that convey the same meaning of cost centre. Correct identification of these sub-units is essential for implementing cost accounting system as the costs are ascertained and controlled with respect to the cost centres. It also facilitates assigning responsibility to operating managers who are in charge of various cost centres. There is no standard number or size of cost centres. It will depend on nature and size of the organisation, the expenditure involved (you won't be having a separate cost centre if the yearly cost involved is only ₹ 100), and requirements of management to control. Cost centres are sometimes called as centres that add to costs of the organisation and only indirectly add to the profit of the organisation.

The official terminology of CIMA defines a cost centre as "*a location, a person or an item of equipment (or a group of them) in or connected with an undertaking, in relation to which costs ascertained and used for the purpose of cost control.*"

This definition clearly brings out a very wide connotation of the term. It can be explained as follows:

- (a) A cost centre could be a location or locations like a branch, a region or zone of sales, etc.
- (b) It could be identified as a person such as Chairman's office or MD's office
- (c) It could be equipment or a group thereof such as lathe machines, Computers, etc.
- (d) It may be a department carrying out a certain activity e.g. production departments like turning, fitting, welding, blending, assembly etc. The activity could be a service activity as well like a stores department, labour office, accounts department etc.

Consider a case of an educational institution that imparts various courses to undergraduates, graduates and post graduate levels. What could be the cost centres there? We may consider having the following:

- (a) Office of the managing committee – they lay down policies & decide on which courses to offer
- (b) Faculty department - they are actual imparters of training
- (c) Office – they take care of fees collection, scholarships, examinations, results, certification etc.
- (d) Laboratory – responsible for maintaining lab equipments & materials

- (e) Library – looks after reading material, internet & web facilities
- (f) Canteen and recreation – looks after daily provisions of facilities
- (g) Hostel and Campus development – take care of student accommodation
- (h) Students coordination department – liaison of students with teachers & university officials

Such a demarcation of an education institute into organizational sub-units will act as a sound basis for cost collection. Cost centres act as a collecting place for costs.

In a typical manufacturing company, the broad classification of cost centres could be production departments and service departments. Production departments are directly engaged in the production activity whereas the service departments provide support services to aid the production departments to run their function smoothly. The production departments convert the raw material into a finished product with the help of support functions.

In an automobile manufacturing company, there could be following cost centres:

- (a) Production departments: Engine shop, machine shop, forging shop, paint shop, components manufacturing, and fitting & assembly
- (b) Service departments: Quality assurance & control, Stores, purchases, plant maintenance, boiler house, marketing, accounts & finance, Human resources, administration & industrial relations, IT services, research & development etc.

A hospital may have following cost centres:

- (a) Outpatient department (OPD)
- (b) Inpatient department which may be further sub-divided depending on specialty of diseases like heart related, cancer, paediatric, etc.
- (c) Tests like x-ray, ECG, MRI, pathology laboratory
- (d) Utilities – housekeeping, canteen
- (e) Dispensary
- (f) Medical & paramedical services
- (g) Accounts and administration

When different responsibility centres are properly set up, cost collection and use of cost information for control purposes can be done effectively.

6.6.2 Cost Unit

The cost unit is the narrowest possible level of a cost object for which costs are collected. Usually it represents the unit used to express the quantity in which the product or service offered by an organisation is measured. This is a normal selling unit or output for which costs are calculated.

The CIMA official terminology defines cost unit as “a unit of product or service in relation to which costs are ascertained”.

Every business offers either a product or a service to its customers. The customers can be external to the organisation or internal to the organisation. For example, a car manufacturing company will sell cars to the external customers. Also, the engine shop will supply completed engines to the assembly for fitting. In such case there could be multiple cost units in relation to which costs are computed.

Let us see some of the common examples of cost units in the following table.

Business	Cost unit	Expressed as
Automobile	A car, a scooter, a motor bike etc.	Number / each
Pharmaceuticals	A strip or a pack or a bottle of medicine	Number of strips of tablets or capsules of various potencies, a crate of bottles of different sizes
Sugar, fertilizer, chemicals	Kg / litres / tonnes	Number
Furniture	Article	Number of sofas, beds, chairs etc.



Business	Cost unit	Expressed as
Power	Kilowatt hour	Number of Kwh
Professional service	Chargeable hours	Number of hours
Construction	A job or a contract	Number / each
Tele marketing	Customer calls made	Number of calls
BPO service	Accounts handled	Number of accounts
Gas	Cubic foot or cu mtr	Number

For service industry, the cost unit is usually a composite cost unit i.e. it's a combination of more than one cost unit. Consider a state bus transport company that provides a service of carrying passengers. Here there are two dimensions. One the distance carried and second the number of passengers carried. The appropriate cost unit here will be passenger-kilometers. Examples of such composite units are shown below:

Business	Composite Cost unit
Goods carrying company	Tonne-miles / Tonne-kilometers
Hospital	Patient day
Hotel	Bed night
Education	Student year
Railways	Passenger kilometers

6.6.3 Classification of Costs

As we have seen meaning of costs vary with purpose for which it is incurred. There may be many adjectives with which costs could be explained. There has to be a logical way to group the different types of costs in order to devise an efficient system collecting and analyzing costs. Remember that collection is only the starting point. These costs are to be further analysed and interpreted so that the objective for which they are collected can be served in a better way.

The CIMA official terminology defines classification as “*the arrangement of items in logical groups having regard to their nature (subjective classification) or purpose (objective classification)*”.

This definition is a little restrictive as it takes into account only nature and purpose as the two logical categories. In fact, however, costs can be classified in many ways that would be helpful. More the number of ways to classify more will be complexities. But that's how it is. If a cost accountant wants to understand costs, he must dig deeper into it.

The cost classification can be done in the following ways:

Basis	Cost types
Nature of expenses i.e. element	Material costs Labour costs Other expenses
Traceability to object	Direct costs Indirect costs
Functional	Production cost Administration costs Selling costs Distribution costs Research & development costs
Behavioural	Fixed costs Variable costs Semi-fixed or semi-variable or mixed costs

Production process	Job / contract costs Process costs Operation costs Service costs
Decision making	Relevant costs Opportunity costs Target costs Standard costs Marginal costs Budgeted costs

The list given above is not exhaustive and as one progresses with the study of costs, one will find many other adjectives that could be used to explain some other cost types which will convey special meaning valid for the context under consideration. An item of cost may fit into each of the above types even at the same time. But each will convey different meaning and will require different treatment for planning and control purpose. A cost accountant must grasp these different types of costs thoroughly in order to apply them in pursuit of the objectives of cost and management accounting. Again the explanations provided below regarding the above types do not mean a standard way of defining them. The line of demarcation between these types is very thin.

A. Element-wise classification :

According to elements or nature of expenses costs can be classified as material costs, labour costs and other expenses. Any item of expense can fit into one of these three.

(i) Material Costs are costs of physical commodities used to make a final product. They obviously exist in case of manufacturing companies invariably and also in case of some service industries like restaurants. The material could be basic raw material, components, consumables, spares, packing material etc. The raw material could be further sub-divided according to their types like steel, plastic, metals, paints, gases etc. In case of a car, the metal body, engine, accessories, tyres are all examples of material cost. Consumables used like oil, grease etc will also form part of material cost. For manufactured items material cost constitutes higher proportion between 50% - 60% of the total costs. Naturally this element attracts maximum attention for cost control purpose. This material could either be purchased from outside or manufactured within the factory.

(ii) Labour Costs comprise of expenses in relation to salaries, wages, bonuses, expenses on staff welfare, statutory benefits like provident fund, gratuity etc. This is an intangible source of cost and one cannot physically see this element into the final product. Usually, it comes next to material cost with regard to its proportion to total costs. In case of service providing organisations, of course, labour costs will constitute greater proportion. Further, as they are related to human beings who run the business they are probably more important to ensure that maximum benefit is obtained by use of manpower efficiently.

(iii) Other Expenses are those which are not pertaining to material or labour. These expenses are incurred either to provide support to manufacturing or service activity or to ensure smooth running of business. For example, crane hire charges or a consulting engineer's fees may be necessary for manufacturing activity. Rent paid for office, insurance charges paid, electricity and water charges, advertising, transportation are among other examples that help smooth running of business.

All elements put together are called as "Total cost" or "Full cost". Labour and other expenses put together may be called as 'conversion costs'. They help the conversion of raw material into finished product.

B. Classification based on traceability to cost object

The word traceability here means the connectivity of an item of cost to the cost object which could be either a cost centre or a cost unit. It's very important to know to what extent there is a direct relationship between costs and cost objects. On this basis costs can be classified into:

(i) Direct Costs are costs that can be easily identified with the unit of output. An engine in the car can be easily identified with the car assembled. A worker working on the assembly line can be directly



identified. For a project execution company, site expenses can be directly identified with the project under execution. The meaning here is these cost owe their existence directly to the units produced. If nothing is produced, these costs will most probably not be incurred. The direct costs could be direct material costs, direct labour costs or direct expenses. Hence all elements of costs could fit in as direct costs as the test is whether there is a direct linkage of them to the unit produced or service rendered. The Direct Costs (material plus labour plus expenses) together make a Prime Cost.

(ii) Indirect Costs are those which are not easily directly connected with the cost unit or cost centre. Please mark the word 'easily' here. What it means is theoretically establishing the link may be possible, but the cost of linkage itself is more than the cost of such expense. For example, maintenance material used to clean machines cannot be identified with the final unit of output. Can we identify the salary of an accountant with each unit produced? Is it possible to link each rupee of rent paid with the product produced? The answer is no. This is what makes these costs as indirect costs. Here again one may see indirect material costs or indirect labour costs or indirect expenses. All indirect costs (material plus labour plus expenses) together are termed as 'Overheads'. As there is no direct linkage with cost unit, such costs are either allocated or apportioned to the final product on some suitable basis. This is explained later in this study material.

C. Functional classification

The business activities, by and large, can be sub-divided into groups as production activities, administration activities, selling & distribution activities. Mostly any organisation will have these functions as cost centres. Non-manufacturing companies may not have factory or production, but they may use other functions. As such costs incurred in furtherance of each function are called by the name of that function.

(i) Factory or Production Costs comprise of items of expenses related directly to the factory or production activity. These could include all elements viz. material, labour and expenses.

(ii) Administrative or Office Costs are those incurred for overall administration of the organisation. This may includes items like stationery, office supplies, building maintenance, salaries of office people etc. This category may include material, labour & other expenses.

(iii) Selling and Distribution Costs are costs incurred after the production is over. These are related to efforts for selling and distributing the products. It may involve advertising, free samples, distribution van expenses, secondary packing material, carriage outwards, discounts and schemes offered to customers. Thus these costs also may include material, labour and expenses.

(iv) Research & Development Costs are costs associated with efforts undertaken by the organisation to innovate new products, new designs, and new processes. These costs cannot be related to the ultimate cost unit. Hence they are normally not included in the total cost. There may be various research projects going on simultaneously. Some of them may be commercially successful while the other may not. The cost of non-successful projects may be written off to the P & L A/c in the year in which they are incurred.

D. Behavioural classification of Costs

The word behaviour, here, denotes the relativity or variability of change in the cost with respect to change in the level of business activity. The level of business activity may be indicated in terms of volume of output, hours utilised, capacity operated etc. A relationship is tried to be established between the changes of activity level with the rate of change of costs incurred for those activities. It is in this connection that the costs are classified into fixed, variable and semi-variable costs. This classification is a very powerful tool in the hands of management for the purpose of short term decision making as will be discussed in the topic on Marginal Costing.

(i) Fixed Costs are those cost which do not change with change in the level of activity within the relevant range (installed capacity). Consider the item of rent for factory. The rent payment is associated with time period. Once an organisation makes a rent agreement, the cost is payable irrespective of whether there is any activity or not. The rent cost of ₹ 10000 per month will not vary even if production jumps from 100 units to 1000 units. An interesting aspect about fixed costs is that while the total fixed costs remain constant, per unit fixed cost will go on decreasing. In our example, rent in totality will remain as ₹ 10000.

But if output is 100 units, per unit rent will be $(10000/100)$ i.e. ₹ 100 and if production goes up to 1000 units then per unit rent will be $(10000/1000)$ i.e. ₹ 10. It is clear that this concept helps management to understand the importance of capacity utilization.

However, these costs will remain same within the installed capacity only. If the capacity increase necessitates having another factory to be hired, then rent may increase. But again at that level it will remain constant in totality. Such costs are related more to time than to product. It may be found that in non-manufacturing type of business, the proportion of fixed costs is generally more. Other examples of such costs are salaries to managers, insurance, maintenance, advertising, travel and other discretionary expenses.

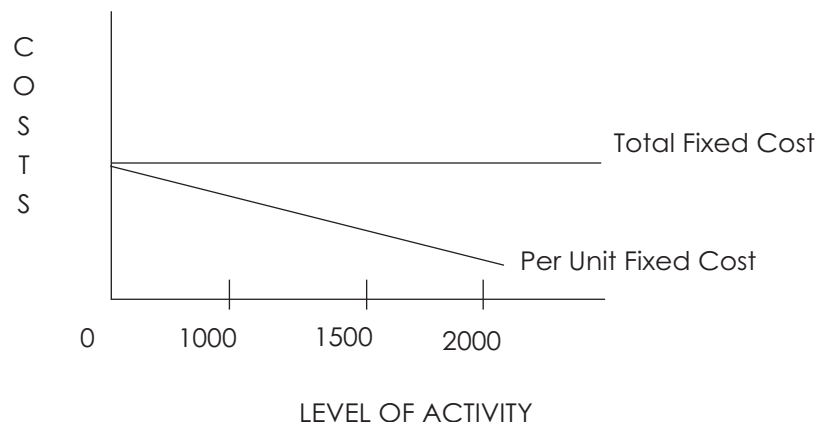
(ii) Variable Costs are costs that vary in direct proportion to the level of output. Any increase in the production volume will result in corresponding increase in these costs. Consider one unit of a standard size table requires 130 cu ft of wood. So if one table is made, the consumption of wood will be 130 cu ft. for 20 tables it will be 20 times 130 i.e. 2600 cu ft. For 100 tables it will be 100 times i.e. 13000 cu ft of wood. Thus total variable costs will increase exactly in the same proportion of the volume of activity. The most common examples of such cost are material costs and costs of labour directly working on production. An interesting aspect about variable costs is that while total variable cost changes with production level, per unit cost remains the same.

(iii) Semi-Fixed or Semi-Variable Costs are those which change with change in activity level but not in the same proportion. In practice, the line of demarcation between fixed and variable is so thin that most of the cost items fall under this category. There cannot be exact linear relationship between most of the cost items and the levels of activity. Various statistical tools are used to establish a correlation and the degree of variability is measured. There may a cost item which is 60% variable and 40% fixed.

The following example shows how perfectly variable or perfectly fixed cost would behave. Please understand these relations very well as it lays the foundation of a very popular technique of marginal costing which studies the cost-volume- profit relationship.

a)	Level of activity		1000	1500	2000
b)	Variable cost (say materials)		60000	90000	120000
c)	Fixed costs (say rent)		30000	30000	30000
d)	Per unit variable cost	$(b \div a)$	60	60	60
e)	Per unit fixed cost	$(c \div a)$	30	20	15

This can also be shown as chart as follows:





From the view point of managerial decision making especially in the short term this classification acts as a very potent tool. It can help take decisions such as by how much should the production be increased or decreased or what will be the effect of volume changes on costs or vice versa. But as we know, there cannot be a linear relationship as depicted in the above chart, there is a need for segregation of semi-fixed or semi-variable costs into individual components of fixed costs and variable costs. Statistical tools are available to segregate such costs.

E. Classification by Production Process

Based on the method of producing a product, the costs also need to be accumulated with regard thereto. Production method based classification of costs can be done as follows:

(i) Job or Contract Costs are associated with industries where the end product is a unique, non-standard item which is produced or built as per customer specification. Repeat production of the same item is highly unlikely. These costs are directly associated to a job or a contract which is the cost unit in these industries. The application of this method is seen in construction industry, ship building, machinery construction and projects. Most of the costs relate with an individual production order. It can be applied even in service industry. Consider the case of an automobile service station, where vehicles are brought for servicing or repairs. In each case the job to be done is different and will require different material, different skill set of labour etc. Hence costs are accumulated against specific jobs.

(ii) Process Costs are related to production processes in industries like chemical, pharmaceuticals, fruit processing, cosmetics etc wherein raw material is input in a series of processes where different treatments are made to convert the form of raw material into a finished product. Output of one process becomes input for the next in the series. There is no individual identity of each unit being processed. Consider fruit processing industry-fruits are cut in process of crushing then forwarded to blending with preservatives and then passed through process of removing impurities & other wastes before a final product in the form of fruit pulp or juice is made. Here a certain quantity of fruits is input, the costs cannot be associated with each kg of the fruit. Thus the costs are ascertained for each process separately and then averaged out to the total quantity processed. In this example, if 100 kg of fruit pass through blending process during a production run and the cost of blending process is ₹ 1200, the cost per kg is averaged as ₹ 12.

(iii) Operation Costs are pertaining to performing an operation at each stage in the production process. This is a variant of process costing and finds its application in industries where large number of similar items is produced or also in industries where sub-assemblies are produced. Take case of bearing manufacturing which is assembly of inner rings, outer rings, balls and other components. Each component is produced in large quantities and then assembled to get a ball bearing.

(iv) Service Costing is used in the service industries and the costs are ascertained for generating services. The intention is to show cost of appropriate cost unit of a service e.g. passenger-kilometer for railways, KWH for power etc. This is generally used in hospitality, hospitals, etc.

At times the business case may require application of more than one methods of costing simultaneously. This is because of existence of production methods for different components which are to be assembled into a final product. This is called multiple costing or composite costing and is applied in case of audio and video manufacturing, aero planes, textiles etc.

F. Classification for decision making

The purpose of ascertaining costs is to help management in decision making process. As it involves evaluation of costs & benefits of various alternatives, costs which are relevant for a particular decision only should be considered. There are numerous concepts of costs other than those listed above. Let us see some of them.

(i) Relevant Costs are those which are relevant for situation under consideration. Costs which are future costs, involved a cash outflow and which differ between the various alternatives are called relevant costs. Consider that a company has to make a choice between making a product in house or outsourcing it. In this case the cost of machinery already acquired is not relevant as it is already imputed or sunk. Here only variable cost of producing in house should be compared with the price offered by subcontractor to arrive at a correct decision.

(ii) Opportunity Cost is the benefit forgone as a result of pursuing one course of action rather than pursuing the best alternative course of action. The opportunity costs are always relevant. For, they reflect the choice of alternatives to arrive at a decision. For each alternative course of action, one needs to study the net relevant cost or benefit before making a recommendation. It's an imputed cost reflecting the greatest benefit forgone as a result of using a particular alternative course of action. If the net benefits of 3 different alternative courses of action are ₹ 5000, ₹ 7500 and ₹ 3500. If the alternative 2 is chosen, it means the benefit of the next best alternative (₹ 5000 in this case) is forgone. Thus the opportunity cost of selecting 2nd alternative is ₹ 5000. Although notional in nature, it helps management to decide a course of action more conservatively.

(iii) Target Cost is a product cost estimate derived from a competitive market price. The intention of target cost is to bring about continuous improvement in the cost. Consider a product the price of which is given by market. If the company wants to earn a desired profit on the product, there's no alternative but to produce it within the target cost calculated as (selling price – desired profit). It may sound simple, but achieving the results is very difficult.

(iv) Standard Cost is a pre-determined cost which is calculated from management's standard of efficient operations and the relevant necessary expenditure. It is a normal cost under ideal circumstances. The standards are set for quantities of material and labour hours and also for the rates of material and labour. The standards are set for other expenses assuming operating under ideal circumstances. The standard cost once established, acts as a benchmark against which the actual costs are compared. The deviation from the standard are measured, analysed and corrective actions are taken. Standards are based on scientific computations based on time & motion study, industrial engineering and other techniques. As the name suggests, it can be applied only in those industries where the products processes and operations are standardised.

(v) Marginal Cost is an amount by which aggregate costs change if volume of output is increased or decreased by one unit. It follows from this that the marginal cost resembles to a variable cost. If only one additional unit is to be produced, it is necessary to incur only variable costs as fixed costs do not change with the change in output levels. Thus marginal cost is also defined as cost of producing one additional unit. This is explained later in this study material.

(vi) Budgeted Cost is also a pre-determined cost like standard cost; but the later is set for a long term, whereas budgeted cost is usually for a year. The basic purpose of budgeted cost is to provide a benchmark for comparison of actual performance. The budgeted cost is like a target within which to operate.

Standard costing, budgetary controls and marginal costing are techniques used by management accountants as integral part of any performance management system in an organisation.

These different categories of cost can be interlinked. Costs could fall into more than one category simultaneously. There may be an overlapping when one tries to categorise cost as per one or more types as mentioned in preceding sections. A raw material cost is

- (a) Material cost by elemental classification,
- (b) Direct cost by traceability
- (c) Production cost by function
- (d) Variable cost by behaviour
- (e) Relevant cost for decision making.
- (f) Could fall into any of the types based on production process.

Illustration 1

Classify the following items of costs using different classification criteria.

- (a) Repairs to machinery
- (b) Factory rent
- (c) Freight inward
- (d) Directors fees



- (e) Direct wages
- (f) Free samples
- (g) Office stationery

Solution:

Item	Element	Function	Traceability	Behaviour
Repairs to machinery	Expense	Production	Indirect	Semi-fixed
Factory rent	Expense	Production	Indirect	Fixed
Freight inward	Material	Production	Direct	Variable
Directors fees	Expense	Administrative	Indirect	Fixed
Direct wages	Labour	Production	Direct	Variable
Free samples	Material	Selling	Indirect	Fixed
Office stationery	Expense	Administrative	Indirect	Fixed

6.7 COST ORGANIZATION

In smaller organisations costing may not be a separate department. The financial controller himself may look after this function. In larger and complex organisations, there's definitely a separate role for a cost and management accountant. Although in most of the organisations costing is primarily an integral part of accounts department, the managements are now preferring an independent set up. They are attaching increasing importance to the function of management accountant as a value enhancer.

The Management Accountant normally reports to the CEO or MD of the company as he is supposed to assist him in taking business decisions. This department is manned with the required number of professionals. The basic job profile is:

- (a) To set up and maintain a sound cost and management accounting system.
- (b) To generate reports on various performance parameters of all the functions of management, compare the results with benchmarks set & report on variances.
- (c) To communicate with different departmental heads in their quest of achieving better performance by providing them with management accounting information.
- (d) To identify areas of weakness and constantly update heads of various functions on them
- (e) To be an integral part of budgeting process in the organisation.

The costing department is an important player in the entire value chain of the organisation. It has to help the CEO in bringing about improvements in processes, cost reductions, and value enhancement. As the function encompasses all functional areas of the organisation, a cost and management accountant has work along with these departments as a facilitator and not only as a critique. The involvement of this department with others can be explained with an example:

Department	Areas contributed
MD's or CEO's office	Preparation of strategic plan Reporting on key variances Reporting on value additions Analysis of product or SBU wise results Capacity expansion or diversification Management audit Internal control

Production	Set up costing system Generate costing reports Inventory valuation Wastage reporting & monitoring Labour time utilisation Production budgets Make or buy decisions
Sales and Marketing	Product pricing Sales budgets & forecasts Cash flow estimations Impact of sales promotion Competition analysis Bidding for tenders Accept or reject an order
Procurement	Purchase budgets Vendor analysis Economic ordering quantity Stock levels Price variances
Information technology	Cost information ERP implementation

While the above list is only illustrative, it will be quite clear that the role of a cost & management accounting department is there in almost all business functions. In addition to the above, the costing department also looks after cost audit in those organisations where cost audit is compulsory. It is also evident that the role of this department is functional as well as strategic.

6.8 COSTING SYSTEM

We have seen that the concept of cost is very complex and subjective. It may have different connotation depending on the context and purpose. To determine costs correctly, an organisation must install proper system of costing. There is no standard system that can suit every organisation, but it will depend on the nature of business, the nature of product or service, the management's need for costing information and cost control. Typically a costing system is comprised of the following characteristics:

- It lays down basic procedures and functional routines. In its traditional form, costing process aligns itself with the flow of business activity. Hence a clearly defined logical flow of business activities will make the system stronger.
- It starts with a proper classification of costs, determination of cost centres and cost units. This base level activity is many times ignored which may create problems at a future date.
- It provides basic guidelines for segregation of fixed and variable costs.
- It will include the logic for allocation and apportionment of indirect costs.
- It also provides standard reports vending out regular flow of costing information to various levels of management.
- The system should provide for a cost accounting manual explaining how different items of costs will be treated in an organisation.
- It needs to take into consideration the cost audit record rules and cost audit report rules if applicable.
- The system should not be closed ended, but scalable to take care of future changes in the business requirement. If not taken care of in time, this will increase the cost of system itself.
- These days, the system is mostly an integrated system which takes care of financial and cost accounting simultaneously as the process is automated.



6.9 COST DETERMINATION

A costing and cost accounting system should form a sound basis to enable management to analyse, interpret the cost information from various angles in order to take correct decisions. The historical cost data could also serve as platform for estimating future costs. In the coming sections, we will learn in depth various element of costs. Determination of cost is embodied in a costing method within the costing system. Cost is always determined for a cost unit. Whatever may be the cost unit, costs are accumulated and attributed to that cost unit to ascertain the total cost. In Job costing, for example, all elements of costs are identified with “a job”. In case of costs that cannot be directly so identified, they are allocated or apportioned using a suitable basis. In a service organisation, the composition of cost is dominated by indirect costs. The proportion of allocated costs in the total cost in such industries is higher.

The primary record of cost is done with respect to the element and cost centre. The secondary record relates to allocation of indirect costs. The next level is to relate it to the actual cost unit. In case the cost unit is not singular, the costs are averaged out. For example, if chocolates are made in batches of a particular quantity, cost unit is normally a batch and costs are ascertained for the batch. These costs are then divided by the number of chocolate in the batch to find out cost per chocolate.

The process of determination of cost of a pre-determined cost unit can be seen in the following chart:

Particulars	Basis of identification	Production departments			Service departments		
		Stage 1	Stage 2	Final stage	Dept 1	Dept 2	Dept 3
Direct Costs: Direct Material Direct Labour Direct Expenses	Direct identification	-----	-----	-----	-----	-----	-----
Primary distribution of Indirect Costs Indirect Material Indirect Labour Indirect Expenses	Direct or allocated	-----	-----	-----	-----	-----	-----
Secondary distribution of Indirect Costs Apportionment of service department costs to production departments	Service rendered	←-----			-----	-----	-----
Total Cost of Production (a)		-----					
Quantity of Cost Units (b)		-----					
Per unit cost (a ÷ b)		-----					

This is not a standard chart but only illustrative. Each organisation will form its own format depending on the need. The attempt here is to only explain the cost flow.

Illustration 2

Specify the method of determination of costs and the cost units for the following industries.

Oil
Chemicals
Canteen
Aerated water
Printing
Hospital
Telephone service
House-building
Insurance
Ready-made garments

Solution:

Oil – Process Costing Method – a liter or a barrel
Chemicals – Process Costing – kg for solids, liters for liquids or cu ft for gases
Canteen – Operating Costing – a meal
Aerated water – Unit or Batch Costing – a bottle or a barrel
Printing – Job Costing – a printing job
Hospital – Operating Costing – a patient bed
Telephone service – Multiple Costing – a call per unit of time
House building – Contract Costing – a dwelling unit or a building
Insurance – Operations Costing – a claim
Ready-made garments – Batch Costing – a batch of shirts or clothing

Illustration 3

A company manufactures and retails clothing. Classify the following costs into :

Direct material
Direct labour
Direct expenses
Indirect production expenses
Research and development costs
Administration costs
Selling & distribution costs
Finance costs

- (1) Lubricant for sewing machines
- (2) CD for office computer
- (3) Maintenance contract for office photocopier
- (4) Telephone rental & metered calls
- (5) Interest on bank overdraft
- (6) Performing rights society's charge for broadcasting in factory
- (7) Market research for product launch
- (8) Wages of security guards at factory
- (9) Carriage on basic raw material purchased



- (10) Royalty payable on number of products produced
- (11) Road license fees for delivery vans
- (12) Parcels sent to customers
- (13) Cost of advertising products on television
- (14) Audit fees
- (15) Chief Accountant's salary
- (16) Wages of operators in cutting department
- (17) Cost of painting slogans on delivery vans
- (18) Wages of storekeeper in material stores
- (19) Wages of fork-lift truck driver
- (20) Developing a new product in laboratory

Solution:

Direct Material – 9

Direct Labour – 16

Direct Expenses – 10

Indirect Production Costs – 1, 6, 8, 18, 19

Research & Development Costs – 20

Selling & Distribution Costs – 7, 11, 12, 13, 17

Administration Costs – 2, 3, 4, 14, 15

Finance Costs – 5

6.9.1 Accounting for Material Cost

Among all the three elements of direct cost material cost is the most significant element. The percentages may differ from industry to industry, but for the manufacturing sector material costs are of greatest significance. In service organisation also material cost may be significant. Consider an accounting or a legal firm, where use of computer stationery could be in very high volumes, thus must be controlled properly. Analysis and control of material cost therefore become important in the quest of measuring and improving profitability. Even a small saving in the costs either by negotiating better rates or by reducing wastage could dramatically improve profit margins. The term material is a very broad term and could include:

- (a) Direct material such as raw material which is converted into finished product. A product may be made out of single raw material item or multiple material items may be processed or blended together. It will also include the basic packing material without which a product cannot be stored or sold. e.g. fruit juice has to be offered either in a glass or plastic bottle or a sachet or tetra pack. Such packing material will be included as direct material as it can be easily identified with each litre of juice produced.
- (b) Indirect material such as oil, grease, cleaning material, screws and nuts, secondary packing. This material does not form part of the final product. Technically even items like office supplies and stationery may be included as indirect material.

The categorization of material into direct and indirect may be difficult at times. For example, an item of material may be called as indirect material even if it forms part of (i.e. it is physically present in) the final product. Consider polishing material used to polish wooden furniture. Although polished furniture does contain the polish, the cost of it is too insignificant to be identified with the cost unit. Same is the case with nails used in footwear manufacturing or glue used in book binding. What may be a direct material item for one industry may be an indirect item for another industry. We know normally oil and grease are considered as indirect material in a manufacturing industry, but for an automobile service station it becomes a direct cost.

At times the material is classified as direct even if it is physically not present in the final product. Consider a beer manufacturing process where yeast or enzyme is added in the process. It acts merely as a catalyst and is not present in the final product, but cost of it is significant. Hence it's included as direct material cost.

The classification of material cost into direct and indirect is important as the control mechanisms for both are different. Whereas efforts to control direct material costs will be directed to minimize the cost per unit, the indirect material costs may be controlled through other control measure. In different industries also material costs may be controlled in different ways e.g. in a chemical or pharmaceutical company the production is based on a fixed formula of mixing material, the costs are controlled through reduction in wastage and material rate negotiations.

Of late, there is an increased importance given to not only the control over physical being of a material item but also on the entire logistics of material movement. From the stage of planning till final usage of material, there are costs attached to each activity which need to be controlled. Inventory controls measures like EOQ, ABC analysis, Pareto analysis also help keeping material costs to minimum levels.

6.9.1.1 Movement of Material

The flow of material routine may involve following:

- (a) Planning for material
- (b) Procurement of material
- (c) Receiving and Inspection of material
- (d) Storage of material till it's required for production and Issue of material at various stages of production
- (e) Store Records

(a) Planning for Material

There is a continuous planning required to be done for making sure that material of the right quality, right quantity at right price are made available at right time for production activity. Companies may have planning cells to look after this activity. At times, the purchase department may be involved in the planning activity with production and industrial engineering. Computer aided packages like Material Requirement Planning (MRP) are used to do errorless plan for material. Codification of material items is the pre-requisite right from planning stage for easy identification of an item. A typical plan for material will indicate item-wise requirement of quantities for the planning period which may be a year. Companies also use rolling plan to make adjustments for any changes therein. In projects execution companies, planning for material may be difficult as the requirement may depend upon the project getting awarded to the organisation.

(b) Procurement of Material

Based on the planning done, the purchase department may start buying material either on the basis of quantities that are to be procured as per stocking policy or on the basis of specific requisitions from stores department. There could be a requisition made directly by production department as well for a specific item required for a job or contract or a process. Depending on the size of organisation and nature of business, the purchase activity could either be centralized or decentralized. The purchase requisition acts as an authority for the purchase department to buy the required material.

At times, the procurement could be done based on rate contracts and quantities may be supplied as and when needed. Adjustments may be made if rates fluctuate beyond a certain limit. For non-specific items of material, the crucial decisions to be made are:



- (i) How much quantity should be bought at a time?
- (ii) When should the stocks be replenished?
- (iii) What should be the source of supply? Should there be single or multiple sources?
- (iv) How many quotations should be called for?

The aim should be to order in just the right quantities so that the situation of over-stocking or under-stocking is avoided.

Overstocking may result into

- Locking up of working capital and higher interest costs
- Locking up of storage space
- Benefits of drop in prices of material may not be available
- Increased risk of obsolescence or deterioration
- More material handling and upkeep

Under stocking, on the other hand, could lead to:

- Production holdups causing disturbances in delivery schedules
- Unfavourable price and credit terms for last minute distress buying
- Payment for idle time to workers due to production holdups

For specific items purchase actions are initiated based on purchase requisition or indent, which is a request by the generating department to purchase department to procure items as indented. These indents could be made on the basis of Bill of Material prepared by the engineering department.

The Bill of Material (BOM) lists all material items required for making a complete product unit inclusive of all components or sub-assemblies. It is easy for the purchase department to act on such advance intimation about future requirements. Internal control can be established as the material can be issued for production only as per the BOM. Thus a stores person will not issue less or more material. The specimens of BOM and purchase requisition are illustrated below. The formats may differ from company to company.

Bill of Material

Specimen Bill of Material (BOM)						
Number _____		Date _____		Job / Order Number _____		
Department Code _____		Assembly Drawing no. _____				
Part No.	Component Code	Component Description	Material Code	Gross Material Quantity	Normal Wastage	Net Material Quantity

Signed by: Engineering Head _____ Approved by _____				
For use by Purchase Department only				
Date	P.O. Number	Name of Supplier	Delivery Date	Remarks
Signed by: Buyer or Purchase Manager				

Purchase Requisition

Specimen Purchase Requisition or Indent						
Requisition Number _____		Date _____		Job / Order Number _____		
Department Code _____						
Sr. No.	Item Code	Description	Quantity	Units	Quantity on Hand	Remarks
Signed by: Stores-in-Charge / Planning Engineer _____ Approved by _____						
For use by Purchase Department only						
Date	P.O. Number	Name of Supplier	Delivery Date	Remarks		
Signed by: Buyer or Purchase Manager						



The purchase department may have list of approved vendors with it. It is a good practice to keep updating the new sources of supply so that running around at eleventh hour could be avoided. If there are more vendors approved for similar items it is necessary to call for quotations to get the best rates and terms of supply such as delivery, credit, quality etc. The tenders could be single tender, restricted tenders, open tenders or global tenders. After getting tenders, a comparative statement is prepared in order to provide decision maker a proper set of figures to decide. The comparison of quotations could be done in the following format.

The ranking of suppliers is done on the basis of this comparison. The lowest quotation is ranked as 'L1' which indicates a preferred supplier. It's not always selected only on price but multiple factors such as quality, previous track record, guarantees offered by them, credit granted, market standing of the supplier etc. The cost and management accountant may participate in the process of finalizing the supplier through this process.

Schedule of Quotations							
Requisition Number _____		Date _____		Job / Order Number _____			
Department Code _____							
Supplier	Minimum Qty offered	Rate per Unit	Delivery Time	Delivery Terms	Credit Terms	Quality Certificates	Ranking
Signed by: Buyer _____				Approved by _____			

Once the supplier is selected and rates, quantities and other terms are finalized, a firm order is placed on the supplier. Many firms follow the policy of sending a Letter of Intent (LOI) to supplier as advance intimation and then the actual PO is issued. This is a contractual commitment for both buyer and supplier to supply and accept goods as per the terms of the PO. A specimen of Purchase Order is shown below.

Specimen Purchase Order						
To : M/s _____ (name & address of supplier)						
PO Number _____				Quotation Reference _____		
Date _____						
Item code	Description	Quantity	Units	Rate per unit	Amount	Remarks
Add: Freight & Packing						
Add: Excise duty						
Add: VAT or CST						
Total Amount						
Delivery: Goods to be delivered at (address of the place)						
Delivery date _____						
VAT form to be provided ____						
Quality certificate required ____						
Payment terms _____						
Signed by: Authorised Signatory						

The main PO is sent to supplier and copies are given to department generating requisition (to intimate the action taken on indent to them), stores department (as advance intimation about likely date of delivery so that storage plan can be worked out) and accounts department (to intimate creation of an obligation to pay as per agreed terms and also timing of the cash outflow). The format of the PO for an imported item will be same except for the unit of currency and some other terms.

If the payment is through letter of credit (L/C), the fact is mentioned in the PO and along with the PO, LC is also opened through bank.

(c) Receiving and Inspection of Material

On or around the scheduled date, the supplier will dispatch the material and intimate the buyer of the fact of delivery. He also sends the delivery documents like VAT invoice, delivery challans, and excise gate pass, test certificates, freight receipt if paid for etc. The purchaser will inform stores department of the delivery.

The stores department will receive the material after the gate entry. It will compare the quantities sent with that of the PO quantity. In case of excess or shortage, the supplier is informed immediately. The excess may be returned back to the supplier. The stores department will prepare Goods Received cum Inspection Note (GRIN) and intimate the Quality Control (QC) department with a set of GRIN copies. The QC department will carry the routine and specific quality checks and either accept or reject the material in full or part. The accepted material is final stores at its place in the bin or yard and the inventory records are updated with this inventory received. The specimen of a GRIN is shown below:

**Specimen Goods Received cum Inspection Note (GRIN)**

Received from _____ (name & address of supplier)				GRIN Number _____		
Received at _____ (place of Receipt)				Date _____		
				PO Reference _____		
Item Code	Description	Quantity Received	Quantity Accepted	Quantity Rejected	Reason for Rejection	Remarks
Prepared by _____		Received by _____		Inspected by _____		Storekeeper _____

A copy of the GRIN after acceptance of material & invoice of the supplier is sent to accounts department for bill passing. The accounts department will check the rates charged by the supplier with the PO rates and all other terms such as freight, insurance, other certificates, VAT or CST forms and then pass the bill for payment. The payment is released based on the credit period agreed with the supplier.

In case of imported material, Bill of Entry prepared and approved by the department of customs is a very crucial document. The customs duty is charged by the customs based on this.

For cost control, the management accountant test checks the documents to see if quantities are correctly recorded in the stores ledger and whether the rejected goods are actually sent back to the supplier.

(d) Storage and Issue of Material

Once the accepted material is received, it is under the responsibility of the stores-in-charge. It is his duty to ensure that the material movement in and out of stores is done only against proper documents authorised by concerned authorities. He is responsible for proper housekeeping of the storage space to ensure that material is well protected and there is no loss due to defective storing. He also insures the stock. He takes care to avoid loss of material due to pilferage, theft or fire.

Broadly the movement of material in and out of stores will be on account of:

- Issue to production departments
- Return back from production department
- Transfer from one location to the other
- Sending material out for further processing to a sub-contractor
- Receiving back the material from sub-contractor

The material is issued to production department based on the document called as Material Requisition cum Issue Note (MRIN). This is prepared by the concerned production planning department and it acts as an authority for the store's manager to issue the material. The specimen of MRIN is shown below:

If for some reason the material is returned back to stores by the production department a document called as Material Return Note (MRN) is prepared which is similar to that of MRIN; except that instead of quantity received and issued the columns will be named as quantity returned will appear.

In case material is transferred from one location to the other, a Material Transfer Note (MTN) is prepared which will record 'transfer from' and 'transfer to' details. The basic format will be quite similar to the above, hence not reproduced.

Normally two set of records are maintained for the movement of goods in and out of stores department. The records are input using the documents like GRIN, MRIN, MRN and MTN which have been discussed. These records reflect an account of 'inflow', 'outflow' and 'balance in hand'. These records are:

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Specimen of Bin Card					
Item code _____			Normal stock level _____		
Description _____			Minimum stock level _____		
Location _____			Maximum stock level _____		
Store Ledger Folio _____			Re-order level _____		
Bin Number _____					
Date	Document number	Receipts	Issues	Balance	Remarks
Audit remarks:					

- (ii) **Stores Ledger** – While the bin card gives quantitative record, the stores ledger adds the 'cost' dimension to it. The stores ledger is maintained by the costing department.

Specimen of Stores Ledger												
Item code _____			Normal stock level _____									
Description _____			Minimum stock level _____									
Location _____			Maximum stock level _____									
Store Ledger Folio _____			Re-order level _____									
Bin Number _____												
Date	Document Number	Receipts	Receipt			Issues			Balance			Remarks
			Qty	Rate	Value	Qty	Rate	Value	Qty	Rate	Value	
Audit remarks:												

The stores ledger is the most authentic record of stock value at any given point in time. It is of great help to a cost accountant as he can assess the various aspects of stock movements for particular categories of material items.

As bin cards are kept by stores and stores ledger (also called as stock ledger) is maintained by costing, there has to be a periodic reconciliation of both records to ensure that they match in respect of quantities of receipts, issues and balances. A cost accountant has a major role to play here, as any error in these records may directly affect the consumption figure and thereby the material cost.

Are these records kept for each and every item of material - for both direct and indirect? The answer is 'no'. The decision is based on the overall value of such items. Computer packages have made the task of keeping the stock records very easy and online. The reconciliation is also rendered unnecessary as the system automates it. At one entry point both records get simultaneously updated.

6.9.1.2 Material Cost

Now that we have broadly understood the flow of material within the organisation through various activities and the documents and records that are kept for each activity, let us proceed to understand how to determine the material cost. When we talk of material cost we always refer to the cost of material

(whether direct or indirect) used or consumed in producing a product. It is therefore essential to keep track of material cost flow alongside the physical flow of material throughout the production activity until it is finally converted into finished product.

Material Cost Flow:

The first instance when material cost is incurred and recorded is when the material is received and accepted (through GRIN). At this stage it is important to carefully value the receipt of goods. Some of the material may be returned back to supplier. Thus, valuation of return of goods is made.

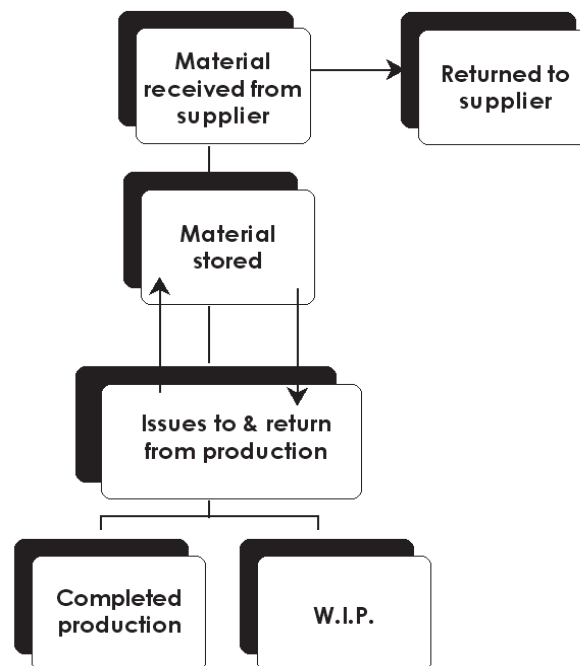
Next stage is issue of material for production. This has an effect of reducing the stock in hand and increase in the production cost (notice the double entry effect here too!). The valuation of issues is the next stage. There may be return of material from production to stores. Hence, valuation of returns to stores is essential.

When material gets converted into finished product the material cost becomes one of the elements of cost of production. During production process some material may be lost. Such losses will have to be valued. The losses may be unavoidable (such as leakage, evaporation, moisture, dusting etc.) or avoidable losses (pilferage, defective storage, careless handling, defective workmanship etc). The valuation of both types of losses is different.

Some production process may not be fully complete and material is under process. This is called 'Work in Process (WIP)'. The material cost of WIP has to be calculated.

Hence it is crucial for a cost accountant to ensure that costs are properly ascertained at each stage in the material flow, interpreted, analysed, reported and controlled; which is the main purpose of cost accounting.

The following chart depicts the material cost flow in a manufacturing concern.



Let us elaborate the mechanism of valuation of material at various stages.

(i) Valuation of Receipts

Material is received as per the terms and conditions given in the purchase order. Hence for valuation



of receipts the basic rate mentioned in PO forms the base. In addition, there are added on costs such as taxes & duties, freight, packing & forwarding etc. There may be trade discount to be calculated on the basic price and then reduced from the net rate. Cash discounts if any are excluded from valuation of receipts, it being of a pure financial nature.

In some cases the PO may have several items of different type having respective basic rates. The other costs like freight, insurance etc are charged on totality basis in the supplier's invoice. Such costs are distributed over all items on the basis of basic value of the material (i.e. basic rate x qty).

The foreign Purchase orders are generally given in foreign currency. The foreign suppliers' invoices are also in foreign currency. In such cases, the foreign currency of the basic price is converted into Indian Rupees. The other charges like customs duty, inland transportation etc. are in INR only. The question is what should the currency conversion rate be? Usually it is taken as the bill of entry rate.

In short the cost of material receipts should be equivalent to the landed cost i.e. cost up to the stage of storing in the factory warehouse. When we speak of the base price, the price term has great significance. For example, if the price is FOB price, it means the cost of insurance and freight is to be borne by the buyer. The CIF price is inclusive of insurance and freight up to the port. If the price is ex-works, it means complete expenses of picking up material from the factory gate of supplier will be the responsibility of the buyer. A DDU price means delivery duty unpaid. Here duty is payable by the buyer, whereas a DDP price means delivery duty paid where duty is paid by the seller. The student is advised to make himself aware of different price terms used in the national and international trade agreements.

The cost of receipts should include all items of expenses related to bringing the material to the warehouse.

Illustration 4

A company purchased 1200 kg of raw material from a supplier who quoted the following rates

Up to 1,000 kg @ ₹ 22 per kg
1,000 – 1,500 kg @ ₹ 20 per kg
1,500-2,000 kg @ ₹ 18 per kg

A trade discount of 20% on above prices was applicable. The material was supplied in special drums of 25 kg each. These were charged @ ₹ 10 per drum. Credit of ₹ 8 per drum was allowed for return of drums back to supplier. Sales tax applicable was 10% on material and 5 % on drums. Total freight paid was ₹ 240 and insurance was 2.5% on the net value paid by the purchaser. Entire quantity was received and the drums were duly returned to the vendor. Calculate total cost of material purchased and the per kg material cost.

Solution:

	₹	₹
Basic cost @ ₹ 20 per kg for 1200 kg	24,000	
Less: trade discount @ 20%	(4,800)	19,200
Drum cost @ ₹ 10 per for 48 drums		480
		19,680
Sales Tax @ 10% on ₹ 19,200	1,920	
And @ 5% on ₹ 480	24	1,944
		21,624
Other charges:		
Freight	240	
Insurance @ 2.5% on 19,200	480	720
		22,344
Less: Credit for drums returned @ ₹ 8 per drum		-384
Total Cost		21,960

The total cost of 1,200 kg is ₹ 21,960; therefore the cost per kg will be ₹ 18.30

Illustration 5

A company imported mechanical seals and the following information is available:

1000 pieces were received at the CIF Mumbai price of \$ 30 per piece. Customs duty was paid @ 12% on invoice value after converting it at 38 ₹ to a dollar. Clearing charges were ₹ 1,800. The supplier had paid freight of \$ 200 from Osaka to Mumbai. Freight of ₹ 1,400 was paid by the company for transporting the material from Mumbai port to the factory site.

It was found that 100 seals were found in broken condition. The salvage value for these pieces is ₹ 100 per seal. There was no agreement for return of the broken seals. The management decided to treat 60 pieces as normal loss and 40 pieces as abnormal loss. The entire quantity was issued to production.

Calculate the cost of material and unit cost of good pieces. State briefly how the value of 100 pieces rejected in inspection will be treated in costs.

Solution:

The price term here is CIF, so it will include basic rate plus insurance plus freight. As the price is inclusive of sea freight we will have to ignore \$ 200 from Osaka to Mumbai. The computation is given below:

Description	Amount (₹)
Basic Cost Price (1,000 × 38 × 30)	11,40,000
Add : Customs Duty @ 12%	1,36,800
Clearing Charges	1,800
Transportation	1,400
Total Landed Cost of 1,000 seals	12,80,000
As loss of 40 pieces is abnormal, it will be transferred to P &L A/c	
Cost of Abnormal Loss (12,80,000/1,000 × 40)	51,200
Salvage Value of Normal Loss (60 × 100)	6,000
Balance Cost of goods seals (12,80,000 – 51,200 – 6,000)	12,22,800
To be averaged over 900 good seals	1,358.67

The salvage value of abnormal loss will be set off against the value of the loss.

Abnormal loss value -	₹ 51,200
Less: Salvage (40x100)	₹ 4,000
Net loss	₹ 47,200

(ii) Pricing of Material Issues

The material received and stored in the warehouse is intended to be used for issue to production. There will be several receipts and numerous issues of the items of material and this is an ongoing activity. In an oversimplified version, if all receipts of a particular item of material have the same landed cost per unit, then there won't be any discussion on valuation! But in real world this is not so. Prices do fluctuate in the market as the material may be bought from different vendors, in different quantities, from different states which may result in different landed cost for the same item. Consider material 'P' is bought from 3 different suppliers as:

From A 1,000 units @ ₹ 24.50 on 1st Jan 2012

From B 700 units @ ₹ 26.00 on 4th Jan 2012 and

From C 1,250 units @ ₹ 23.75 on 7th Jan 2012

Assume 500 units are issued to production on 2nd Jan 2012 and production is complete. The answer here is simple as there is stock of 1,000 units from which 500 are issued and as this is the only lot existing, the issue cost per unit will be ₹ 24.50.



Now assume that 1,500 units were issued on the 9th of Jan 2012. What will be the material cost per unit produced? As there are 3 different rates which of them will be considered?

There could be different answers for this. It could be:

- (1) Use the first lot first or
- (2) Use the last lot first or
- (3) Take an average of rates
- (4) Try and relate the lot to production on actual basis and many more.

Whichever of such methods of valuing issue of material is used remember the following impact thereof:

- * *Receipts are always valued at actual*
- * *Issues are valued using one of valuation method*
- * *Stock values reflect the effect of valuation of issue*

Let us see these methods in depth now.

(a) Actual Cost Method: Under this method the production made is exactly identified with the purchase lots and issues are valued at the rate of such identified purchase lot. This is possible in case of Job or contract type of companies or those executing projects. This is because each job or contract or project uses non-standard items and each item is used for specific job only. The purchase orders are made according to the project number and material is physically stored separately according to project numbers. Although effective, this method is tedious in terms of record keeping. For same item used in different projects a separate stock card according to project number will have to be used. This method is also called as 'specific cost' method.

(b) First-In-First-Out (FIFO) Method: This method assumes that the material received first is consumed first. This is only an assumption for the purpose of taking rates for valuing issues. The physical flow may not necessarily coincide with this assumption. For issue valuation, the rate of the earliest available lot is considered first and when the lot gets fully consumed, the rate of next available is taken and so on.

Benefits: The method is simple and easy to operate. It results in valuation of closing stock at latest prices. It can be conveniently applied if transactions are not too many.

Disadvantages: The calculations become complicated if the receipts are too many. Companies having the JIT system will face this problem more. If prices fluctuate widely, the cost of production may seem to vary, thus vitiating results.

Application: The method is applied in the industry where it is necessary to ensure the physical flow as per the principle of FIFO. In pharmaceuticals or chemical factories where the raw material has a shelf life, the principle of FIFO must be followed. Here the valuation will coincide with physical flow also.

Illustration 6

Following transactions are given in the books of a company for the month of March 2012. Write up a stores ledger using FIFO method and show the break-up of value of closing stock.

March 1 – opening balance 500 units @ ₹ 6 per unit

March 5 – Purchased 100 units @ ₹ 7 per unit

March 7 – issued 400 units

March 9 – purchased 300 units @ ₹ 8 per unit

March 19 – issued 250 units

March 22 – issued 50 units

March 25 – purchased 300 units @ ₹ 7.50 per unit

March 30 – issued 250 units

Solution:

Stores ledger for the month of March 2012									
Item Code _____			Normal stock level _____						
Description _____			Minimum stock level _____						
Location _____			Maximum stock level _____						
Bin Number _____			Re-order level _____						
Date	Receipts			Issues			Balance		
	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)
March									
1							500	6	3,000
5	100	7	700				500	6	} 3,700
							100	7	
7				400	6	2,400	100	6	} 1,300
							100	7	
9	300	8	2,400				100	6	} 3,700
							100	7	
							300	8	
19				100	6	} 1,700			
				100	7		250	8	2,000
				50	8				
22				50	8	400	200	8	1,600
25	300	7.5	2,250				200	8	} 3,850
							300	7.5	
30				200	8	} 1,975			
				50	7.5		250	7.5	1,875

Please notice how the stock is valued under this method. As the consumption is valued with the earliest rates, the stock automatically gets valued at latest rates.

- (c) Last-In-First-Out (LIFO) Method:** This method assumes that the material received last is consumed first. This is only an assumption for the purpose of taking rates for valuing issues. The physical flow may not necessarily coincide with this assumption. For issue valuation, the rate of the latest available lot is considered first and when the lot gets fully consumed, the rate of the earlier available is taken and so on. This is exactly reverse of the FIFO method.

Benefits: The method is also simple and easy to operate. It results in valuation of cost of production at latest prices. It can be conveniently applied if transactions are not too many.

Disadvantages: The calculations become complicated if the receipts are too many. Companies having the JIT system will face this problem more. Here also if prices fluctuate widely, the cost of production may seem to vary, thus vitiating results.

Application: The method is applied in the process type of industry where material moves in lots from one process to the other and the individual identity of material is not important, e.g. oil refineries, sugar mills, flour mills etc.

Illustration 7

We will see the same transaction taken in above Illustration no. (6) and see how they will work under LIFO method.

**Solution:**

Stores ledger for the month of March 2012									
Item code _____			Normal stock level _____						
Description _____			Minimum stock level _____						
Location _____			Maximum stock level _____						
Bin Number _____			Re-order level _____						
Date	Receipts			Issues			Balance		
	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)
March 1							500	6	3,000
5	100	7	700				500	6	3,700
							100	7	
7				100	7	2,500	200	6	1,200
				300	6				
9	300	8	2,400				200	6	3,600
							300	8	
19				250	8	2,000	200	6	1,600
							50	8	
22				50	8	400	200	6	1,200
25	300	7.5	2,250				200	6	3,450
							300	7.5	
30				250	7.5	1,875	200	6	1,575
							50	7.5	

What are the implications of the FIFO and LIFO method?

- The closing stock as per both valuations is different. Under FIFO the stock got valued at ₹ 1,875 whereas under LIFO, it is valued at ₹ 1,575.
- The material cost of production (i.e. issue of material) is costed at ₹ 6,475 under FIFO whereas at ₹ 6,775 under LIFO.
- The receipts under both these methods are taken at same value of ₹ 5,350

Due to these implications, the choice between the two methods is quite tricky. If the prices of material are showing increasing trend or decreasing trend, what will happen to material cost and stock valuation under both methods? See the following table:

	FIFO method	LIFO method
<u>Increasing prices:</u>		
Material Cost	Lower	Higher
Closing Stock value	Higher	Lower
<u>Decreasing prices:</u>		
Material Cost	Higher	Lower
Closing Stock value	Lower	Higher

(d) Average Method: Both the above methods consider the actual costs for valuation of issues and stocks. However, both the methods are equally cumbersome if number of transactions is very large and prices fluctuate too much; which will happen in a longer term. Consider the following case:

March 1, purchased 1,500 units @ ₹ 10 per unit ₹ 15,000

March 15, purchased 1,600 units @ ₹ 30 per unit ₹ 48,000

On March 20, 1,800 units were issued to production.

The valuation of material cost and closing stock under both the methods will work out as follows:

	FIFO method	LIFO method
Material Cost	1,500 x 10 = 15,000 300 x 30 = 9,000 24,000	1,600 x 30 = 48,000 200 x 10 = 2,000 50,000
Closing Stock value	1,300 x 30 = 39,000	1,300 x 10 = 13,000

See how drastically these valuations change in the above circumstances. To reduce the impact of such wide variation in the valuations and also to bring about an equivalence in the cost charged to production & cost included in closing stock, the system of using average rates may be applied. In average method, the actual rates are not used, but the average rates are used.

There are two methods of averaging – simple average and weighted average. Let us see how both these methods work and what their implications are:

- **Simple Average Method:** Under this method, the rates of various receipts are averaged out. The rates of various receipts are added and this total is divided by total number of receipts. The issue price is thus worked out by a simple formula:

$$\text{Issue Price} = \frac{\text{Unit prices of materials in stock}}{\text{Number of Purchases}}$$

A simple average of prices of lots available for issue is taken as 'issue price'. After the receipt of a new lot, a new average price is taken. It should be remembered that for deciding the possible lots out of which the issues could have been made, the method of FIFO is followed. That's why it is also called as moving simple average method.

We will work out the same transactions used for FIFO and LIFO method above and work out the issue prices as well as closing stock value based on simple average method. This is shown below:

Illustration 8

With same transactions as in Illustration (6) earlier, see how they will work under Simple Average Method.

Solution:

Stores ledger for the month of March 2012									
Item code _____				Normal stock level _____					
Description _____				Minimum stock level _____					
Location _____				Maximum stock level _____					
Bin Number _____				Re-order level _____					
Date	Receipts			Issues			Balance		
	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)
March									
1							500	6	3,000
5	100	7	700				600		3,700
7				400	6.5	2,600	200		1,100
9	300	8	2,400				500		3,500
19				250	7	1,750	250		1,750
22				50	7.5	375	200		1,375
25	300	7.5	2,250				500		3,625
30				250	7.75	1,937.5	250		1,687.5

The averages are calculated as follows:

Issue on 7th March – $(6+7)/2$

Issue on 19th March – $(6+7+8)/3$

Issue on 22nd March – $(7+8)/2 = 7.5$

Issue on 30th March – $(8+7.5)/2$



Benefits: The method is also simple and easy to operate. It results in valuation of cost of production at average prices, thus reducing the fluctuations caused in the methods based on actual costs. It can be conveniently applied if purchases are made in identical lots.

Disadvantages: The material and stock values do not reflect actual costs. Here also if prices fluctuate widely, the cost of production may seem to vary, thus vitiating results. It is difficult to verify the closing stock figure lot-wise. The method considers only rates and has no regard for the quantities held.

Application: The method is applied where prices do not vary much and it is difficult to identify each issue of material with the lots.

- **Weighted Average Method:** This method removes the limitation of simple average method in that it also takes into account the quantities which are used as weights in order to find the issue price. This method uses total cost of material available for issue divided by the total quantity available for issue.

The formula applied is:

$$\text{Issue Price} = \frac{\text{Total Cost of Materials in Stock}}{\text{Total quantity of Materials in Stock}}$$

Let us illustrate the same transactions considered above to work out prices as per weighted average method.

Illustration 9

With same transaction as in Illustration (6) earlier. See how they will work under weighted Average Method.

Solution:

Stores ledger for the month of March 2012									
Item code _____		Normal stock level _____							
Description _____		Minimum stock level _____							
Location _____		Maximum stock level _____							
Bin Number _____		Re-order level _____							
Date	Receipts			Issues			Balance		
	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)
March									
1							500	6.00	3,000
5	100	7	700				600	6.17	3,700
7				400	6.17	2,468	200	6.16	1,232
9	300	8	2,400				500	7.26	3,632
19				250	7.26	1,815	250	7.27	1,817
22				50	7.27	363	200	7.27	1,454
25	300	7.5	2,250				500	7.41	3,704
30				250	7.41	1,853	250	7.41	1,852

Weighted average after 1st receipt – $(3,700/600) = 6.17$ which is used for the next issue and so on.

The benefits of weighted average price are more or less similar to that of simple average method, except for the fact that use of quantities as weights refines the average mechanism to make it more equivalent.

- There are other methods of valuation of prices and these are discussed briefly as follows:
 - (a) **Highest in first out:** in this method the stocks are always shown at minimum value and the issues are priced at the highest rates in the available lots.
 - (b) **Standard price:** Irrespective of actual prices, this method considers standard price for the issue of materials. The difference between standard and actual is treated as variance.

Selection of method of pricing will depend on the following:

- (a) Nature of material – if material has a shelf life then FIFO is suitable
- (b) Prices of material – if prices fluctuate widely, weighted average method is useful
- (c) Method of costing followed – if standard costing is used, the pricing of issues could be done at standard price

(iii) Treatment of Shortages:

We know bin card and stores ledger show the book balances. They are to be periodically compared with physical balances to ensure accuracy of stock records as well as correctness of physical control. If there are discrepancies arising between physical and book balances, the adjustment has to be done in the stock ledger. The shortage is shown as issue and is valued on the same basis as that of pricing of actual material issued. The excess is treated as a receipt.

Shortages may also arise due to a variety of reasons like:

- (a) At times, it may not be possible to measure the exact quantity issued. In such case an estimate may be made.
- (b) There could be differences due to theoretical weight and actual measured weight.
- (c) If material is in liquid form, it may be subjected to losses due to evaporation, temperature change, moisture etc.
- (d) Wastage may be caused within stores due to dusting, leakage etc.

Whatever may be the reason for shortage, it is essential to assess whether the loss is avoidable or unavoidable. If losses are inevitable or unavoidable, it is called as normal loss and the cost is spread over the balance good stock. The avoidable loss (caused due to issue deficiency or accident) is called as abnormal loss and should be costed separately. The abnormal loss should not be charged to production cost and dealt with separately.

(iv) Valuation of Returns to Stores:

When material is returned back from production department to the stores, the question of valuation arises. No doubt the returns are to be shown in the receipt column, but there is no unanimity among experts as to its valuation. Some say it should be taken back at the same price at which it was issued. The other experts say that valuation should be done at current price of the issue.

(v) Valuation of Returns to Vendors:

Material which are not accepted for quality reasons or due to non-conformity to the specifications, it will be returned back to the vendor. If the defect is spotted during initial quality check, the material is not taken in the stock ledger at all and returned as it is. If material is taken into stock, but not yet issued, then the return is valued at the same price at which the receipt is recorded. If an issued material has to be returned back, then firstly it is shown as a return from production to stores and subsequently shown as a returned to vendor. This is valued as per the system of issue pricing currently used.

(vi) Accounting for Stock Entries:

In an integrated accounting system, where cost and financial records are kept simultaneously, the entries for stock transaction are made as follows:

On receipt of material for stocking	Dr Stock of material Cr Suppliers
Receipt of material for specific jobs	Dr Job Work in Process Cr Suppliers
On issue to production	Dr Work In Process Cr Stock of material
Return from production	Dr Stock of material Cr Work In Process



(vii) Perpetual Inventory & Physical Stock Taking

The process of ascertainment of material cost was explained in the preceding sections. In line with the objective of cost accountancy, a student of costing also should be conversant with the control aspects. When we normally refer to control, we talk about setting up of procedures, rules, and authorities and ensure strict adherence to the same. Material routine is no exception to it. The complete procedure from the stage of planning to use of material must be properly laid down. Users should be trained to follow those procedures diligently. Periodic checks by internal auditors or cost accountants must be carried out to find out whether the procedures and rules are strictly followed. The deviation if any must be properly authorised by competent authority.

The checking of stock is a regular activity in all business organisations. Size of organisation, number of items in stock and the value of stock on an average will be the factors that will determine the system to be followed.

Periodical physical inventory is followed in most of the organisations to exercise control over physical stocks. During the exercise of physical stock taking, all receipts and issue activity is suspended for a day or two. All pending postings into bin cards and stock ledgers are updated. The material items are properly stacked up in their respective locations. An internal team is made to count material items. After counting is over, the physical balances are compared with the book balances. The discrepancies are reconciled and variances are analysed. This process, although very detailed, takes longer time. Further, the activity in the organisation has to be stopped completely in order to freeze the stock balances. Many companies follow this activity as a year end exercise. The internal auditors and external auditors also oversee this exercise to ensure that it is properly carried out.

However, this activity cannot be carried out too frequently. Therefore, what many companies follow is the system of perpetual inventory & continuous stocktaking. Under this system, the stock records (viz. bin cards & stores ledger) are updated after every transaction of receipt or issue, the valuation is also almost simultaneously done. *Perpetual inventory means a system of records whereas continuous stocktaking means physical checking of these records continuously with actual stocks.*

The combined process of physical stock checking and perpetual inventory typically involves following steps:

- (a) The items are grouped into high value-small volume, medium value-medium volume and low value-large volume.
- (b) A programme is laid down in advance for the stock check weekly, fortnightly or monthly.
- (c) The observations are recorded in the remark columns of bin card and stores ledger from inventory tags which are serially numbered.

The benefits of perpetual inventory are:

- (a) Physical and book balances are tallied and discrepancies are adjusted without waiting for the entire stock taking activity. It is not necessary to close down operations for annual stock taking.
- (b) The stock figures can be made readily available for the purpose of monthly P & L.
- (c) Discrepancies can be located in time; hence it reduces the risk of pilferage and fraud.
- (d) Fixation and monitoring of stock levels becomes easy.
- (e) The system enables locating slow and non-moving items.
- (f) Stock details are available in time for the purpose of declarations to insurance company and banks.

(viii) Treatment of Stock Discrepancies:

We know that the actual stocks physically counted may defer from book balances for the following reasons:

Unavoidable causes	Avoidable causes
(1) Loss by shrinkage, evaporation	(1) Pilferage
(2) Gain due to moisture absorbed	(2) Breakage
(3) Material purchase by weight & issued in numbers	(3) Errors in posting
(4) Loss due to climatic conditions	(4) Improper storage
	(5) Wrong issues

The gains or losses arising out of unavoidable reasons (termed as normal loss) are adjusted to the cost of production. Normally, such losses are estimated in percentage based on the past experience and historical data and the issues to production are adjusted with such percentage. The gains or losses due to avoidable reasons (called as abnormal loss) are treated as variances and are written off to the P & L A/c. It is necessary to have a system to fix responsibility for such variances so that corrective action can be initiated. The normal losses are consistent with volume and as such they do not vitiate cost of production, whereas abnormal losses are sporadic in nature and could vitiate the production costs, hence these are kept out of production costs and directly charged to P & L A/c.

(ix) Material Control and Inventory Control

The term material here includes all items whether direct or indirect. The control of material refers to the physical flow as well as cost flow. It refers to all managerial functions to ensure that every item of material is made available at the right time, in right quantity, at right price and also with minimum blocking of capital. The control procedures encompass through the functions of material planning, purchasing, stores, material handling within the factory and production planning, transportation logistics and usage control. Hence material control has a very wide connotation justifiably so considering a very high proportion of material cost in the total cost for manufacturing companies.

Inventory control is a part of material control. The term inventory refers to the sum of raw material, packing material, fuels, lubricants, spare parts, maintenance consumables, semi-processed items and finished goods. Inventories are kept to ensure smooth flow of business operations. The scope of inventory control related to maintaining the correct level of inventory at all times. This can be ensured through fixation of stock levels for various items, and fixation of buying quantities and buying schedules.

Many companies in advanced countries operate on the concept of 'zero inventory' based on the concept of JIT as explained later. In India also of late the efforts in this direction have started yielding results.

Objectives of Inventory Control

- (a) Maximise quality of customer service by ensuring smooth supply of finished goods
- (b) Optimise the cost of maintaining inventory – the cost of maintaining or carrying inventory normally refers to the interest cost on the capital blocked on the cost of inventory
- (c) Optimise the cost of procuring – this refers to the cost of ordering
- (d) Optimise the cost of material movements
- (e) Reduce investment in inventory without affecting efficiency in production and sales. This can be achieved by maintaining proper stock levels to avoid over-stocking or under-stocking.

Techniques of Inventory Control

Broadly the techniques of inventory control can be:

- (a) Controlling the buying quantities – concept of Economic Ordering Quantity (EOQ)
- (b) Setting up of Stock levels – this facilitates control through early signal system for raising orders
- (c) ABC analysis – ensures management by exception and more stringent control on less number of items constituting a very high value.
- (d) Inventory ratios – these ratios are broad level indicators of inventory performance
- (e) Perpetual inventory system – ensures record keeping controls

We will discuss these controls in details in the following sections. But before we embark on these techniques, it is advisable for us to know what costs are associated with maintaining inventory. These are shown in the following table:



Cost of Holding i.e. possession	Cost of Purchasing i.e. acquisition	Cost of Stock outs
(a) Interest on cost of stock (b) Storage charges i.e. rent, lighting, heating, air-conditioning etc. (c) Stores staffing, equipment maintenance (d) Handling & movement costs (e) Audit, stock-taking (f) Insurance and security (g) Pilferage, deterioration & obsolescence	(a) Clerical & administrative costs associated with purchasing, accounts & receiving departments (b) Transport costs (c) Set up and tooling costs for production run	(a) Loss of contribution (b) Loss of customer goodwill (c) Cost of production stoppage (d) Labour frustrations (e) Extra costs of rush orders

The student must grasp some of the important terms before actually studying the techniques of inventory control, as these concepts are often used in the practice. Some of these terms are explained below:

Lead Time: it denotes time expressed in days, weeks, months etc. between ordering (externally or internally) and replenishment i.e. when the goods are available for use. The consideration of lead time is very crucial. Longer the lead time, more efforts will have to be made at the time of planning. Action cannot be taken at eleventh hour for the long lead time items. Consider a case of a contracting company, which executes electro-mechanical projects. The company has a fabrication shop where the goods are fabricated as per customer requirement and specifications. In addition, there are bought out components like high tension electrical motors which are directly procured from outside and supplied with fabricated parts. The mild steel required for fabrication is readily available, but suppliers can supply motors only after 8 weeks. It is a must the procurement action plan for the motor starts in right time to avoid customer dissatisfaction. In short, short lead time items that are readily available need not be stocked, whereas long lead time items must be ordered well in advance.

Demand or Usage: This refers to demand for finished goods by customers or demand for raw materials by production department or even demand for stores and spares by maintenance department. This is usually expressed as number of units required demand or usage per day, week etc. Consideration of demand or usage is very crucial for setting up stock levels.

Physical Stocks: The number of units physically on hand or present at a given time. The quantity on hand cannot be ignored when new ordering is to be done.

Free Stock: This is the quantity of stock freely available for use at any point of time. This will be the quantity on hand (i.e. physical stock) plus quantity on order minus reservation if any. At times the stock quantities may be reserved for a specific production order because of its importance.

Buffer Stock: Also called as safety stock, it means an allowance that covers forecasting errors or usage during lead-time.

Please understand these terms thoroughly before going through the following sections.

(x) Economic Ordering Quantity (EOQ)

This is the purchasing quantity fixed in such a way as to minimize the total cost of inventory. It basically denotes the order size. There are two components of inventory costs – cost of acquisition and cost of possession. These are given in the table in the section 6.9.1.2 (ix) above.

The cost of acquisition is also referred to as Ordering cost which is expressed as amount per purchase order. This cost includes clerical and administrative expenses in relation to purchase requisition, quotations, comparative statements and handling of purchase orders and supplier bills. If the reference is to production stocks, then this will cover production set up time costs.

The cost of possession means the cost of maintaining or carrying inventory. This is normally expressed as a percentage of the material cost. This normally covers interest, handling and upkeep, stores rent.

It is important to understand the relationship between these two categories of costs. The relationship between ordering costs and carrying costs is reverse.

So if the purchase quantity per order increases, the ordering costs will reduce but the carrying costs will increase and vice versa. The tradeoff between these two costs will represent the most economical ordering quantity.

This can be shown by way of a mathematical formula. Consider the following:

Q = Economic order quantity

A = annual demand or usage of the material item in units

O = ordering cost per order

C = cost of carrying stock of one unit for a year

Now if A is annual requirement and Q is the size of one order, the total number of orders will be $(A \div Q)$. We know that cost of ordering per order is 'O'. So the total ordering cost will be $(A \div Q) \times O$.

Similarly, if size of one order is Q and if it is assumed (this is the most important assumption of this concept) that the inventory is reduced at a constant rate from the order quantity to zero when it is repurchased, the average inventory will be $(Q \div 2)$ and the cost of carrying this average inventory for a year will be $(Q \div 2) \times C$

Now, Total Cost = Ordering Cost + Carrying Cost

$$\left(\frac{A}{Q} \times O\right) + \left(\frac{Q}{2} \times C\right)$$

The intention is to minimize the total cost. Taking the first derivative of the above equation with respect to Q we get

$$\frac{dO}{dQ} = AO\left(-\frac{1}{Q^2}\right) + \frac{C}{2} = 0$$

It can be therefore generalized as follows:

Or

$$Q = \sqrt{\frac{2 \times A \times O}{C}}$$

It can be therefore generalized as follows:

$$\sqrt{\frac{2 \times \text{Annual requirement} \times \text{Ordering cost}}{\text{Carrying cost per unit}}}$$

Illustration 10

A manufacturing company uses 200 units of a steel pipe every month. The pipes are bought from a supplier on a regular basis. The cost of placing and receiving one order is ₹ 100. The cost of carrying is ₹ 12 per unit. Find out the EOQ.

Solution:

We know EOQ is given by

$$Q = \sqrt{\frac{2 \times A \times O}{C}} \quad \text{Here, } A = 200 \times 12 \text{ i.e. } 2400, O = 100 \text{ and } C = 12. \text{ Replacing these variables in the formula we get -}$$



$$Q = \sqrt{\frac{2 \times 2400 \times 100}{12}}$$

Therefore $Q = 200$ units.

Sometimes, calculating the cost of carrying per unit is not possible, hence it is expressed as a percentage of the material cost.

Let us see an example.

Illustration 11

Calculate the EOQ from the following information:

Annual requirement	:	5000 units
Ordering cost	:	₹ 60 per order
Price per unit	:	₹ 100
Inventory Carrying cost	:	15% on average inventory

Solution:

Here an important point must be noted. Carrying cost is not given per unit, and we will have to calculate it. We know price per unit is ₹ 100. Hence carrying cost per unit is 15% of ₹ 100 i.e. ₹ 15 per unit. Now putting the values of various variables in the formula, we get EOQ as:

$$Q = \sqrt{\frac{2 \times 5000 \times 60}{15}}$$

Therefore $Q = 200$ units

It can be seen that calculating the EOQ is simple when the formula is understood. But we know that the EOQ is the quantity where the carrying cost and ordering cost put together is the minimum. This can be verified in the following table:

Order quantity (Q)	No of orders (A/Q)	Ordering cost (₹) (A/Q) × O	Carrying cost (₹) Q/2 × C	Total cost (₹)
50	100	6000	375	6375
100	50	3000	750	3750
200	25	1500	1500	3000
250	20	1200	1875	3075
500	10	600	3750	4350
1000	5	300	7500	7800

You can see from the table that at the ordering quantity of 200, the total cost of managing inventory is the minimum. Remember carrying cost has to be applied to average inventory which is taken as $Q/2$ at each level e.g. for the first case Q is 50, so carrying cost will be $50/2 \times 15$ i.e. ₹ 375

Illustration 12

An engineering company procures 9000 electric motors on an annual basis. The current practice is to order one month's requirement at a time. The cost per motor is ₹ 2500. The ordering cost per order is ₹ 15 and carrying cost is 7% p.a. on average inventory. Please study the present policy and comment on the same. Suggest improvement if any.

Solution:

Let us evaluate the present policy. We will find out the cost of managing inventory as per this policy. The total cost of managing inventory is ordering cost plus carrying cost. In the given situation:

Quantity ordered = one month's requirement which is $9,000/12$ i.e. 750 units per order. So this is the ordering quantity at present. Number of orders in a year will be 12.

Hence total ordering cost for the year will be $= 12 \times 15 = ₹ 180$ ————— (1)

Next, the carrying cost for the ordering quantity of 750 units is

$$\frac{\text{Order Size}}{2} \times \text{cost per unit} \times \text{carrying cost \%} = 750/2 \times 7\% \text{ of ₹ } 2,500$$

Hence total carrying cost will be $= 375 \times 175 = ₹ 65,625$ ————— (2)

Total cost of managing inventory as per present practice = ₹ 180 + ₹ 65,625 = ₹ 65,805

Let us see if EOQ is different than the present practice of ordering quantity of 750

By replacing the values of various variables in the formula for EOQ, we get

$$Q = \sqrt{\frac{2 \times 9000 \times 15}{2500 \times 7\%}}$$

Therefore, EOQ = 40 units (the answer must be rounded off as you must buy a complete motor) If the EOQ is 40 units, the total cost of managing inventory at this quantity should be less than the current cost.

Ordering cost for EOQ of 40 units $= (9,000/40) \times 15 = ₹ 3,375$ and

Carrying cost will be $= (40/2) \times (2,500 \times 0.07) = ₹ 3,500$

Total cost of managing inventory with EOQ as 40 units = ₹ 3,375 + ₹ 3,500 = ₹ 6,875

Thus if this suggestion is accepted, there will be a saving of ₹ (65,805 - 6,875) i.e. ₹ 58,930

Illustration 13

From the following particulars about an item of material of a manufacturing company, calculate the best quantity to order.

Ordering quantities (tonnes)	Price per tonne (₹)
Less than 250	6.00
250 but less than 800	5.90
800 but less than 2,000	5.80
2,000 but less than 4,000	5.70
Above 4,000	5.60

Annual requirement of the material is 4,000 tonnes. Stock holding costs are 20% p.a. and the delivery cost per order is ₹ 6.00.

**Answer:**

In this case, the exact price of the material is not available, as it varies with the quantities. The best quantity can be worked out as follows:

Order quantity (Q)	No of orders (A/Q)	Ordering cost (A/Q) x O (₹)	Price per unit (₹)	Carrying cost Q/2 x C (₹)	Ordering + Carrying cost (₹)	Basic Cost for 4000 unit (₹)	Total Cost (₹)
200	20	120	6.00	120	240	24,000	24,240
250	16	96	5.90	148	244	23,600	23,844
800	5	30	5.80	464	494	23,200	23,694
2,000	2	12	5.70	1,140	1,152	22,800	23,952
4,000	1	6	5.60	2,240	2,246	22,400	24,646

We have selected the ordering quantities at the end of the each range, except for the first choice 200 tonnes which is random. In this example we must take the cost of item also, as the prices for each level of quantity is different. Normally we ignore this because the prices at all levels are same.

Based on the above table, the best quantity to order is 800 tonnes at a time as the total cost is the minimum of ₹ 23,694/-.

Limitations of EOQ

EOQ is a very powerful tool which suggests the ordering quantity which will minimize the overall inventory management costs. However, the method suffers from some limitations. These limitations emerge from the assumptions based on which this formula is worked out. These are:

- (a) The ordering and carrying costs are known with certainty.
- (b) The rate of consumption is uniform throughout the year.
- (c) The price per unit is constant throughout the year.
- (d) The replenishment of the stocks is done instantaneously i.e. the whole quantity ordered arrives at once.

(xi) Inventory Levels

Depending on the nature of each item, its cost, demand for production, lead time to get the delivery, safety stock to be maintained etc, the stock levels are computed. The stock levels help the organisation to take timely actions as reordering or replenishing. It helps to avoid stock out situations as well. The stock levels need not be fixed for all items. If the requirement of items is not constant, and lead time changes too frequently, the stock levels cannot be set up. Once the levels are set, it cannot continue indefinitely. There has to be a constant review of the levels vis- à-vis the demand for production and lead times.

While determining the annual demand or usage of the item and lead time, we normally have three estimates of thereof viz. minimum, maximum and normal. Making these estimates is a very complex job and needs expertise.

The stock levels can be set up as follows:

Re-order Level: This is the level fixed between the minimum and maximum levels. When the stocks reach this level, the storekeeper should take action for replenishing the stock and immediately place a purchase requisition. While calculating this level, one has to make a provision for maximum usage and maximum

lead time. This will take care of any abnormal usage till the material is replenished. It is calculated as:

$$\text{Reorder Level} = \text{Maximum Usage} \times \text{Maximum Lead Time}$$

Re-ordering Quantity: This is the economic order quantity. This is used in the fixation of stock levels as this is the most economical quantity for which orders should be placed. The formula for EOQ is already discussed in the section 6.9.1.2(X)

Maximum Level: This is the level which stocks are not allowed to cross. In case it exceeds, it will cause capital blockage. While fixing the maximum level the following factors are considered:

- Maximum and minimum usage
- Lead time
- Storage facilities available
- Prices of material
- Availability of funds
- EOQ

The maximum level is computed as follows:

$$\text{Maximum Level} = \text{Reorder Level} + \text{Reorder Quantity} - (\text{Minimum Usage} \times \text{Minimum Lead Time})$$

Minimum Level: This is the level below which stocks are not permitted to fall. If a danger level is not separately set up, this level acts as an emergency button. If stock approaches this level, immediate purchase action is initiated and stocks are urgently procured to restore the stock levels back to normal.

The minimum level is below the re-order level and takes into account the normal (or average) usage and lead time. It is calculated as follows:

$$\text{Minimum Level} = \text{Reorder Level} - (\text{Normal Usage} \times \text{Normal Lead Time})$$

Danger Level: This is fixed below the minimum level. This level brings the situation almost on the brink of stock out. It is calculated as:

$$\text{Danger Level} = \text{Normal Usage} \times \text{Lead Time for Emergency Purchases}$$

This situation should be avoided as far as possible, as emergency purchases will always cost more.

Illustration 14

Two components X and Y are used as follows:

Normal usage	50 units per week each
Minimum usage	25 units per week each
Maximum usage	75 units per week each
Reorder quantity	X – 400 units and Y – 600 units
Lead time	X – 4 to 6 weeks and Y – 2 to 4 weeks

Calculate reorder level, maximum level, minimum level and average stock level

Solution:

Reorder level	=	Maximum usage x Maximum lead time
For X	=	75 x 6 = 450 units
For Y	=	75 x 4 = 300 units



Maximum level = Reorder level + Reorder quantity – (Minimum usage * Minimum lead time)

For X = $450 + 400 - (25 \times 4) = 750$ units

For Y = $300 + 600 - (25 \times 2) = 850$ units

Minimum level = Reorder level – (Normal usage * Normal lead time)

For X = $450 - (50 \times 5) = 200$ units

For Y = $300 - (50 \times 3) = 150$ units

Average level = (Maximum level + Minimum level) / 2

For X = $(750+200) / 2 = 475$ units

For Y = $(850+150) / 2 = 500$ units

Illustration 15

Rare engineering manufactures a product called as 'Unique'. The following data is collected for the year:

- a) Monthly demand for Unique – 1000 units
- b) Cost of placing order – ₹ 100
- c) Annual carrying cost – ₹ 15 per unit
- d) Normal usage per week – 50 units
- e) Minimum usage per week – 25 units
- f) Maximum usage per week – 75 units
- g) Reorder period is 4 to 6 weeks.

Calculate various stock levels.

Solution:

In this case the re-order quantity is not given. The same will be calculated as EOQ from the given information as:

Annual usage = $1000 \times 12 = 12000$ units

Ordering cost per unit = ₹ 100 and Carrying cost per unit = ₹ 15

$$EOQ = \sqrt{\frac{2 \times 12000 \times 100}{15}}$$

Thus EOQ = 400 units

Now the stock levels are calculated as follows:

Reorder level = Maximum usage x Maximum lead time

$$= 75 \times 6 = 450 \text{ units}$$

Maximum level = Reorder level + Reorder quantity – (Minimum usage x Minimum lead time)

$$= 450 + 400 - (25 \times 4) = 750 \text{ units}$$

Minimum level = Reorder level – (Normal usage x Normal lead time)

$$= 450 - (50 \times 5) = 200 \text{ units}$$

Average level = (Maximum level + Minimum level) / 2

$$= (750+200) / 2 = 475 \text{ units}$$

(xii) Inventory Turnover Ratio

This is a technique available at a very broad level. We know raw material & WIP stocks are held for use in production and finished goods are held for resale. As such there has to be a linkage between the stocks held by an organisation and the production and sales activity carried out by the company. This ratio indicates how fast or slow the company converts its stocks into sales. It can be calculated in two ways as:

- (a) Expressed as sales as number of times the inventory value: the figure indicates whether the stock is fast getting converted into sales or not. Higher the ratio, better it is. It is calculated as:

Value of inventory consumed / Average inventory held

Value of inventory consumed = Opening Stock + Purchases – Closing Stock

Average inventory held = (Opening Stock + Closing Stock) / 2

- (b) Expressed as number of days sales in stock: Here the stock is expressed as 'so many number of days sales' e.g. current inventory is 60 days sales. Lower the number of days sales are in inventory, better it is. It indicates that inventory is moving fast, which is a good sign. It is calculated as follows:

Number of days in a year / inventory turnover ratio

Illustration 16

From the following information for 2 items A and B, calculate inventory ratios.

	Material A (₹)	Material B (₹)
Opening stock	10,000	9,000
Purchases during year	52,000	27,000
Closing stock	6,000	11,000

Assume 365 days in a year.

Solution:

Inventory consumed	= Op stock + Purchase – Cl stock
For A	= 10,000 + 52,000 – 6,000 = 56,000 Units
For B	= 9,000 + 27,000 – 11,000 = 25,000 Units
Average stocks	= (Op stock + Cl stock) / 2
For A	= (10,000 + 6,000) = 8,000 Units
For B	= (9,000 + 11,000) / 2 = 10,000 Units
Inventory turns	= Inventory consumed / Average inventory
For A	= 56,000 / 8,000 = 7 times
For B	= 25,000 / 10,000 = 2.5 times

Item A has a higher conversion rate hence it is moving faster than item B.

Inventory turnover period = 365 / inventory turns

For A = 365 / 7 = 52 days

For B = 365 / 2.5 = 146 days

A is in stock for lesser number of days before getting consumed than B. Hence A is fast moving than B

(xiii) ABC Analysis

Techniques of inventory costing like EOQ and stock levels are to be set up for the items individually. Setting up of these is a very complex task. Is it always worthwhile to adopt an extensive control mechanism for all items? The cost of control should not be more than the cost of item itself. ABC method is an analytical method of inventory control which aims at concentrating efforts in those areas where attention is required the most. It is not a control technique in the stricter sense of the term but it provides a sound basis to decide the degree of control required. It is based on the principle of "*vital few trivial many*". Empirical studies have revealed that in any organisation that uses materials (which refers to all physical items) there are only a few items that together constitute a very high value of consumption and there are a very large number of others which have a very small value of consumption. The ABC method uses this phenomenon as its logical bases and recommends stricter & detailed controls for the '*high value – low number items*' and relatively less stringent controls on "*low value – high volume*" items.



Generally the 'high value – low number items' are classified as "A" category and "low value – high volume items' are classified as "C" category, while "moderate value – moderate volume items" constitute "B" category.

Different organisations may use different variables when measuring 'volume' here. These variables could be:

- (a) Value of stock held on an average
- (b) Value of consumption
- (c) Critical nature & requirement of inventory item
- (d) Availability based on seasons, restrictive production governed by law

Irrespective of the value of items, items which are critical could be classified as 'A'. The ABC classification process is an analysis of a range of items, such as finished products or customers into three categories: A - outstandingly important; B - of average importance; C - relatively unimportant as a basis for a control scheme. Each category can and sometimes should be handled in a different way, with more attention being devoted to category A, less to B, and less to C.

Consider an engineering industry that uses steel to fabricate parts of a pressure vessel. These parts are then welded together to produce a vessel. The welding wire is a very less costly item but the supply & availability of the wire very critical for if it is not in stock the inventory of high cost parts fabricated will start mounting. Thus in such case the welding wire will also constitute as 'A' class item.

The ABC technique resembles to Pareto analysis that owes its existence to Vifredo Pareto, an Italian economist of the nineteenth century. He observed that 80 % of the wealth was in the hands of 20% people.

The bifurcation of the stock items could follow the following break up:

Class	Percent of items	Percent of Value
A	10	70
B	20	20
C	70	10

Advantages of ABC Techniques:

- (a) This approach enables a selective control so that efforts can be concentrated only where required.
- (b) It reduces clerical and administrative costs of managing inventory.
- (c) Investment in inventory can be regulated to ensure optimum utilisation of funds.

Application of ABC in deciding stock control systems could be done as follows:

- For A Items: Very strict control
 Very low level of safety stocks
 Controlled by senior management
 Rigorous follow up & planning
- For B Items: Moderate control
 Some level of safety stocks
 Less frequent follow up
- For C items: A broad level control
 High safety stocks
 Follow up only in exceptional cases.

(xiv) Modern Techniques of Inventory Control

The inventory control methods and techniques have been evolving in different parts of the world. These have emerged out of necessity and ever changing conditions of business environment. The newly developed techniques are more of management control systems rather than only inventory related control mechanisms. But their application to field of inventory management is done very effectively. The basic principle of these techniques is reduction in wastage, removal of non-value adding activities and time management. Japan was mainly responsible for intruding many of these path breaking techniques. Many countries have adapted these techniques to various countries. Let us see some of these.

(a) Just in Time (JIT)

It is an approach and not a system. The approach is "inventory is a waste". This waste must be reduced to earn a better return on investment. It talks about interlocking of production process not only of an organisation but also of its suppliers and customers; so that an item should not be waiting for an action at all. A raw material when arrives, should not stored but directly taken to production line where the machines are already set up to process that material. Similarly, when production is finished, the item should not be waiting to be dispatched, it should be immediately loaded for shipment. The crux is the arrangement of entire logistics on an ongoing basis.

Although first adopted in Ford Motor Company in 1920s, the adoption of JIT by Toyota Corporation of Japan was so effective in the 1950s that it started getting known as a Japanese technique. With the help of kanban i.e. early signal systems for small improvements, lean manufacturing methods, MAN (material as needed), ZIPS (zero inventory production system) and such other variants of waste reduction, the JIT system became a very successful tool for manufacturing sector.

The philosophy of JIT is to reduce the throughput time (i.e. time between the first stage of production to the point where finished product is complete). There is a drastic reduction in inventory holding costs and improves productivity. The throughput time is a sum total of Added value time and non-added value time. The aim is to eliminate the non-value added time which is basically the time taken in waiting either for movement or inspection or set up.

It basically involves Just-In-Time-Purchasing and Just-In-Time-Production. The JIT purchase channelizes the purchasing in such way as to deliver the material immediately preceding the demand for material. This will reduce the level of inventory. The success of this largely depends upon how well the partnership with suppliers works. The processes of suppliers will have to closely align with the organisations processes. The production planning data is shared with the suppliers to enable them to schedule their production. Procurement contracts are done with staggered deliveries. This also reduces paperwork and other administrative costs. The ordering is done in tune with the fluctuations in demand unlike traditional model of EOQ that assumes existence of a constant demand.

The JIT production applies to the production at all intermediary stages as well i.e. including parts, semi-finished goods, sub-assemblies etc. The operations are planned & scheduled with the intent of zero waiting time at all stages. The machines are kept running without stoppage. This helps drastic reduction in the work in process inventories and also the throughput time.

For successful application of JIT the pre-requisites are:

- Robust computerised systems
- Perfect planning system
- Trained workers and staff
- Excellent logistics
- Transportation facilities



(b) Bar Coding and RFID Tools

In modern days with revolution in the fields of electronics new tools have been developed that assist the organisations to track the physical movement of goods. These are quite useful not only in mass manufacturing companies but also in retail sector like shopping malls, and super- markets etc.

The bar code is a computer generated code that stores information about the item. Bar Coding is a series of parallel vertical lines (bars and space), that can be read by bar code scanners. It is used worldwide as part of product packages, as price tags, carton labels, on invoices even in credit card bills and when it is read by scanners, a wealth of data is made available to the users and when used with GS1.UCC (Global India one Numbering Uniform Code Council Inc. USA) numbering system. The bar code become unique and universal and can be recognized anywhere in the world. Bar coding is an international concept today. It facilitates unique product identification through using international symbols/numbering system, promotes brand image and would enable timely and accurate capture of product information. This would result in wide ranging benefits including lowering of inventory costs, lower overall supply chain costs and hence reduced costs for Indian products, increasing efficiency of Indian industry and adherence to stringent quality assurance norms through product traceability.

Radio Frequency Identification (RFID) allows a business to identify individual products and components, and to track them throughout the supply chain from production to point-of-sale. It helps reduce over-stocking or under-stocking.

An RFID tag is a tiny microchip, plus a small aerial, which can contain a range of digital information about the particular item. Tags are encapsulated in plastic, paper or similar material, and fixed to the product or its packaging, to a pallet or container, or even to a van or delivery truck. The tag is interrogated by an RFID reader which transmits and receives radio signals to and from the tag. Readers can range in size from a hand-held device to a "portal" through which several tagged devices can be passed at once, e. g. on a pallet. The information that the reader collects is collated and processed using special computer software. Readers can be placed at different positions within a factory or warehouse to show when goods are moved, providing continuous inventory control.

Illustration 17

From the following information about a gear used in manufacturing of an assembly, complete the receipts & issues valuation based on FIFO, LIFO and weighted average methods and also tabulate the values chargeable to the two production orders WO 01 and WO 02.

Opening stock		Nil
Purchases	Jan 1	100 units @ ₹ 1 per unit
	Jan 10	100 units @ ₹ 2 per unit
Issues	Jan 22	60 units for WO 01
	Jan 27	60 units for WO 02

Solution:

The valuation for receipts will be same under all methods. The value of receipts is

		₹
Jan 1	100 x 1	100
Jan 10	100 x 2	200
Total		<u>300</u>

The weighted average rate will be (₹ 300/ 200 units) i.e. ₹ 1.50 per unit. The valuation of issues under the three methods is shown below:

Stores ledger for the month of January (issue column only)									
Date)	FIFO			LIFO			Weighted Average		
	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)
January 22 - for WO 01	60	1.00	60	60	2.00	120	60	1.50	90
27 - for WO 02	40	1.00	40	40	2.00	80	60	1.50	90
	20	2.00	40	20	1.00	20			
			140			220			180
Closing stock	80	2	160	80	1.00	80	80	1.50	120

Values allocated to the two production orders are:

	WO 01	WO 02
FIFO	60	80
LIFO	120	100
Weighted Average	90	90

Illustration 18

From the following details of stores receipts and issues of material "EXE" in manufacturing unit, prepare stores ledger using weighted average method of valuing issues.

Nov 1 Op stock 2,000 units@ ₹ 5 each	Nov 19 Re turned to supplier 200 units received in lot on Nov 4th
Nov 3 issued 1,500 units	Nov 20 Received 1,000 units@ ₹ 7 each
Nov 4 received 4,500 units@ ₹ 6 each	Nov 24 issued 2,100 units
Nov 8 issued 1,600 units	Nov 27 received 1,200 units@ ₹ 7.5 each
Nov 9 returned back 100 units by production to stores from lot issued on Nov 3rd	Nov 29 issued 2,800 units
Nov 16 Received 2,400 units@ ₹ 6.50 each	



Solution:

Stores ledger for the month of November 2012								
Date November	Receipts			Issues			Balance	
	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹)	Value (₹)	Qty	Rate (₹) Value (₹)
1							2,000	5.00 10,000
3				1,500	5.00	7,500	500	5.00 2,500
4	4,500	6.00	27,000				5,000	5.90 29,500
8				1,600	5.90	9,440	3,400	5.90 20,060
9	100	5.00	500				3,500	5.87 20,560
16	2,400	6.50	15,600				5,900	6.13 36,160
19				200	6.00	1,200	5,700	6.13 34,960
20	1,000	7.00	7,000				6,700	6.26 41,960
24				2,100	6.26	13,146	4,600	6.26 28,814
27	1,200	7.50	9,000				5,800	6.52 37,814
29				2,800	6.52	18,256	3,000	6.52 19,558

Illustration 19

Precision Bearings have committed to supply 24,000 bearings to a motor manufacturer on an annual basis on a steady basis. The estimated cost of set up per run of bearing manufacturing was ₹ 324 and the holding cost was 10 paise per month per bearing. What would be the optimum run size for bearing manufacture? If the company chooses to have a run size of 6,000 bearings what would be its implications?

Solution:

As the supply of bearing is to be made on a steady basis, the most economical run size can be given by the EOQ model. The variables given for computation of the run size are:

A = 24,000 units

O = ₹ 324 (here ordering cost in usual EOQ formula will be replaced by set up cost)

C = ₹ 0.10 per month i.e. ₹ 1.2 per year.

$$\text{Economic run size} = \sqrt{\frac{2 \times 24000 \times 324}{1.2}}$$

Hence the answer is 3600 units is the run size where the Total Cost of managing inventory will be (Set up Cost + Carrying Cost) will be the least. Now, if we need to find out the implication of choosing 6000 bearings as the run size, we should compare the total cost for these two run sizes. This is shown below:

Run size	3,600 bearings	6,000 bearings
Number of runs (24,000/run size)	(24,000/3,600)=6.67	(24,000/6,000)=4
Set up costs ₹ 324 × (no of runs)	2,160	1296
Carrying cost @ ₹ 1.2 per bearing p.a.	(3,600/2)×1.2 = 2160	(6,000/2)×1.2 = 3,600
Total Cost	4,320	4,896

It is clear that Precision Bearings will have to spend ₹ 576 more if it chooses 6,000 bearing as the batch size.

Illustration 20

M/s Kailash Pumps uses about 75,000 valves per year and the usage is fairly equally spread throughout the year. The valve costs ₹ 1.50 per unit and inventory carrying cost is 20% pa.

The cost to place an order and process delivery is ₹ 18. It takes 45 days to receive stocks from the date of order and minimum stock of 3,250 valves is desired. You are required to determine.

- Economical order quantity and the number of orders in a year.
- The reorder level
- The economic order quantity if the valve price changes to ₹ 4.50 each per piece.

Solution:

$$EOQ = \sqrt{\frac{2 \times 75000 \times 18}{20\% \text{ of } ₹ 1.50}} = 3000 \text{ units}$$

Number of orders = 75,000/3,000 i.e. 25

- Reorder level: it will be the minimum desired level plus normal usage quantity. Normal usage can be assumed to be (75,000/12) i.e. 6,250 as the consumption is evenly spread over 12 months and normal lead time is given as 45 days i.e. 1.5 months.

= Minimum Stock + (Normal Usage × Normal Lead Time)

= 3,250 + (6,250 × 1.5)

= 12,625 pieces

- EOQ if the unit valve price is ₹ 4.50

$$EOQ = \sqrt{\frac{2 \times 75000 \times 18}{20\% \text{ of } ₹ 4.50}} = 1732 \text{ units}$$

Illustration 21

A company needs 24,000 units of raw materials which costs ₹ 20 per unit and ordering cost is ₹ 100 per order. The company maintains a safety stock of 1 month's requirements to meet emergency. The holding cost is 10% of the average inventory. Find out

- Economic lot size
- Ordering cost
- Holding cost
- Total cost
- If the supplier is ready to give a discount of 5% on a lot size of 4000 units, should it be accepted?

Solution:

Economic lot size

$$EOQ = \sqrt{\frac{2 \times 24000 \times 100}{10\% \text{ of } ₹ 20}} = 1550 \text{ units (to be approximated)}$$

Ordering costs

Ordering cost is ₹ 100 per order. If EOQ is 1,550 units, the number of orders will be (24,000/1,550) i.e. 16 approx. So the total ordering cost will be ₹ 1,600/-.



Holding Costs

It is the given as 10% of carrying average inventory. Average inventory is not directly given. Normally we take it at $EOQ/2$; but in this case as the company wants to maintain a safety stock of 1 month (i.e. $24000/12$) 2000 units, the total carrying cost will be

$$\begin{aligned} &= (2,000 + 1,550/2) \times 10\% \text{ of ₹ } 20 \\ &= ₹ 5,550 \end{aligned}$$

Total Cost

Ordering Cost + Holding Cost + Cost of Material

$$= 1600 + 5,550 + 24,000 \times 20 = ₹ 4,87,150$$

Whether discount should be availed of?

Here we need to compare the total cost under revised case – price of ₹ 19 (i.e. 5% discount on ₹ 20) and EOQ as 4000 units.

$$\text{Ordering Cost} = 24,000/4,000 \times 100 = ₹ 600$$

$$\text{Holding Cost} = (2,000 + (4,000/2)) \times 10\% \text{ of ₹ } 19 = ₹ 7,600$$

Total Cost = Ordering Cost + Holding Cost + Cost of Material

$$= 600 + 7,600 + 4,56,000 = ₹ 4,64,200$$

As there will be a saving of ₹ 22,950 in the total cost, the discount offered by the supplier should be availed and the ordering quantity should be changed to 4,000 units.

6.9.2 Employee Cost

Employee cost is another important element of cost in the total cost of production. In fact for the non-manufacturing business, labour constitutes the highest proportion of the total cost, especially in service sector like banking, insurance, BPO, KPO, Consulting, financial services etc. The basic aim of management is to keep monitoring the labour productivity v/s the total labour cost to achieve the object of low per unit labour cost. Higher the productivity, lower will be the labour cost per unit. In this sense, there has to be proper control over utilisation of the work force and the salaries and wages bill for an organisation. People work all over in an organisation in various functions. In order to carry out these functions efficiently and effectively, the organisation must have good human resources policies and practices.

In a manufacturing set-up where there is a larger proportion of workers and existence of trade unions, there has to be a cordial relationship between management and union to ensure motivated performance. In the service sector, labour cost bears the highest percentage to the total. The purpose of cost accounting for labour is two-fold viz. one to ascertain the cost and two to provide information to the management for the purpose of taking decisions with respect to labour. The decisions are in the areas of

- Manpower planning
- Recruitment
- Training & development
- Salaries, wages and benefits
- Labour productivity & efficiency
- Retention and labour turnover

In these days of growing economy and dearth of quality human resources, management of labour cost becomes very crucial.

From the view point of labour cost control, the areas where proper systems are required could be listed as:

- (a) Employee attendance & time recording:** In smaller organisations a manual register is maintained, where each employee has to mark his attendance. In larger organisation, electronic tools of recording attendance are used. An electronic card is swiped to record daily entry and exit. Some organisations use the finger print savvy cards as well. The good old days of time keeping office at the factory gate are no more in existence.
- (b) Time booking to the cost centre and cost units:** Time is recorded against the job or contract or a project so that the direct labour cost can be computed. In service industry also, time is recorded on specific activities.

(i) Direct and Indirect Labour Cost

Direct labour cost is that portion of salaries and wages which can be identified with a single cost unit. In other words when the time spent by the workers can be directly linked with a cost unit, it will be costed as direct labour otherwise it will fall under the category of indirect labour cost. A worker working in the production department may not necessarily be directly identified with a cost unit, e.g. a foreman or a supervisor or a production planning officer cannot be linked with a cost unit and therefore will be indirect labour. Hence just because a person works in production department does not mean he is a direct labour. Also, if a person working on jobs directly spends some time on repair of a machine, cost of that time should be taken as indirect labour cost.

The distinction between direct and indirect labour depends mainly on whether the labour time is in sync with the cost unit or not. The direct labour cost is taken as a part of Prime Cost, whereas the indirect cost is considered as an item of overhead. Indirect worker working with production department will constitute as Production overhead, whereas those working for Administration, Selling & Distribution departments will be included in Administration, Selling & Distribution overheads.



(ii) Remuneration Methods & Incentive Schemes

The employees working in any organisation are compensated by way of salaries, wages and other benefits. These payments are made in return of the services rendered by the employees. These services could be:

- Engaging in the process of transformation of raw material into finished product or
- Supporting the process of transformation by doing other functions

The salaries, wages and statutory benefits put together are called as remuneration. The incentives are payments and benefits given to stimulate better performance or paid in return for a better performance. The incentives could be in monetary as well as non-monetary terms. While the remuneration is always individual based, incentives could be based on group performance.

Characteristics of a sound remuneration system:

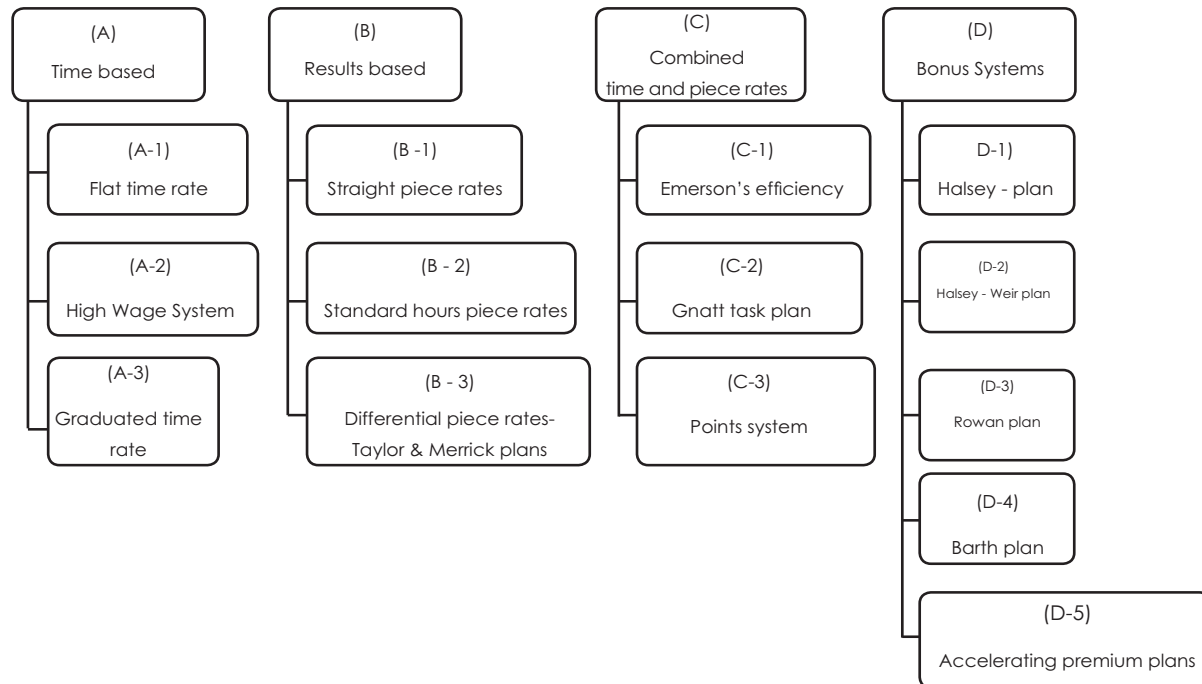
- (a) It should be easy to understand for everyone and easy to implement.
- (b) It should provide for a reward for good work and penalty for bad workmanship.
- (c) It should help keeping labour turnover within stable limits.
- (d) It should be able to attract talent and retain them.
- (e) It should minimize absenteeism.
- (f) It should reflect a fair return to employees in consistence with efforts put in by them.
- (g) It should boost productivity and performance.
- (h) It should be flexible enough to factor in effects of changes in cost of living, and systems of similar companies in the same industry.

The payments could be broadly classified into

- *Those paid on the basis of time spent by an employee irrespective of output produced by him, called Time Rate.*
- *Those paid on the basis of output given by the employee irrespective of the time spent by him, called Piece Rate.*

Based on these two basic payment methods, many variants thereof have been developed over the last couple of centuries. Many of these systems were developed keeping in view the manufacturing industry, where measurement of physical performance is relatively easier. In modern times, especially for indirect workers, many of these plans will not work. Indirect workers and staff & managers are usually paid on time basis only.

The following chart shows the classification of various remuneration methods:



Let us see these methods in brief with regard to their logic, calculation and application.

(A) Time Based Payments : These are basically called as Time Rates. Under this method, payment is made on time basis like daily, weekly or monthly irrespective of the results achieved during the time period. These payments are in conformity with the applicable laws such as Minimum Wages Act. The time based payments are useful in following situations:

- Where output is not distinguishable and measurable. In other words, it's useful when there's no relationship between effort and output.
- Where a high level of skill and quality are required.
- Where supervision is good.
- Where work is not repetitive

This method is very easy to understand and operate, so less clerical work is involved. But it does not motivate increased output. Advance estimation of labour cost per unit becomes difficult. It does not distinguish between efficient and non-efficient workers.

There is no incentive to produce more within the same time as workers do not get additional remuneration for increased output. If overtime is paid for, there is a tendency among workers to go slow during normal time and earn more by working over- time. There is a likelihood of output getting suffered.

Standards are difficult to set and operate under this method.

Workers get paid for the time clocked (i.e. entry and exit to work place) and not as per time booked on actual work. This may lead to idle time which ultimately will increase cost of production.

The variants of time rate are discussed below:

(A – 1) Flat Time Rate: The rates and time are fixed in advance per day, week or month. If worker work overtime, they are compensated at one and half or two times the ordinary rate. The earning therefore will vary as per the time worked. If a time rate is fixed as ₹ 100 per day



of 8 hours, and the worker works for four hours; he will get ₹ 50. The merits and demerits are same as explained above.

(A – 2) High Wages System: This method is similar to the above except the fact that the time rate is fixed at a higher level compared to the rates prevailing in the industry. This is done to attract efficient and high performance workers and also to induce them to improve productivity as they would be satisfied with high level of earnings. However, the level of performance cannot be guaranteed over a longer period and it also may not be possible to keep wages always at higher level compared to industry.

(A – 3) Graduated Time Rate: Under this method, payment consists of two portions – one based on regular time base payments and the other is linked to cost of living (e.g. dearness allowance) and merit awards. As the cost of living is taken care of, the system has an advantage. It's further enhanced by the fact that the method rewards individual merits. However, merit rating is highly subjective and thus the method is difficult to implement. It is difficult to calculate the cost of the cost unit.

It is generally observed that trade unions prefer time based payments as they do not have to guarantee output. The variations in the time based payments do not really bring in any additional benefits and they are difficult to sustain in the longer run.

(B) Results Based System (Piece Rates): These methods are based on the output linked payments to workers. The payments are fixed per unit of output irrespective of the time taken by the worker to produce a unit. The payment is simply calculated as rate per unit x units produced. These payments may be released for a period e.g. day, week or a month. The output produced by the workers during that period is multiplied by the pre-fixed rate per unit. The objective here is to induce workers to produce more and thereby increase sales. As workers get more money, they tend to produce more. Some- times under such systems, the benefits of increased output are shared between workers and the business.

This method is simple to understand and easy to operate. The workers also prefer it as they can earn more by producing more. The labour cost per unit is known in advance and hence it helps in fixation of overhead rates based on direct wages and therefore estimation of cost per unit is easy. If benefits are shared with employees, they are motivated to put in their best efforts.

However, fixing a piece rate itself is not a simple job. Considerable amount of engineering estimations, time and motion study and assessment of physical efforts needed to perform a job are needed to arrive at a piece rate per unit. The nature of job should be standard and repetitive for piece rate system to be successful. It cannot be applied if the jobs are non-standard, and the specifications change for every order received.

Further, in the quest of increasing the earnings workers may compromise quality. It may increase supervision and cost of rework as well. It also may add to fatigue and increase absenteeism.

The variants of piece rate system are discussed below:

(B – 1) Straight Piece Rate: This is the simplest form of payment by results. Under this a predetermined rate per unit of output is applied. In a laundry, a worker may get ₹ 0.50 for pressing one shirt. If on a day he presses 100 shirts, he will get (100×0.50) i.e. ₹ 50. If he presses 200 shirts he will get ₹ 100 and so on.

(B – 2) Standard Hour System of Piece Rate: This is the result based payment with a time dimension factored into it. We have seen that time and motion study and other engineering methods are used to determine time based piece rate per unit. In addition, a standard time is set up per unit of product. Workers are supposed to complete production of one unit within this allotted time. The rate is fixed per hour (or any other time unit). If the worker completes the job within the standard time, he is paid for the time he worked plus also for the time saved based on the time rate. If he spends more than standard time per unit of output, he is paid at

this time rate for the time actually spent on the job. Thus this takes care of time performance as well. The formula to work out the earnings as per this method is:

When production is in excess of standard performance;

Earnings = (Actual hours worked x hourly rate per day) + Hourly rate per day x (standard hours produced – Actual hours worked)

When production is at or below standard performance;

Earnings = Actual hours worked x hourly rate per day

Consider in a factory the day has 8 working hours. A base rate for a particular job is set as ₹ 0.625 per hour and performance standard is 0.16 hours per unit. What will be the earning of Anil who produces 100 pieces in a day? What will Sunil earn if he produces 50 units in a day?

Standard time per unit = 0.16 hours

No of hours in a day = 8 hours

Anil has produced 100 units in a day. The standard hours for making 100 units @ 0.16 standard time per unit is

$(100 \times 0.16) = 16 \text{ hours}$

He has completed this in 8 hours thus saving 8 hours for which he gets paid extra. His earnings will be:

$(0.625 \times 8) + 0.625 \times (16 - 8) = ₹ 10$

Sunil has produced 50 units. The standard hours for producing 50 unit @ 0.16 hours is

$(50 \times 0.16) = 8 \text{ hours}$

This means he has completed the production within the standard but not saved any time. His earnings will be:

$(0.625 \times 8) = ₹ 5.$

This example shows how a worker is benefited when he saves time for the organisation. The worker who does not save time is not penalized, but gets only paid for the time spent.

This system is simple to understand and operate. It can be applied for group installation type of job and also where the jobs are of non-repetitive & non-standard nature. It takes into account the individual performances. Almost all disadvantages of straight piece rate system are removed by this method.

However, a great care needs to be taken for fixation of time per unit of output. Also, there has to be close monitoring of quality of the performance. It has to be ensured that the worker does not compromise quality in order to show time saved.

(B – 3) Differential Piece Rates: This system is based on the logic that workers should be rewarded for higher efficiency. The earning method offers a motivation for increasing productivity. These systems are however difficult for workers to understand. There are two variants of this system. One was developed by F. W. Taylor (the father of scientific management in the early era of industrial revolution) and the other by another expert Merrick. This method tries to penalize workers when they do not perform as per standard by applying differential rates.

Taylor Plan: The payment scheme is based on fixing two or more pieces rates – a base level piece rate is used for workers who do not perform as per standard and a higher piece rate is used for workers who perform as per standard. The difference between these two rates is deliberately kept so wide that the award for efficient worker is really goods and simultaneously, punishment for inefficient worker is severe.



Consider a factory operates an 8 hour day. The standard output is 100 units per hour and normal wage is ₹ 50 per hour. The company operates Taylor plan as 80% of piece rate for workers performing below standard and 120% of piece rate for performance at or above standard.

Hourly rate paid = ₹ 50

Standard output per hour = 100 units

Normal piece rate = $(50 / 100) = ₹ 0.50$ per unit

For performance below standard, the piece rate will be = 80% of ₹ 0.50 i.e. ₹ 0.40 per unit &

For performance at or above standard, it will be = 120% of ₹ 0.50 i.e. ₹ 0.60 per unit. It can be found that there is a differential of ₹ 0.20 between the two piece rates. This will induce an ambitious worker to increase efficiency and earn more. On the other hand, inefficient worker gets penalized for not achieving minimum standards. It will reduce fixed overheads per unit as it induces more production.

The success of this plan depends highly on setting a standard. Any error in fixation of the differential rates could be disastrous. Also, this system does not guarantee any minimum wages. Further the piece rates and standard are to be fixed in such a way that the earnings won't fall below minimum wages as per the law in force.

Merrick Plan: The punitive element under Taylor plan was quite severe. It tends to discourage and attract average workers. Merrick modified this differential system by introducing more slabs and by removing the punitive element. He advocated that performance up to a certain level (although below standard level) should be rewarded at normal piece rate and then progressive slabs are provided to recognise above standard performance. He worked out the following formula for differential payments:

Up to $83\frac{1}{3}\%$	at normal piece rate
Above $83\frac{1}{3}\%$ up to 100%	10% above normal piece rate
Above 100%	20% over normal piece rate

This system is not as harsh as the Taylor plan. But this also requires the standard fixation to be done very carefully.

In the above example, the normal piece rate was fixed as ₹ 0.50 per piece. A worker under Merrick plan will guarantee this earning if he achieve efficiency level of $83\frac{1}{3}\%$. The worker, who performs above this and up to 100% mark, will get paid at ₹ 0.55 per piece which is 10% above the normal level. A worker giving in performance above 100% will get paid at ₹ 0.60 i.e. 20% above normal piece rate.

Both these plans however put a cap on maximum earnings. So the worker will just ensure to perform at 100% or slightly above and then does not improve further as there is no additional incentive for him to do so.

- (C) **Combined Time and Piece Rates:** The combination of time based and piece based methods of remuneration aim at combining the benefits and removing the deficiencies of both specific time based and specific piece rate systems. Basically this method has a combo offering for the workers – a time rate, a piece rate and a bonus. Essentially for workers who do not perform as per standards, there is a guaranteed time rate payment. For workers performing above standard there are piece rates with bonuses applicable for higher rewards. There are certain variants of this idea developed by experts.

(C -1) Emerson's Efficiency Plan: The main features are guarantee of daily wages regardless of performance. A standard time is set for per unit of output or a volume of output per unit of time is taken as standard. The following differential rates apply:

Below $66\frac{2}{3}\%$	Paid at hourly rate
Above $66\frac{2}{3}\%$ up to 100%	Hourly rate plus bonus for efficiency based on step rates
Above 100% performance	Additional bonus @ 1% of hourly rate for each 1% increased efficiency.

The efficiency for this purpose is calculated as:

On time basis

Percentage efficiency = (Standard time allowed / Actual time) x 100

On output basis

Percentage efficiency = (Actual Production / Standard production) x 100

The system is certainly more worker centric than Taylor and Merrick plans. They have an element of efficiency based payment so as to motivate workers. Also, a worker is kept interested to improve even beyond 100% level as it includes additional bonus even above 100% level.

It is however complicated to calculate and involves a lot of clerical work in keeping records of efficiency levels of different workers. It is difficult to adopt this for group jobs.

Illustration 22

Consider a factory operates on 8 hour day basis and time rate is ₹ 8 per hour. Standard production is fixed at 600 units per week of 40 hours. The bonus slabs based on efficiency levels are fixed as below:

Efficiency levels	Bonus %
66 2/3% to 75%	1%
76% to 80%	2%
81% - 85%	4%
86% - 95%	10%
96% to 100%	20%

Additional bonus of 1% is payable for each 1% improvement in efficiency above 100%.

Solution:

The following table shows earnings of different worker under this plan.

Worker	Production per week	Efficiency %	Bonus %	Bonus Amount (₹)	Total wages @ ₹ 320 + Bonus	Cost per unit
A	390	65%	-	-	320.00	0.82
B	400	67%	1%	3.20	323.20	0.81
C	460	77%	2%	6.40	326.40	0.71
D	500	83%	4%	12.80	332.80	0.67
E	550	92%	10%	32.00	352.00	0.64
F	580	97%	20%	64.00	384.00	0.66
G	600	100%	20%	64.00	384.00	0.64
H	620	103%	23%	73.60	393.60	0.63

It is clear from the above that as efficiency goes up workers get handsomely rewarded and the organisation also benefits from increased production. This can be evident from reduction in per unit labour cost as output goes up.

(C- 2) Gantt Task System: This combined method of remuneration is similar to the Emerson's method with a little variation. A performance standard is set for each operation or group of operations. An hourly standard rate is fixed. The worker who completes the job within allotted time gets paid for the time plus a percentage of that time. Under this system, even supervisors are covered for bonus payments. He is paid for each of his subordinates that earned individual bonuses. The computation is usually done as follows:



For output below standard level	guaranteed time rate payment
Output at standard	Time rate plus Bonus of 20% of time rate
Output above standard	Bonus of 120% of normal piece rate

This method is suitable for workmen with varying skills. It is equally attractive for less skilled workers and beginners. Also, it provides enough motivation for highly skilled worker who perform above standard as the payment after that level is linked to the output by application of piece rate at a higher rate. This system is applicable effectively in engineering companies, machine tool manufacturing, and contract type of business. However, great care is needed for determining time rate, piece rate and standard output norms.

Example: In a factory the output produced by workers in 8 hours is A- 8 units, B- 10 units and C- 15 units. Standard production in 8 hours is 10 units. Daily wages guaranteed are ₹ 2 per hour. Bonus rate on time rate is 20%.

Standard output per day is 10 units. So 'A' has performed below standard, 'B' has achieved the standard and 'C' has performed above standard.

Under Gantt Task plan the earnings will be:

A will get only time rate payment i.e. ₹ 16 (8 x 2)

B will get time rate + bonus @ 20% of time rate i.e. ₹ 16 + 20% of ₹ 16 = ₹ 19.20

C will get piece rate payment which is 120% of normal piece rate. The normal piece rate here is $((8 \times 2)/10)$ i.e. ₹ 1.60 per unit. 120% of this is ₹ 1.92 per unit. C produced 15 units, so he will get ₹ 28.80/-

See how the earnings increase with increase in productivity. The impact on per unit cost is worth noticing. For 'A' producing 8 units and getting ₹ 16, the unit cost is ₹ 2. For 'B' producing 10 units and getting ₹ 19.20, the unit cost is ₹ 1.92 and for 'C' producing 15 units and getting ₹ 28.80, the unit cost is ₹ 1.92.

(C – 3) Points System: Under this method, the performance is measured in terms of 'points saved' by the workers. Standards are also fixed in terms of points and workers are paid bonus based on the points saved, either in full or a portion thereof. There are two variants of the points system. The "Bs" are fixed based on a rigorous time and motion study with time for actual work plus a reasonable allowance for rest.

The Bedaux Method: The points are called as "Bs". Hence a standard performance one hour is expressed as "60 Bs". A standard number of points are specified for a job. The worker gets a time rate payment and a bonus. When the scheme was originally formed bonus was calculated at 75% of points saved. Later it was modified to 100% of points saved.

The formula is:

Time rate payment + (75% or 100%) of (points saved/60) x hourly rate

Example: The standard time is 320 Bs and the worker consumes 240 Bs to complete a job. The hourly rate is ₹ 10 per hour for an 8 hour day. Here the worker has saved 80Bs. Hence the payment based on 75% bonus will be

$(10 \times 8) + 75\% (80/60) \times 10 = ₹ 90$

The Haynes Mani System: This is similar to that of Bedaux. The standard unit of time is called a Mani. Bonus is calculated on the basis of Manits saved multiplied by the value of one Mani. When the system was fixed originally, the bonus due to Manits saved was shared as 50% to workers, 10% to Supervisors and 40% was retained by the company. At present, the entire 100% is given to the workers.

(D) Premium Bonus or Incentive Systems: These are also referred to as premium bonus plans that guarantee a minimum wages per hour plus a premium for output in excess of stipulated norms. Here as in many of the above schemes, a standard time is determined for a job or operation. The basic difference in the incentive plans and schemes discussed earlier is that under incentive plans, the savings on account of time is shared between employees and the organisation. There are many variants of this method. They are given below.

(D -1) Halsey Plan: This was developed by Mr. F. A. Halsey. Under this method the payment for work done is related to time taken to do a job. If the time taken is equal to or more than the standard time, the worker is paid at time rate based payment. If actual time is less than the standard time, then the worker gets a bonus @ 50% of the time saved. The balance 50% is retained by the business.

The formula is:

Total earnings = (Actual hours x Hourly rate) + (Hours saved x Hourly rate)/2

Example: Standard time to do a job is 15 minutes. Hourly rate is ₹ 15. Time worked is 9 hours and output is 40 pieces.

The normal time rate wages = $9 \times 15 = ₹ 135$

Standard time for output of 40 units = $(40 \times 15)/60 = 10$ hours

The time taken is 9 hours, hence 1 hour is saved. So the bonus amount will be: $(1 \times 15)/2 = ₹ 7.5$.

Total earning will be = $₹ 135 + ₹ 7.50 = ₹ 142.50$

The main disadvantage is that it takes into account only time dimension. It does not guarantee quality output. The incentive is less attractive to workers as compared to the other methods seen above as they are made to share the benefit of their productivity.

(D -2) Halsey-Weir Plan: It was developed as a modified version of Halsey plan. The bonus percentage was modified to $33 \frac{1}{3}\%$ instead of 50%. The other computations are same. This was developed by G & J Weir Ltd. Glasgow. The reduction in the bonus percentage makes this plan unpopular.

(D -3) Rowan Plan: Under this method, a standard time is fixed. The worker gets time rated pay as per time worked. The bonus shared is in proportion of time saved to standard time applied to the time rated earnings. In other words, the percentage time saved is applied to time taken a payment is done for time actually taken plus the proportion of time saved. The formula for the bonus is:

$(\text{Time saved} / \text{Standard time}) \times \text{Actual hours} \times \text{hourly rate}$

Consider the example from (D -1) above, where actual time was 9 hours, standard time was 10 hours and hourly rate is ₹ 15, the payment under Rowan plan will be:

$(15 \times 9) + (1/10) \times 9 \times 15 = ₹ 148.50$

It can be observed that the payment under Rowan plan is more than the Halsey plan. However, this may not be the case always. Let us compare the results under the two plans under various conditions.

Example: Standard time is 10 hours and time rate is ₹ 10 per hour. We will compare the incentives for the hours taken as 8, 6, 5, 4 & 3.



Hours taken	Time saved	Time rate payment @ ₹ 10	Bonus under Halsey (₹)	Bonus under Rowan (₹)	Total wages-Halsey (₹)	Total wages-Rowan (₹)
8	2	80	10	16	90	96
6	4	60	20	24	80	84
5	5	50	25	25	75	75
4	6	40	30	24	70	64
3	7	30	35	21	65	51

It can be observed that the bonus under Rowan scheme is higher till the time saved is less than 50%. If time saved is more than 50%, Halsey method is more beneficial to the workers.

(D – 4) Barth Scheme: This is also a time based payment scheme. But it does not guarantee any time rate payment. The earning is determined as follows:

Hourly rate $\times \sqrt{\text{Standard time} \times \text{Actual time}}$

Example: Time allowed to perform a job is 5 hours and the hourly rate is ₹ 2. If the actual time taken by A, B and C are 6, 5, and 4 respectively, the payment under Barth system will be calculated as:

$$\text{For A} = 2 \times (\sqrt{5 \times 6}) = ₹ 10.95$$

$$\text{For B} = 2 \times (\sqrt{5 \times 5}) = ₹ 10$$

$$\text{For C} = 2 \times (\sqrt{5 \times 4}) = ₹ 8.95$$

It can be seen that when efficiency goes above 100%, this scheme is not that attractive.

(D – 5) Accelerated Premium Plans: For low and average levels of output, the incentives are small, but for above average output, the incentives are paid at accelerated rates. This plan may not be suitable for machine operators as they may want to increase output for earning incentives. It may be useful for supervisors. The most popular scheme is the equation give as below:

$$y = 0.8x^2$$

Where x denotes efficiency and y denotes earnings. See the following table :

Percentage efficiency	100	125	140	150
x	1	1.25	1.40	1.50
x^2	1	1.56	1.96	2.25
$y = 0.8x^2$	0.80	1.25	1.57	1.80

(iii) Group Bonus Schemes

The remuneration methods discussed above were all related to individual workers who need to do their jobs individually and not as a team. In organisations where team work is more important, individual bonuses do not work. The team as a whole has to be motivated. Thus a plan is usually worked out whereby the bonus for increased output is declared for the teams and then shared by individual members in agreed proportion.

Such methods develop a sense of cooperation among team members. It is useful when the measurement of individual work is not possible e.g. in case of construction of dams, buildings etc. The administration

of these schemes is easier as the record keeping is for a team output and not individuals.

However, it suffers from the fact that all team member are entitled for bonus irrespective of whether they contributed to the increased output or not. The sharing of bonus may be done on arbitrary basis which may lead to dissatisfaction of workers. Further amount per person may be small.

There are various schemes developed and used in different type of organisations. These are given below:

Priestman's Production Bonus: This is applicable in the manufacturing industry. A standard output for the factory as whole is set. Workers & staff are rewarded if actual output increases above this standard in the same proportion. If output does not exceed standard, then no bonus is paid, but time rate is guaranteed. If the standard output is 5000 kg and actual output is 6000 kg, then employees will get a bonus equal to 20% of their wages which is equal to the 20% increase in production as compared to the standard. This method is useful in cases of mass production and where there are no bottlenecks.

Towne Gain Sharing Plan: This scheme encourages cost reductions by supervisors and employees in general. As per this scheme, 50% of the saving resulting out of savings in cost is paid to individuals pro rata in addition to their normal wages.

Rucker Plan: In this plan, the percentage of the added value is shared among the employees. Added value is defined as "labour cost plus production overheads plus gross profit". If ratio of direct labour to value added is 80 % and the actual labour cost is 76%, then 4% of added value is distributed as bonus. The whole amount may not be distributed at once – may be 75% is released immediately and balance is kept as reserve to be used when the performance is below standard.

Scanlon Plan: It is same as Rucker plan except that the proportion of direct wages to sales value of production is taken instead of proportion of direct wages to value added.

Illustration 23

In an assembly shop four workmen A, B, C and D work together as a team and are paid on group piece rate. They also work individually on hourly rate jobs. In a 44 hours week, the following hours have been spent by them on group piece-work.

A – 40 hours; B – 40 hours; C – 30 hours and D – 20 hours

The balance of the time in the week has been booked by each worker on day work jobs. Their hourly rates are as follows :

A - ₹ 3.00 ; B - ₹ 4.50; C - ₹ 6.00; and D - ₹ 6.00

The group piece rate is ₹ 6.00 per unit and the team has produced 150 units.

Calculate the gross weekly earning of each workman taking into consideration that individual is entitled to dearness allowance of ₹ 50 per week.

Solution:

Total earning for the group (as per piece rate) = 150 units x ₹ 6.00 = ₹ 900 to be distributed among the workers as per unit produced by each of them. Since it is not given, it is to be computed as under :

A = 40 hrs. x ₹ 3.00 = ₹ 120.00

B = 40 hrs. x ₹ 4.50 = ₹ 180.00

C = 30 hrs. x ₹ 6.00 = ₹ 180.00

D = 20 hrs. x ₹ 6.00 = ₹ 120.00

Thus, ₹ 900.00 should be distributed among the worker as per above proportion i.e.,

A : B : C : D = ₹ 120 : ₹ 180 : ₹ 180 : ₹ 120
= 2 : 3 : 3 : 2



Computation of total earnings :

	A (₹)	B (₹)	C (₹)	D (₹)
Piece wages ₹ 900 in 2 : 3 : 3 : 2	180	270	270	180
Time wages				
A = (44 – 40) = 4 hrs. x ₹ 3.00	12			
B = (44 – 40) = 4 hrs. x ₹ 4.50		18		
C = (44 – 30) = 14 hrs. x ₹ 6.00			84	
D = (44 – 20) = 24 hrs. x ₹ 6.00				144
Dearness allowance (fixed)	50	50	50	50
	242	338	404	374

(iv) Other Incentive Schemes

These schemes may not be directly linked to individual or group performance. The employees receive additional remuneration, shares in the company, and other perquisites. Such schemes can be divided into:

- Indirect monetary incentives viz. profit sharing & co-partnership
- Indirect non-monetary incentives that are related to working conditions, social benefits.

Profit Sharing: There is an agreement whereby the employees receive a fixed share in profits off the company. The plan has to be declared in advance so that the employees can go for it. Secondly, it has to have a relationship with profit earned by the company. The disbursement of the amount is generally done on the basis of audited accounts after the end of the accounting year. The payments could be made either in cash or deferred payments or a combination thereof.

Such sharing plans inculcate a sense of partnership among employees and keep them engaged in the company for longer time. It has a positive effect on the moral and efficiency of the employees.

The most common ways of profit sharing in India are Bonus (governed by the Payment of Bonus Act), Superannuation and gratuity which are deferred payments. The minimum and maximum bonus payments are 8.33% and 20% of the annual salary subject to the available surplus of profit. Companies may pay extra amounts as ex-gratia. Many Indian companies follow the practice of paying a certain number of days' or months' salary as a bonus.

Co-partnership: Under this method the ownership rights are extended to all direct and indirect employees by permitting them to buy shares in the company. This scheme is popularly called as ESOPs (employee stock options) in which every employee is allowed to purchase shares in the company at a pre-determined price which is usually lower than the market price. The management rewards the employees with long service tenure, loyalty etc. Employees become part owners of the company and therefore get motivated to earn profit for themselves. Limited companies and even private companies, co-operatives follow this practice. Over the last decades, the IT companies in India like Infosys have very successfully rewarded their employees through the stock options schemes. It has really done wonders to employee morale. However, it is argued that when employees become part owners, their loyalty towards the trade union reduces.

Indirect Non-Monetary Schemes: These schemes aim at improving working conditions in plant and other facilities. These benefits are normally of permanent nature as facilities once provided are rarely withdrawn. The non-monetary benefits generally include:

- (a) Flexible working hours
- (b) Subsidised canteen facilities
- (c) Educational facilities for children of employees
- (d) Housing colonies

- (e) Medical and hospitalization insurance
- (f) Club memberships
- (g) Guest house facilities at hill stations
- (h) Recreation, annual events, sports and other competitions
- (i) Cultural events

(v) Incentives for Indirect Workers and Employees

Doing well and getting rewards for good performance cannot be restricted to direct worker only. The other employees working with service departments also contribute in furtherance of overall business objective. These employees render valuable support to direct workers by maintaining the facilities, providing administrative services such as accounts, human resources, industrial relation, utilities etc. They ensure smooth flow of activities in the business routines. As such it makes a case of indirect workers to get incentives. The incentive schemes for such workers cannot be based on same logic of schemes for direct workers as there is no direct linkage with the final output. The incentives could be paid considering the type of activity performed by different indirect departments and their activity measurement logic could be decided separately.

If the work is routine and standard, the standards could be set and actual output measured in comparison with the standards. Many times, group incentives will suit these workers more than the individual schemes. It is also possible to extend the logic applied for direct workers and pay a certain proportion of their incentives to the indirect workers. When the output of such employees is not measurable, the incentives based on cost savings or proportion of savings to value added could be designed. Here are certain examples of incentives for indirect workers.

The maintenance workers are normally responsible for routine inspection, preventive maintenance and breakdown maintenance and repair work. For routine inspection & preventive work, standards can be established as a basis for incentive schemes. For repair work, special awards scheme may be introduced.

For employees engaged in material handling and internal transportation, standards can be set for such activities based on time and distance.

Quality control or inspection staff may be paid on the basis of quality inspections done and this work can be standardised. There are routine checks carried while checking the conformation to the quality norms. Standards could be set for such activities. The inspectors will cover those who inspect incoming material, in process material and finished goods.

For office staff, generally group schemes are more suitable. This could cover even the executives and managers. Many companies follow the spot award schemes and other recognitions like executive of the month, the most customer oriented person, the most quality conscious person etc.

(vi) Payroll Procedures

Whatever remuneration methods and incentive schemes the company may have introduced, the real test of the pudding lies in having it. Similarly, accounting and disbursement of labour payments is a very important task. It has to be carried out efficiently, effectively and with vigilance month after month and year after year. If not handled properly it could lead to labour disputes, litigations, non-adherence to statutory requirements etc. The payroll procedures in any organisation must be properly set up and followed up. These procedures can be divided into:

- (a) Employee records and master data updation with salaries and wages details
- (b) Daily, weekly or monthly attendance recording
- (c) Computation of salary, wages, allowances, incentives and bonus payable and deductions
- (d) Disbursement of the salaries and wages in cash and / or through bankse)
- (e) Accounting for payroll including provisions.
- (f) Analysis of payroll costs to help in budgeting & performance measurement



In organisation where the labour force is very large number, the records and processing of payroll is computerised. Many ERP systems provide a payroll module which integrates very well with the accounting and costing modules. In smaller organisations, work may be handled in simple excel sheets. If the number of employees is very low, payroll may be manually processed and handled.

Employee Records and Master Data

For every employee a master record sheet is maintained. Every employee is given a distinct number called as employee number or ticket number. Each employee is assigned to a department which is basically a cost centre. Correct assignment of each person is essential for proper labour cost analysis into direct and indirect. The mode of payment is also indicated i.e. whether cash or cheques or direct credit to employee bank accounts.

This master sheet stores all personal details of employee and the salary details as per the terms of appointment. These salary details are used as a basis when processing the payroll every month. As and when new appointments are done, the master data must be updated before processing the payroll for that month. From control point of view only authorised persons should be allowed to update the master records of salary and wages. Internal auditor may carry out checks to ensure this.

When the salary revisions are made, this master data needs to be revised again. This revision is also carried out by authorised persons only based on sanctioned revision letters.

No alterations to this data should be permitted, without proper authorization.

The master data also stores information about compulsory statutory deductions like PF, FPF, ESIC etc.

Attendance Recording

Companies use different tools for recording employee attendance such as manual registers, swiping cards, and remote log in for offshore employees. Workers and employees may work from different locations and different cities or even states. Attendance data is updated daily at the central payroll department through computer networks. The leave cards are also input to ensure that employee leaves are properly recorded to avoid erroneous without pay days. A cutoff date is fixed during the last week of the month (generally 25th of the month) for passing on the attendance data for payroll processing. The attendance of the last week is marked as full for current month's payroll and adjustments if any are carried out in the succeeding month. The dates for which attendance is not marked and no leave is granted, are communicated to the departmental heads for authorization purpose to indicate whether they are to be treated as paid leaves or marked as without pay.

Computation of Salaries and Wages

For computing monthly payroll, a lot of information has to be collected from various departments. One of them is the attendance data and master data for new employees as explained above. This information is generally available in the HR department or payroll office. The other information is collected from the following departments:

- (a) Information on piece rate related facts including standards; actual output is collected from production department for incentives and bonus calculations. This is compiled based on job cards. Variable earnings need to be computed for various groups of workers as per schemes applicable to them.
- (b) Information about various deductions to be made is received from different departments.
These deductions could be for voluntary contributions to provident funds, repayment of loans for housing & other reasons, telephone charges, recovery of advances, penalties, contribution to employee welfare society etc.
- (c) Accounts department provides the information on Income tax to be deducted.
- (d) Calculations are to be made for allowances that are based on certain indices e.g. dearness allowances based on the declared cost of living index for the month.

Once all calculations are completed, a payroll or wage sheet is prepared which summarises employee-wise salaries & wages, Allowances, various deductions and gross and net pay for the month. Depending on the need of the organisation and salary structure, the format of pay-sheet may be formatted. But generally, it could be in the following format:

Employee number	Name	Gade	Dept.	Normal hours	OT hours	Basic	HRA	DA	Allowances	Incentives & Bonuses	Award	Gross

P.F.& EPF	Prof. tax	Advances	canteen	loans	Society	ESI	Telephone	others	Total deductions	Net pay due

The pay sheet is tallied with computation sheets of all individual components of the labour cost to ensure that there are no errors. Once finalized, the pay sheet is forwarded to accounts for the purpose of accounting and disbursement. Individual pay slips are also distributed to all employees as information giving all the above details of various payments and deductions. The pay slip serves as a proof of income for employee that can be submitted to various authorities by him.

Disbursement of Salaries and Wages

On getting the pay sheet the accounts person will arrange for cash and bank funds as require. For workers to be paid in cash, he will organize the sealed envelopes with employee names written on them. The envelopes are distributed on an appointed day and employees are asked to sign a register as acknowledgement. For those to be paid by cheque, the accountant prepares the account payee cheques and distributes them the same way. For direct credits into the bank accounts of the employees, an instruction letter is written to bank, signed by authorised signatories, giving in the details of net pay amount and bank account numbers of concerned employees. In modern days, the method of directly crediting salary & wages to the bank accounts is very common and safe. Along with the salary & wages, the pay slips are also distributed.

Accounting for Payroll

The last step in the payroll routine is to pass accounting entries in books of account and also the necessary entries in the cost ledgers. There are master account codes opened for each element of salary & deductions to keep a proper track of the same. The coding is a must in case of computerised payroll.

The accounting entry is posted to various cost centres and departments. The entry passed is:

Respective salary & wages expense head	Dr.
To respective deduction A/c	
To salary and wages payable A/c	
And	
Salary & Wages payable A/c	Dr.
To Cash / Banks A/c	



The organisation will have to contribute to the Provident Fund (PF) and Family Pension Fund (FPF). The deductions made for the same along with companies contribution has to be paid to govt. organisation. Also the payment of profession tax and income tax needs to be made. These entries are also simultaneously passed.

Company contribution to PF A/c	Dr.
Company contribution to FPF A/c	Dr.
Respective deduction A/c	Dr.
To Cash / Bank A/c	

In case of an integrated accounting system, where cost and financial accounts are kept together, the entries are passed accordingly. These are not explained here as the integrated accounting will be studied by the students in the next level of the course. At this stage, it is sufficient for the student to understand that the labour cost booked in financial accounts (with cost centre-wise totals) must match with the labour cost booked as per cost records (which are maintained job-wise or cost unit wise).

Analysis of Labour Costs

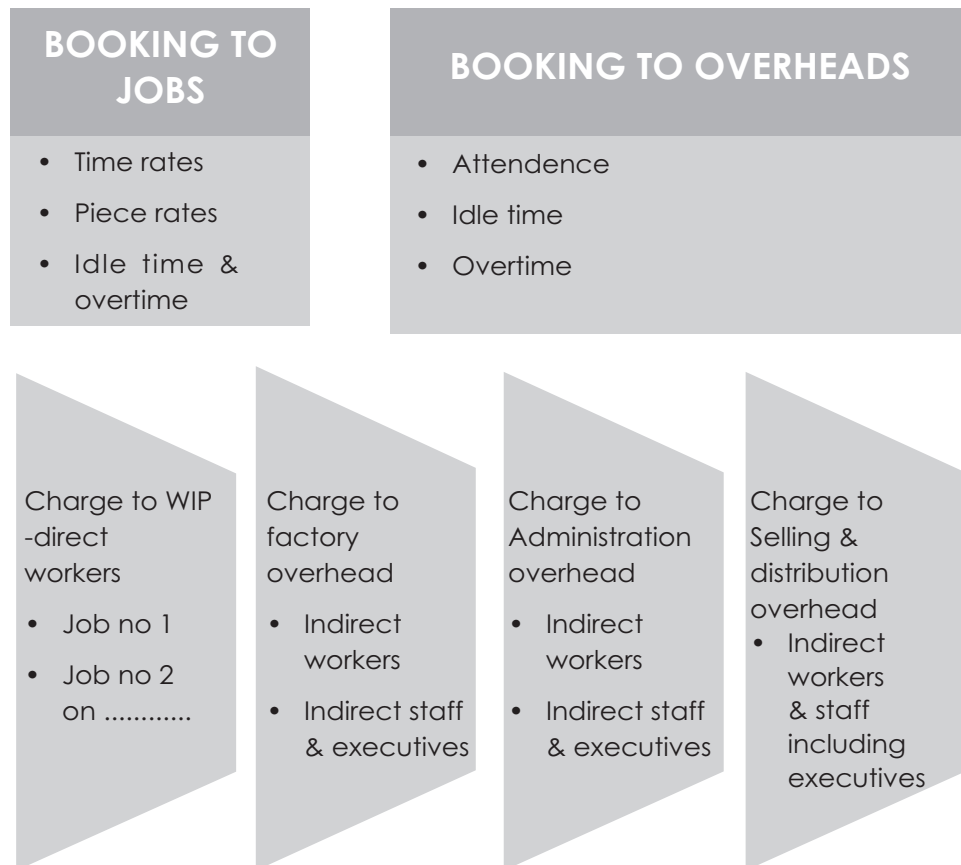
There has to be regular analysis of costs incurred on the workforce with regard to the compensation paid to them in various forms as well as the utilisation of the time by the workforce. As the objective of costing is to link the cost to the cost unit, the analysis of labour costs must concentrate on this objective. The linking of the cost to the jobs or contracts or processes or the respective cost units is done through the job cards which record the job / contract number on which the time is spent by the workers. The analysis is also done into direct and indirect labour cost. This is known from the departmental classification of payroll.

The total wage bill is bifurcated into to the charge to be made to WIP (for direct workers), production overheads (for indirect workers in factory), Administration overheads (indirect workers in administrative departments), Selling & distribution overheads (indirect workers in sales, marketing and distribution).

The analysis could be further drilled down to the actual cost unit number.

Computer systems enable this analysis easily through drop down queries which enables a cost accountant to drill down from the pay sheet all the way down to identification of every hour spent by each employee!

The cost accountant is equally interested in analyzing and reporting how the time is utilised. This analysis could revolve around total time available, idle time, overtime etc. He uses various ratios to interpret this e.g. idle time to total time, overtime to total time. He would also classify them further into normal and abnormal idle or overtime. This is discussed in the following sections.



(vii) Treatment of IDLE Time

Idle time refers to the time for which workers or staff members are present on the work location, but no work is carried out. It indicates the time lost. Idle time cost refers to the salaries or wages paid for the lost time. Technically speaking, the attendance card shows the time, but it is not booked on any job card or contract card. If not properly controlled, idle time losses could become very severe and have a major impact on cost of an item. It also reflects poor efficiency.

Idle time could be caused by a variety of reasons – some are beyond control of workers while they themselves are responsible for the other reasons. *The idle time which cannot be avoided & is inevitable is termed as Normal Idle time and the idle time which caused due to reasons that are within control of management and could have been controlled through management action is called as Abnormal Idle time.*

The possible causes of normal and abnormal losses could found in situations within the organisation and those outside the organisation. These are given below:

	Normal	Abnormal
Internal Reasons:		
Natural Reasons	Normal breaks – tea, lunch, natural calls, walk from factory gate to place of work, normal fatigue, weekly offs, paid holidays	Workers spending extra time after lunch, not getting back to place of work



	Normal	Abnormal
Production Reasons	Machine set up, changing tooling, change-over from one job order to the other, preventive maintenance	Power failure, machine break down, waiting for material, waiting for instructions
Administrative Reasons	Internal meetings, gate meetings, training programmes	Strikes, lock outs, high level of attrition
External Reasons:	General power failure in the area, seasonality or economic cycles, change in govt. rules	Closure of business due to shift in demand, change in technology, migrating workers

The above list is only illustrative and not exhaustive, as the list could go on endlessly. Whatever may be the reasons, efforts must be action oriented and these actions are:

- Keeping normal idle time to absolute minimum levels and
- Take immediate corrective actions to overcome reasons causing abnormal idle time

Analysis of Idle Time

It is therefore necessary that a continuous analysis of idle time is carried out by the cost accountant. There could be a system developed whereby the reason-wise analysis of idle time is done and reported. The idle time can be collected from the time sheets (attendance records) and worker's job sheets. The supervisors must keep vigil to record the actual time lost on the job. Each job card shows the time that is spent on different job orders. The total time attended by the worker and the time spent by him on the jobs has to be compared. Analysis & reporting of idle time helps management to exercise better control on it by removing or minimizing the effect of reasons causing the loss due to idle time.

The reporting of idle time may be done at individual level and departmental level. These reports are made at frequencies depending on need of each organisation. Any unusual time loss is immediately escalated to higher levels. Reporting of idle time is done at individual level and departmental level as below:

Analysis of workers' idle time

Employee no.	Department	Hours attended	Normal idle allowance	Net hours available	Hours booked to jobs	Idle hours	% of idle to available

Similarly there could be a departmental level reporting of idle time.

Analysis of departmental idle time

Production shop	Hours planned	Hours worked	Hours lost	Idle hours			% of idle to available
				Reason 1	Reason 2	etc.....	

Treatment of Idle Time

In cost and financial accounting different treatments are given to the normal idle time loss and abnormal idle time loss.

- (a) The loss on account of normal idle time is booked on the respective job (i.e. included in the prime cost of production of the job) through W.I.P. account. If it cannot be identified with jobs then it is taken as Factory Overheads. Normal idle time reported for indirect workers will be booked as Administration or Selling & Distribution overhead.
- (b) The loss on account of abnormal idle time is directly charged to the P & L account in cost and financial books.

(viii) Overtime Cost

Working getting extended beyond normal working hours is a usual phenomenon in today's industrial world. The work pressures and need to deliver results fast, working long hours is considered as inevitable in many organisations. It could also be caused by understaffing and high attrition rates in the industry.

However, not all this is paid for. Employees normally do not get paid extra for such long hours worked.

For unionized workers, however, as per the agreement overtimes may be paid for. Such payments are made usually at a higher rate (normally at double rate). It certainly adds to the cost of manufacturing. Hence the payment made for the overtime hours worked comprises of

- Payment made at normal rates
- Premium paid for the overtime hours

Overtime is normally permitted on by the supervisors or departmental heads. There is a form called 'request for overtime' wherein the details of job and reason for extra hours beyond normal working hours are mentioned. If though fit, such working may be permitted. The reasons for overtime may be:

- Illness of some workers may force other to work extra and complete the work
- It may be at the request of customers to complete an order in quick time
- There could be receipt of more orders than planned and it may not be possible to immediately employ additional workers
- Receipt of rush orders

Treatment of Overtime Cost

- (a) If overtime is worked on specific jobs at the request of the customer, the cost is booked as a direct labour cost on that job.
- (b) In other cases, normal payment for overtime hours may be taken as cost of production and the premium portion is treated as overheads. The idea of doing so is that the prime cost comparison should not get vitiated due to inclusion of premium in the cost. Some concerns allocate the overtime premium on all jobs done during the period.
- (c) If overtime is worked to recoup the lost hours due to fire, floods etc., the premium portion is charged to P & L Account.

Control of Overtime Work

- (a) It should be allowed only with prior permission.
- (b) It should be collected under an overtime ticket and assigned to the particular department.
- (c) If it is becoming a regular feature, putting in more manpower may be considered.
- (d) Periodical reporting of overtime with the reason for extra hours worked may be circulated for action by the different levels of management.



- (e) The effort should be to reduce overtime as it could lead to health problems, more fatigue, quality deterioration, increase in the cost of power & electricity, other facilities, more wear and tear of machinery etc.

(ix) Labour Turnover (LT)

Very high rate of attrition is a normal phenomenon in the Indian industry today. Organisations are fighting hard to keep it to affordable levels, but it is increasingly difficult to control. Organisations are facing disruption in business activities due to a high employee turnover rate. On the other hand companies are finding recruitment difficult as there is a dearth of skilled manpower. Although the business entity is a going concern and a perpetual existence, the labour force may come and go.

Labour turnover is defined as “the rate of change in the average employee strength during a period”. It is caused by the displacement of manpower. There are two components to labour displacement – one is separations and second recruitment. Both these may affect the turnover ratio with different severity. A high labour turnover will add to costs and also disrupt business activities. Increase in costs is due to costs of replacements, recruitment, training etc. The business disruption is caused due to the lead time for recruitment and the time taken by new employees to start contributing.

Measurement of LT

Like any other ratio, the LT calculation results into a figure that speaks of a relationship between two sets of figures. The two figures here are – one, change in manpower and second – the number of employees. As the ratio is defined as rate of change, a simple formula for calculating the LT ratio is:

$$\text{LT Ratio} = \frac{\text{Change in Manpower}}{\text{Employee Strength}}$$

When we talk about change in manpower, it must be understood that the change is caused due to separation as well as new additions to the manpower strength. Also, the change is always related to a specific period of time. So essentially we talk about the manpower strength at the beginning of the period and the manpower strength at the end of the period. The practice is to consider a simple average of manpower in the denominator.

There are different connotations as to what should be taken in the numerator:

- (a) Consider only separations
- (b) Consider only replacements
- (c) Consider a combination of separation and replacement.

Based on these there are different formulae for computing the LT as follows:

Separation Method: The LT is considered as relationship between total number of separations during the period & average manpower during the period. Mathematically, it is shown as:

$$\text{LT Ratio} = \frac{\text{Separations during a period}}{\text{Average manpower in the period}} \times 100$$

If the manpower at the beginning of the year 2012 was 2500 and at the end of 2012 was 2600, the average workforce is $(2500+2600)/2$ i.e. 2550. If 250 people have left the company during the year, the LT ratio is $(250 / 2550) \times 100$ i.e. 9.80%

Accession Method: Under this method, the total accession i.e. additions is considered in the numerator. The logic is that LT affects costs and efforts for replacing the left employees. In above example, we had 2500 people in the beginning and 2600 at the end after 250 people left. The accession will be 350 $(2600+250-2500)$. The LT ratio here will be $(350/2550)$ i.e. 13.73%.

Replacement Method: This method recognises only replacement made in the numerator. The logic is that if there is no replacement there's no additional cost. The formula here is:

$$\text{LT Ratio} = \frac{\text{No. of Replacement during a period}}{\text{Average manpower in the period}} \times 100$$

Avoidable Separation method: According to some experts, the separations caused by reasons like retirement or death of employees cannot be included in the LT ratio. We should consider separations due to reasons that could have been avoided only. The formula here is:

$$\text{LT Ratio} = \frac{\text{No. of avoidable separations during a period}}{\text{Average manpower in the period}} \times 100$$

Flux Method: It takes into account the total displacement i.e. separations as well as accessions. So the numerator considers average of separations & accessions. The formula is:

$$\text{LT Ratio} = \frac{\frac{1}{2} \times (\text{No. of separations} + \text{No of accessions})}{\text{Average manpower in the period}} \times 100$$

Control over Labour Turnover

The first task for controlling the labour turnover is to diagnose the causes for the same. Once the causes are diagnosed, the efforts can be made to minimize the reasons of people leaving the organisation. The process of recruitment, selection, training, placement, promotions could be properly systematized to make employees remain with the organisation. Many big organisations take help of consultants and experts in this area. Effective reporting of reason-wise separations serves a great deal in forming policies to mitigate the labour turnover. The causes could be classified as avoidable and non-avoidable.

Avoidable causes:

- Dissatisfaction with remuneration
- Improper working conditions
- Dissatisfied with job content
- Unhappy with personal policies on increments and promotions
- Lack of proper facilities

Unavoidable causes:

- Death, Retirement or ill health
- Domestic reasons like marriage of female workers
- Seasonal nature of business
- Shortage of resources
- Better prospects
- Physical reasons

Costs of Labour Turnover

It is difficult to measure the labour turnover costs correctly as it is difficult to link costs to the separation of people. These costs are basically:

- (a) **Preventive Costs:** Costs associated with personnel administration, welfare facilities, employee developmental programmes, retirement policies, attractive remuneration
- (b) **Replacement Costs:** Costs associated with recruitment, training and induction of new people, loss of production during the transition period, cost of defective production and cost of additional supervision on new workers.

These costs are generally treated as overheads as they cannot be directly linked with cost units.



(x) Measuring Labour Efficiency and Productivity

Employees help the process of converting raw material into finished product. Even in the days of extensive automation, role of manpower cannot be underestimated. Organisations today take every possible step to attract and retain good manpower. The remuneration methods, fringe benefits, working conditions etc. go a long way in ensuring that employees remain engaged with the organisation. One more factor is important in the process of rewarding good employees for their performance is measurement of the performance.

Performance measurement involves the following steps:

- (1) Defining the work properly – this is done through setting up the job evaluation, work study, time & motion study and other engineering methods. It is also necessary to define the complexity of the job, discipline required, degree of supervision needed.
- (2) Defining the skills needed to perform a job – After defining a job, the qualities and skills needed to perform the same are listed. It also includes education, training, physical qualities, responsibility, etc.
- (3) Setting up job profile – people are recruited considering the requirements defined under the above two steps. People should be given a clear cut idea of their job profile. If job profile or description is not properly defined, the employees won't be able to perform.
- (4) Measurement of work done – the work done by employees must be correctly measured. The measurement must be done in comparison with the targets set in the form of Key Result Areas (KRAs) for a period.
- (5) Merit rating – only measuring work is not enough to judge an employee performance. His personal qualities and development should also be tracked. Merit rating is a systematic evaluation of an employee's appraisal. It is usually done by the superior. It assesses employee on the basis of work performance, interpersonal relations, cooperation, ability to lead etc. There may be different weightages assigned to each of these factors and an overall rating is given.

6.9.3 Direct Expenses

In this study note, we studied the element-wise classification of costs as material, labour and expenses. We have also seen that all these elements could be further reclassified as direct and indirect. The direct material plus labour plus other expenses together become prime cost. Sum total of all indirect costs viz. indirect material, indirect labour and indirect expenses is called as overheads.

In this chapter, we discussed the material (direct & indirect) cost in detail. In the above sections, we discussed the labour (direct & indirect) in detail. We now will discuss the expenses.

The expenses represent that part of the cost which is other than material and labour. It is basically cost of facilities or services which are used as aids to production.

The expenses again could be classified as direct and indirect. In this section we will talk about Direct Expenses.

Direct expenses are those expenses (other than material & labour) which can be directly associated with a job or a process or a cost unit. They are a part of prime cost. They are also referred to as Chargeable expenses. They do not physically form part of the final product like material cost, but facilitate the output directly.

Examples of direct expenses are:

- Royalties and patent fees paid for using technology
- Hire charges for special machines, facilities, tools etc that are used in relation to a specific job or process
- Sub-contractors charges for getting some operations done by outsourcing

- Consultancy charges paid exclusively for a job
- Cost of special design, layout
- Architect's fees
- Traveling for a specific job

The proportion of direct expenses in the total cost is usually small. In a factory, expenses that can be directly linked to production departments also can be clubbed as direct expenses. Examples are power & electricity charges paid based on the meter reading in the production departments. These are absorbed into the prime cost.

In service industry, the direct expenses are related to the generation of service. For example, a transporting company provides transportation service. The expenses on the vehicle maintenance, petrol & fuel etc can be directly linked to a vehicle and can thus be treated as direct expense. For an educational institute, the charges paid for educational consultants in developing the curriculum may be taken as direct expense for that particular course.

Certain expenses may be direct expenses for certain costs centres but they are indirect for the production departments. These do not form part of prime cost, but absorbed as overheads.

Collection of Direct Expenses

Direct expenses are collected based on the vouchers indicating the specific job or process numbers for which they are incurred or paid. There could be agreements for payment of royalties. Provisions for direct expenses may be made based on specific purchase orders issued for hiring, consulting etc.

Treatment of Direct Expenses

The direct expenses are debited to the W. I. P. account of the specific job or process. In case of contracts or projects, they are debited to the specific contract or project as the case may be. In service industry, it is charged to the cost of generating service.

Illustration 24

A firm's basic rate is ₹ 3 per hour and overtime rates are one and half times for evenings and double rate for weekends. Following details have been given on the three jobs:

Hours recorded	Job X	Job Y	Job Z
Normal time	480	220	150
Evening time	102	60	80
Weekend	10	30	16

Calculate labour cost chargeable to the jobs under following circumstances:

- Where overtime is worked occasionally to meet production requirements
- Where overtime is worked at the customer's request to expedite the supply.

Solution:

- If overtime is occasionally worked for production requirements, then the normal rates should be charged to the Jobs and the premium portion should be treated as production overheads. This will be:

	Job X	Job Y	Job Z
Total hours worked	592	310	246
Charged to Jobs			
@ ₹ 3 per hour	₹ 1776	₹ 930	₹ 738



- (b) If OT is worked at the request of customers, then the entire cost of additional time worked (including the premium) must be charged to the jobs. This will be as follows:

	Job X	Job Y	Job Z
Normal time	480	220	150
Evening time	102	60	80
Weekend	10	30	16
Charged to Jobs			
Normal time @ ₹ 3 per hour	₹ 1440	₹ 660	₹ 450
Evening time @ ₹ 4.5 per hour	₹ 459	₹ 270	₹ 360
Weekend time @ ₹ 6 per hour	₹ 60	₹ 180	₹ 96
Total	₹ 1959	₹ 1110	₹ 906

Evening time is paid @ 1.5 times of ₹ 3 i.e. at ₹ 4.50 per hour and weekend @ 2 times i.e. at ₹ 6 per hour.

Illustration 25

A factory has a piece rate system for mass production of a TV component. The standard production fixed for a day is 40 units. The piece rate is ₹ 4. The details of remuneration payable to workers are as follows:

Efficiency	Wages	Dearness Allowance	Incentive bonus
Up to 80%	₹ 4 per piece subject to guaranteed minimum of ₹ 100 per day	₹ 60 per day	Nil
Above 80%	Same as above	Same as above	₹ 40 for every 1% increase in efficiency above 80%

Three workers Ram, Sham and Ghanshyam gave the following performance for the month of August 2012.

Ram worked 20 days and gave output of 480 units

Sham worked 24 days and gave output of 864 units

Ghanshyam worked 25 days and gave output of 1100 units

Calculate their Total Earnings

Solution:

Name	Days worked	Standard output	Actual output	Efficiency	Piece rate wages	Minimum @ 100/ day	Basic wages (₹)	D. A @ ₹ 60 per day	Bonus (₹)	Total earnings (₹)
Ram	20	800	480	60%	1,920	2,000	2,000	1,200	-	3,200
Sham	24	960	864	90%	3,456	2,400	3,456	1,440	400	5,296
Ghanshyam	25	1,000	1,100	110%	4,400	2,500	4,400	1,500	1,200	7,100

Bonus for Sham is for 10 percent additional efficiency i.e. 10 x 40 and

Bonus for Ghanshyam is for 30 percent additional efficiency i.e. 30 x 40.

Ram will be given minimum guaranteed basic wages as his piece rate earning fall short of the minimum wages.

Illustration 26

The standard hours for a job are 100 hours. The job has been completed by Shanker in 60 hours, Ehasaan in 70 hours and Loay in 95 hours. The factory had a bonus system applicable to job based on the percentage of time saved as compared to standard hours. The rate of pay is ₹ 1 per hour. Calculate the total earnings of them based on the following table of the incentive scheme and also the rate of earnings per hour for them.

Percentage of time saved	Bonus
Saving up to 10%	10% of time saved
From 11% to 20%	15% of time saved
From 21% to 40%	20% of time saved
From 41% to 100%	25% of time saved

Solution:

	Shanker	Ehasaan	Loay
Standard hours	100	100	100
Actual hours	60	70	95
Hours saved	40	30	5
% of time saved to standard	40%	30%	5%
Bonus percentage	20%	20%	10%
Bonus hours	8	6	0.5
Total hours for payment	68	76	95.5
Total earnings @ ₹ 1 per hour	68	76	95.5
Rate of earnings per hour	1.133	1.086	1.005

Illustration 27

- (a) When will be bonus paid as per Halsey plan be equal to bonus paid as per Rowan plan?
 (b) The time allowed for a job is 8 hours and the hourly rate is ₹ 8. Calculate earnings as per Halsey and Rowan Plan and also hourly earnings under both plans.

Solution:

- (a) Bonus paid under Halsey plan is given by the formula

$$(\text{Hours saved} \times \text{Hourly rate})/2$$

And bonus under Rowan plan is given by the formula

$$(\text{Hours saved} / \text{Standard time}) \times \text{Actual hours} \times \text{Hourly rate}$$

If we want them to be equal, we must show that the formulae are equal to each other i.e.

$$(\text{Hours saved} \times \text{Hourly rate})/2 = (\text{Hours saved} / \text{Standard time}) \times \text{Actual hours} \times \text{Hourly rate}$$

Cancelling out the common variables we get

$$\frac{1}{2} = \text{Actual hours} / \text{Standard time}$$

$$\text{Or Actual hours} = \frac{1}{2} \text{ of Standard time}$$

So when the time saved is 50% of standard, bonus under both these methods will be same.

- (b) Here we will have to tabulate the information assuming various cases of time saved. If standard time given is 8 hours, let's assume actual time taken as 8, 7, 6 till 1 hour. Based on this the table showing earnings under both methods is shown below:



Time allowed	Time taken	Time saved	Bonus under		Total earnings under		Hourly earnings under	
			Halsey (d) = (c)/2 x 8 (₹)	Rowan (e) = (c)/ (a) x 8 x (b) (₹)	Halsey	Rowan	Halsey	Rowan
(a)	(b)	(c)			(f) (₹)	(g) (₹)	(h) (₹)	(i) (₹)
8	8	0	0	0	64	64	8.00	8
8	7	1	4	7	60	63	8.57	9
8	6	2	8	12	56	60	9.33	10
8	5	3	12	15	52	55	10.40	11
8	4	4	16	16	48	48	12.00	12
8	3	5	20	15	44	39	14.67	13
8	2	6	24	12	40	28	20.00	14
8	1	7	28	7	36	15	36.00	15

Illustration 28

There are 20 workmen working under a group. A group bonus scheme is in place whereby each worker gets paid a bonus on the excess output over the standard hourly output of 250 pieces in addition to their normal hourly rate earnings. The excess over standard is expressed as a percentage and 2/3rd of such percentage is shared with workmen and is applied on the notional hourly rate of ₹ 6 considered only for bonus calculation. The output data for a week is given below:

Days	Hours worked	Output
Monday	160	48,000
Tuesday	172	53,000
Wednesday	164	40,000
Thursday	168	52,000
Friday	160	46,000
Saturday	160	42,000
Total	984	2,81,000

Work out the amount of bonus for the week and also the average rate at which the worker will get the same. Compute the total earnings of a worker A, who worked for 48 hours during the week at the hourly rate of ₹ 2.50 and another worker B, who worked for 52 hours at hourly rate of ₹ 3.

Solution:

Standard output for 984 hours (984 x 250) 2,46,000

Actual output in 984 hours 2,81,000

Excess output during the week 35,000

Excess as a percentage of Standard 14.228%
(35,000/2,46,000 x 100)

Percentage entitles for Bonus (2/3rd of 14.228%) i.e. 9.485%

Notional rate for bonus is ₹ 6. So bonus will be 9.485% of ₹ 6 i.e. ₹ 0.569 per hour.

Total bonus amount will be (984 x 0.569) i.e. ₹ 560.

Worker A will get

Normal earnings for 48 hours @ ₹ 2.5	₹ 120.00
Bonus for 48 hours @ ₹ 0.569	₹ 27.31
Total	₹ 147.31

Worker B will get

Normal earnings for 52 hours @ ₹ 3	₹ 156.00
Bonus for 52 hours @ ₹ 0.569	₹ 29.59
Total	₹ 185.59

Illustration 29

The three workers Guru, Suru and Varu produced 80, 100 and 120 pieces of a product on one day of 8 hours respectively. The time allowed for 10 units is 1 hour and their hourly rate is ₹ 4. Calculate their earnings and effective rate of earnings per hour under (a) Straight Piece Rate, (b) Halsey Plan and (c) Rowan Plan

Solution:

Under straight piece rate

As the piece rate is not given, it needs to be calculated.

The time allowed is 1 hour for 10 units @ ₹ 4 per hour.

Thus, ₹ 4 is paid for 10 units.

So per piece rate is ₹ 0.40 per piece

Hence per piece earnings will be:

Guru = $80 \times 0.40 = ₹ 32$

Suru = $100 \times 0.40 = ₹ 40$

Varu = $120 \times 0.40 = ₹ 48$

The effective rate of earnings will remain ₹ 4 per hour under piece rate system.

Under Halsey Plan

Earnings = (Hourly rate x Time taken) + $\frac{1}{2}$ of (Time saved x Hourly Rate)

	Guru	Suru	Varu
(a) Actual output (units)	80	100	120
(b) Time allowed (hours)	8	10	12
(c) Time taken	8	8	8
(d) Time saved	Nil	2	4
(e) Normal earnings (c x 4) ₹	32	32	32
(f) Bonus (0.5d x 4) ₹	Nil	4	8
(g) Total earnings (e + f) ₹	32	36	40
(h) Effective rate per hour(g/c) ₹	4	4.50	5.00



Under Rowan Plan

Earnings = (Hourly rate * Time taken) + (Time saved/ Time allowed) * Hourly Rate * Time taken

	Guru	Suru	Varu
(a) Actual output (units)	80	100	120
(b) Time allowed (hours)	8	10	12
(c) Time taken	8	8	8
(d) Time saved	Nil	2	4
(e) Normal earnings (c x 4) ₹	32	32	32
(f) Bonus (d/b x c x 4) ₹	Nil	6.40	10.67
(g) Total earnings (e + f) ₹	32	38.40	42.67
(h) Effective rate of per hour (g/c) ₹	4	4.80	5.33

Illustration 30

A company had 500 workers on its roll on 1st April 2012 and 600 on 30th June 2012. During the quarter, 5 workers left, 20 were discharged and 75 workers were recruited. Of these 10 workers were recruited as replacements for people leaving, while the rest were for expansion. Calculate the labour turnover rate under (a) Flux Method, (b) Replacement Method and (c) Separation Method

Solution:

The average number of people working = $(500+600)/2 = 550$

Labour Turnover Rate under Flux Method

$$\text{LT Rate} = \frac{\frac{1}{2} \times (\text{No. of separations} + \text{No. of accessions})}{\text{Average manpower in the period}} \times 100$$

$$\begin{aligned} \text{LT Rate} &= (\frac{1}{2} (5+20+10))/550 \times 100 \\ &= 3.18\% \end{aligned}$$

Labour turnover rate under Replacement method

$$\begin{aligned} \text{LT Rate} &= \frac{\text{No. of Replacement during a period}}{\text{Average manpower in the period}} \times 100 \\ &= (10/550) \times 100 \\ &= 1.82\% \end{aligned}$$

Labour turnover rate under Separation method

$$\begin{aligned} \text{LT Rate} &= \frac{\text{No. of separations during a period}}{\text{Average manpower in the period}} \times 100 \\ &= 25/550 \times 100 = 4.54\% \end{aligned}$$

Illustration 31

A company has a group incentive system in vogue for direct as well as indirect workers. The details of the scheme are:

- For any production in excess of standard rate fixed at 10000 tonnes per month (25 days), a general incentive of ₹ 10 per tonne is paid in aggregate. The total amount of payable to each group is determined on the basis of an assumed percentage of such excess production being

contributed by it viz. 70% by direct workers, 10% by inspections staff, 12% by maintenance staff and 8% by supervisors.

- (b) If excess production is more than 20% above standard, direct workers get a special bonus of ₹ 5 per tonne for all production in excess of 120% of standard.
- (c) Inspection staff is penalized @ ₹ 20 per tonne for rejection by customers in excess of 1% of production.
- (d) Maintenance staff is penalized @ ₹ 20 per hour of breakdown.

From the following particulars for the month, work out the production bonus earned by each group.

Actual working days were 20. Production was 11000 tonnes. Rejection by customers was 200 tonnes. Machine breakdown was 40 hours.

Solution:

No. of days worked in the month = 20 days

Standard production for 20 days = $(10000/25) \times 20 = 8000$ tonnes

Actual production during the month = 11000 tonnes

Production in excess of standard = $11000 - 8000 = 3000$ tonnes

Excess above 20% over standard level = $(3000 - 20\% \text{ of } 8000) = 1400$ tonnes

The bonus calculations are shown below:

Category	General Incentive			Special incentive		Penalties	Bonus earned
	%	Tonnes	Amount (₹)	Tonnes	Amount (₹)	(₹)	(₹)
Direct workers	70%	2,100	21,000	1,400	7,000		28,000
Inspection staff	10%	300	3,000			(1,800)	1,200
Maintenance staff	12%	360	3,600			(800)	2,800
Supervisors	8%	240	2,400				2,400
		3,000	30,000	1,400	7,000	(2,600)	34,400

Penalties for inspection staff = 90 tonnes @ ₹ 20 per tonne (i.e. $200 - 1\% \text{ of } 11000$) and Penalties for maintenance staff = 40 hours @ ₹ 20 per hour

Illustration 32

In a factory bonus hours were credited to the employee in proportion of time taken what time saved bears to the time allowed. Jobs are carried over from one week to the next. No overtime is allowed and payment is made in full for all units worked on, including the ones rejected subsequently. From the following information, calculate for each employee the bonus hours & bonus amount, total wages cost and wage cost per good units produced.

Employee	A	B	C
Basic wage rate per hour (₹)	5	8	7.50
Units issued for production	2500	2200	3600
Time allowed for 100 units	2 H 36 M	3 H	1 H 30M
Time taken	52 H	75 H	48 H
Rejection (units)	100	40	400

**Solution:**

No.	Employee	A	B	C
(1)	Time allowed for 100 units	2 H 36 M	3 H	1 H 30 M
(2)	Units issued for production	2,500	2,200	3,600
(3)	Time allowed for actual production (Hours)	65	66	54
(4)	Time taken (Hours)	52	75	48
(5)	Time saved (Hours)	13	-	6
(6)	Hourly Rate of earnings (₹)	5.00	8.00	7.50
(7)	Basic wages [(4) x (6)] (₹)	260	600	360
(8)	Bonus Earned [(5/3)x(4)x(6)] (₹)	52	-	40
(9)	Total Wages (7+8) (₹)	312	600	400
(10)	Rejected units	100	40	400
(11)	Good Units (2-10)	2,400	2,160	3,200
(12)	Wage rate per unit of good production (9÷11) (₹)	0.130	0.278	0.125

Illustration 33

Mr. Viraj is working with 10 workmen to manufacture a product. He is contemplating to introduce an incentive system either under Halsey Plan or Rowan Plan to cope up with the increase in demand by 25%. He considers that if proposed incentive scheme could bring in about 20% increase in the wages, it would be a good motivation for the workers and he has accordingly assured the workers.

As a result of the assurance, the increase in productivity has been observed as revealed by the following figures for the current month:

Hourly rate of wages ₹ 2 per hour

Average time for producing 1 piece by one worker at the previous performance is 2 hours. This could be taken as time allowed.

No of working days in the month is 25 and each worker works for 8 hours a day. Number of units produced during the month was 1250 units.

- Calculate effective rate of earnings per hour under Halsey and Rowan plans.
- Calculate savings in the labour cost per piece under both the schemes.
- Advise Mr. Viraj about selection of the incentive scheme.

Solution:

Total wages for 10 workmen:

No. of days in the month	25
No. of hours per day	8
No. of workmen	10
Hourly rate per worker (₹)	2
Total Wages (25*8*10*2)	₹ 4000

Time saved for the month	
No of units produced	1250
Time allowed @ 2 hours per unit	2500 hours
Time taken by 10 workmen (25x10x8)	2000 hours
Time saved for the month	500 hours

Earnings under Halsey Plan (50% of time saved)

Bonus = (50% of 500 x 2) =	₹ 500
Wages as calculated =	₹ 4000
Total Earnings =	₹ 4500

Earnings under Rowan Plan

Bonus = (500/2500)x2000x2 =	₹ 800
Wages as calculated =	₹ 4000
Total Earnings =	₹ 4800

Effective earning rate per hour

Under Halsey Plan = (4500/2000) = ₹ 2.25

Under Rowan Plan = (4800/2000) = ₹ 2.40

Savings in Labour cost per piece

Standard labour cost per piece = 2 x 2 = ₹ 4

Piece rate earnings under Halsey Plan = (4500/1250) = ₹ 3.60 i.e. savings of ₹ 0.40 per piece. Piece rate earnings under Rowan Plan = (4800/1250) = ₹ 3.84 i.e. savings of ₹ 0.16 per piece. It can be noted that savings in labour cost per piece is more under Halsey Plan than under Rowan Plan. However, it does not take care of the promise given to workers that their earnings will increase by 20%. In case of Halsey Plan, the increase in earnings is 12.5% only (i.e. 500/4000*100), whereas in case of Rowan Plan it is 20% (i.e. 800/4000*100). It is thus advised that Rowan Plan may be chosen with a per piece saving of ₹ 0.16.

Illustration 34

In a manufacturing unit, a multiple piece rate system is operated as under

- Basic piece rate of ₹ 2 per piece up to 85% efficiency
- 115% of the basic piece rate between 90% and 100% efficiency
- 125% of basic piece rate above 100% efficiency

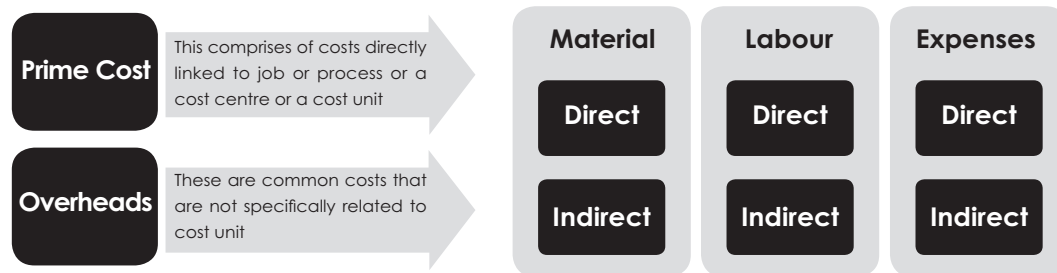
The workers are eligible for a guaranteed day rate which is equal to 75% efficiency. Compute the labour cost per piece at every 5% intervals between 65% and 125% efficiency assuming that 100% efficiency means 60 units per day.

**Solution:**

Efficiency %	Units per day	Piece rate wages @ ₹ 2	Guaranteed day rate ₹	15% additional piece rate ₹	25% additional piece rate ₹	Total labour cost ₹	Labour cost per piece ₹
65%	39	78	90	-	-	90.00	2.31
70%	42	84	90	-	-	90.00	2.14
75%	45	90	90	-	-	90.00	2.00
80%	48	96	-	-	-	96.00	2.00
85%	51	102	-	-	-	102.00	2.00
90%	54	108	-	16.20	-	124.20	2.30
95%	57	114	-	17.10	-	131.10	2.30
100%	60	120	-	18.00	-	138.00	2.30
105%	63	126	-	-	31.50	157.50	2.50
110%	66	132	-	-	33.00	165.00	2.50
115%	69	138	-	-	34.50	172.50	2.50
120%	72	144	-	-	36.00	180.00	2.50
125%	75	150	-	-	37.50	187.50	2.50

6.9.3 Overheads

In this study notes we have discussed two specific elements of costs viz. material and labour. We have also discussed the classification of costs into direct and indirect which is based on traceability with respect to cost centre or cost unit or cost object in general. The total cost of a product comprises of two basic components i.e. prime cost plus overheads. This is shown in the following chart:



It can be observed that all indirect costs form overheads. Thus, overheads comprise of all costs that cannot be directly linked to cost unit or cost object. CIMA London defines Overheads as “*expenditure on labour, materials or services which cannot be economically identified with a specific saleable cost per unit.*”

This means that although there is a remote theoretical possibility to find a linkage, the clerical efforts to identify are so huge and costly that it is not feasible to do so. There are many synonyms used for the term overheads viz. ‘on cost’, ‘burden’, ‘loading’, ‘non-productive costs’, and ‘supplementary costs’. By whatever name they may be called the fact remains that they constitute the part of total cost and therefore need to be measured, analysed, controlled and saved. With increased automation of processes, the proportion of costs even in manufacturing industry attains the status of being ‘indirect’. In service industry, the proportion of overheads in total cost is quite high. Around 1960s, a typical cost composition would show a break up as material 60%, labour 25% and overheads 15%. Through the passage of time and advent of technology where multi-purpose and multi-utility machines have taken over reins from human beings, this composition has changed to material 55%, labour 10% and overheads 35%. These numbers are not exact, but they reveal a trend.

If this be so, what percentage of management time must be given for controlling this 35% of the cost? No doubt it has to be sizable. But usually the managements spend more time in managing people and material and overheads are assumed to be fixed and hence uncontrollable. Those who understand the importance of controlling overheads, improve their profits surely.

Can we know production manager’s salary per unit of product? Is it possible to identify each rupee spent on rent to a cost unit? Is it economical to identify the quantity of thread used per shirt? These questions form the very basis for identifying costs of such nature as indirect. The ‘indirect’ relationship with product may be seen in two ways. One – the costs may be incurred in production departments but not directly linked to final unit of product or service. Two – costs are incurred in non-production centres i.e. support departments which do not take part in actual production, but provide all allied services.

As a keen learner of the subject of costing, one must grasp the concept of overheads thoroughly. It must be remembered that the line of distinction between ‘direct’ and ‘indirect’ is very thin and subjective as well. The cost control and analysis mechanism depends on whether the costs are direct or indirect. While direct cost are controlled more by physical measures such as reduction in weight, lowering the number of hours to produce, using alternative material etc., the overheads are controlled by setting up budgets and ensuring that the actual costs are within that limits.



The understanding of overheads will be easier if the concept is studied in the following sequence:

- Classification and coding of overheads
- Collection of overheads i.e. pooling costs together for various cost centres
- Identification of overheads to cost centres
- Allocation of common overheads to the cost centres on a suitable basis
- Apportioning the service departments' overheads to production departments
- Absorbing the overheads in the unit cost of products produced in production department

(i) Classification of Overheads

The overheads are grouped in different ways to be able to understand them, their behaviour so as to control them properly. This classification is basically done on similar lines in which general costs are classified. It may be done in following ways:

- **Based on Nature of Expense** i.e. elemental grouping into indirect material, indirect wages and indirect expenses. This classification helps the understanding of the basic nature of overhead costs. The controls for material, labour and other expenses are different. Hence this classification answers 'on what' the overheads are incurred. Examples of this classification are shown in the table below.
- **Based on Functions** i.e. manufacturing or production overheads, Administration overheads and Selling and distribution overheads. The functional classification helps to understand where in the organisation the costs are incurred. This helps to fix responsibility on persons responsible for those functions and control expenses through them. Examples are shown in the table below.
- **Based on Behaviour** i.e. fixed or variable overheads. This classification tries to answer the question "how do the overheads behave" or "what is the rate of change in overheads with respect to change in output level". This classification helps in analyzing overheads for the purpose of decision making.

The different ways of classification and their meanings are similar to that explained in this chapter, with the only exception that here the reference is always made to 'indirect costs'. Hence to avoid duplication, the concepts are not elaborated again. But for the sake of understanding of the student, examples of each grouping are given below.

Please remember that the classification used for cost collection is mostly combination of elemental and functional. The behavioral classification cannot be used for booking of costs; it is used only for analysis and decision making. No cost can be permanently stamped as either fixed or variable.

Elements → Functions ↓	Indirect costs (overheads)		
	Material	Labour	Expenses
Factory or Production or Manufacturing or works Overheads	Nuts & bolts, consumables, lubricants, welding electrodes, cleaning materials, nails, threads, ropes etc.	Salaries & wages to foremen, supervisors, inspectors, maintenance labour, idle time etc.	Factory lighting & heating, factory rent, power & electricity, factory insurance, depreciation on machinery, repairs, etc.
Administration Overheads	Printing & stationery, office supplies etc.	Salary of office staff, managers, directors, and other administrative departments as IT, audit, credit, taxation etc.	General office rent, insurance, telephones, fax, travel, legal fees, depreciation on office assets etc.

Elements → Functions ↓	Indirect costs (overheads)		
	Material	Labour	Expenses
Selling Overheads	Price lists, catalogues, mailings, advertising material such as leaflets, danglers, samples, free gifts, exhibition material etc.	Salaries of sales staff & managers, commission on sales, bonus on schemes etc.	Sales office expenses, travelling, subscription to sales magazines, bad debts, rent & insurance of showrooms, cash discount, brokerage, market research etc.
Distribution Overheads	Secondary packing, material items used in delivery vans etc.	Salaries of delivery staff such as drivers, dispatch clerk, logistic manager etc.	Carriage outwards, forwarding expenses, rent & insurance of warehouses & depots, insurance, running expenses & depreciation of delivery vans, etc.

When we consider the classification of the overhead costs on the basis of behaviour, we try and link them to the change in the activity level or the volume of output. *The rate of change in overheads caused due to rate of change in the volume or output levels, will determine the degree of variability of the overhead costs.* Different types of expenses show different characteristics with respect to the degree of variability. There are two extremes within which costs may change.

- Whatever may be the changes in the level of output, some costs do not change at all. These are called as *fixed overheads*.
- Some costs change in direct proportion to the changes in the output. These are called as *variable overheads*.
- Some costs change with the level of output, but not in the same proportion. These are called as *semi-fixed or semi-variable overheads*.

(a) Fixed Overheads:

There are those overhead costs that have no relationship with the level of activity at which a production department operates. These costs remain perfectly constant throughout the different volumes of output. These costs are many times referred to as Period costs or Policy costs. They are called as period costs because they are related to the period of time and not with the volume of activity. They are called as policy costs because they are incurred based on the decisions by the management. Take for example a case of McDonald's outlet which serves burgers and other fast food items. The rent payable per month for the outlet is ₹ 10,000/- Firstly, can we relate each rupee of the rent to the every burger made and sold? No. Hence it's an indirect expense i.e. overhead cost. Secondly, once the rent agreement is in force, rent has to be paid irrespective of any number of burgers made & sold. The amount is fixed at ₹ 10,000 per month. So even if no burgers are made in month, rent will be ₹ 10,000, and if 2,000 burgers are made rent will be same.

Fixed Overheads and Relevant Range

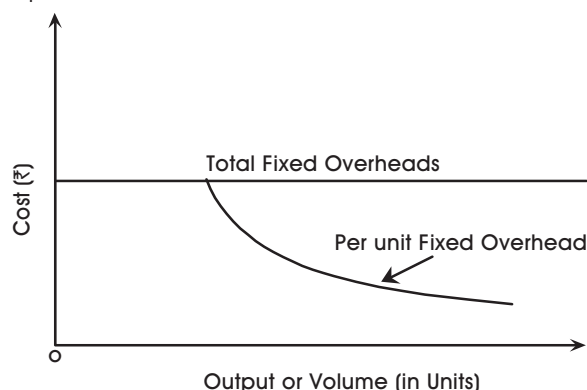
A very important point has to be noted here. When we say these costs do not change, do we mean that they do not change permanently? That's not the case. For example, landlord of McDonald's outlet may increase the rent after the agreement period is over. Similarly, salaries may go up. But this does not happen in the short run i.e. in a period of say a year. Within the short run, these costs remain fixed.

So we need to modify the definition of fixed overheads as "overheads that do not change with change in activity level within the relevant range".

The 'relevant range' here could be the time for which the costs are committed (e.g. rent as discussed above) or it could be the production capacity installed e.g. if the current machine is able to produce 1,00,000 units per annum, the fixed costs related to the machine will remain same till the capacity operated is within 1,00,000 units. If the management decides to change the installed capacity by adding another machine due to increased demand, the fixed overheads will change. Within the given range, however, the fixed costs will remain the same.

Fixed Overheads – Total and per Unit

Another important feature of fixed costs is their behaviour at the total expenses level and the per unit level. We know fixed overheads in totality will be constant. But as production volumes increase, these costs will get spread over more number of units produced. Hence, the fixed overhead per unit will reduce as production rises. Similarly, fixed overheads per unit will increase on reduction in the production level. Can we say that fixed overheads per unit are variable? Yes we can!



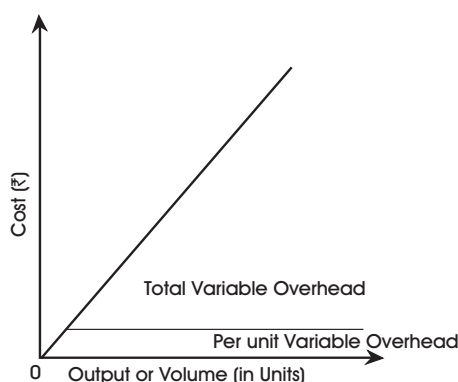
If you notice the above chart carefully, you will notice that a line parallel to 'X' axis represents the total fixed overhead costs and the curve showing descend along the 'X' axis represents per unit fixed overhead costs. Can you now look at the table of costs shown above and find out costs that are fixed overheads?

(b) Variable Overheads:

There overhead costs show a linear relationship with the change in the volume of activity. This means the expenses will go hand in hand with the change level of output. Take for example power costs. If the machine is not turned (i.e. no production) there won't be any power consumption, but more the production, more will be power consumption. Similarly, consider a chemical that is added as a catalyst for producing a drug, where the consumption will increase with level of activity. A salesmen's commission also will vary as sales increase. Hence as against the fixed overheads, the variable overheads increase as production increases and decrease as the production decreases.

Variable Overheads – Total and per Unit

It is interesting to note that while variable costs in totality will increase, the variable overhead per unit will be constant. Consider that a salesman is paid commission of ₹ 50 for one unit sold. If he sales 10 units he will get ₹ 500, if he sales 100 units, he will get ₹ 5,000. So the total commission has gone up by 10 times as the volume also has gone up by 10 times. But what has happened to the commission per unit? It is same at ₹ 50. The conclusion therefore is that while variable overheads in totality change with the change in volume, but variable overheads per unit remain constant.



The above chart has shown the behaviour of the variable overheads in totality and per unit basis. If you notice the above chart carefully, you will notice that the straight line showing ascend along the 'X' axis represents total variable overheads and a line parallel to 'X' axis represents per unit variable overhead costs. Can you now look at the table of costs shown above and find out costs that are variable overheads?

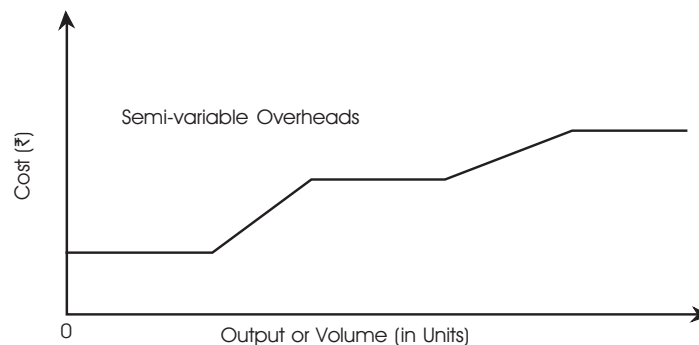
The relationship of fixed and variable overheads with the volume of output is exhibited in the following table. The range of output is considered as 5,000-10,000 units. Variable overheads are taken at ₹ 2 per unit and fixed overheads are assumed to be at the level of ₹ 25,000. Can you check for yourself how the graph will look like for the following figures?

Output units	Fixed Overheads (₹)	Variable Overheads (₹)	Total Overheads (₹)	Overheads per unit (₹)		
				Fixed	Variable	Total
5,000	25,000	10,000	35,000	5.00	2.00	7.00
6,000	25,000	12,000	37,000	4.17	2.00	6.17
7,500	25,000	15,000	40,000	3.33	2.00	5.33
8,000	25,000	16,000	41,000	3.13	2.00	5.13
9,000	25,000	18,000	43,000	2.78	2.00	4.78
10,000	25,000	20,000	45,000	2.50	2.00	4.50

Observe that the fixed overheads per unit decreases as the output goes up. This would mean increased profits. This relationship helps management in cost estimations and decision making. We will discuss this in depth in the topic on marginal costing.

(c) Semi-fixed or Semi-variable Overheads:

There are certain items of overhead costs that do change with change in volumes, but not in the same proportion. These overheads are partly fixed and partly variable. A simple example will clear this concept. Consider a telephone expenses. It has a fixed monthly rental and the per call charges. Now if the total phone bill is ₹ 1,200 for a month, it has two elements – a fixed portion of rental (say ₹ 225) and call charges (₹ 975). The bill will increase based on number of calls made, but rental will remain the same. Hence it is partly fixed and partly variable. In a factory, if the maintenance workers are paid wages as ₹ 2,500 fixed plus ₹ 75 per breakdown call, then the total wages will be recognised as semi-fixed or semi-variable costs. There are certain types of overheads that are initially constant, but jump due to increase in volume and then again remain constant at the revised level. The best example is the supervision costs. A supervisor looks after 20 workers. Due to additional business needs, 10 more workers are added. Here if one additional supervisor is taken, then the salary cost of supervision will go up and then remain constant till the time there are 2 supervisors only. Such, step-up behaviour of some overhead items is shown in the chart below.



Such type of overheads always poses problems for the cost accountant. Whether they are to be treated as fixed or variable is difficult to determine. For the purpose of accurate cost analysis, these overheads are segregated into fixed and variable. The separation of fixed and variable elements of these costs can be done by using certain statistical and other methods such as:



- (1) **Graphical Method** – Expenses are plotted on a graph paper and a line that passes through maximum points is drawn and extended to meet 'Y' axis. The point at which it intersects 'Y' axis represents fixed portion of the cost and remaining is variable.
- (2) **Simultaneous Equations** – This uses the straight line equation of $y = m x + c$ where y represents total cost, m is variable cost per unit, x is the level of output and c is fixed costs. The total costs at two different volumes are put into these equations which are solved for the values of m and c.
- (3) **High and low Method** – The highest and lowest levels of output and costs are taken and the differential is found. This difference arises only due to variable costs. The remaining portion will be fixed costs.
- (4) **Least square Method** – This statistical tool uses straight line equation and finds the line of best fit to solve the equations.

(ii) Codification of Overhead Costs

As we have discussed in the section on basic financial accounting, there is a chart of accounts which is used to capture the business transactions. The expenses or costs are grouped under proper heads so that they can be easily understood and analysed. These days as most of the business organisations use computers, numerical codes.

Naturewise expenses or costs are given codes under which the concerned costs are booked. For functions, cost centre concept is used. Cost Centres are also given codes. When an expense is to be booked, it is simultaneously recorded for an account code under a cost centre.

An example of these codes is given below:

Cost Centre Codes	Department Name
1100	Turning Department
1200	Grinding Department
1300	Components Manufacturing
1400	Assembly
2100	Maintenance
2200	Quality Control
2300	Stores
3100	HR & Administration
3200	Accounts

You may observe the logic in giving the codes. All codes starting with 1 are production departments, all codes starting with 2 are factory related services and all codes starting with 3 are general services. This coding helps collection of costs on functional basis and also to identify an item of expense directly to a department or cost centre.

The actual account code for booking an item of expenses is different. Mostly, it is a numerical code with logic. For example, numbers starting with 1 may be used for indirect materials, 2 may be for indirect labour and 3 for indirect expenses. It could be seen in following table.

Ledger Account code	Name
100000	Indirect material
100100	Indirect steel items
100200	Indirect packing material
200000	Indirect wages
200100	Indirect wages – statutory benefits
300000	Indirect expenses
300100	Rent
300200	Insurance
300300	Advertising

The logic for codification may be decided based on the need for detail and nature of expenses, size of business organisation etc.

(iii) Collection of Overheads

As we know expenses or costs are booked in costs accounts based on the source documents. These source documents are generated in departments where the transactions are generated. In the total cost determination, collection of costs is an important step. The source documents from which costs are collected are as follows:

Document	Overhead Costs	Nature
Stores Issue Note, purchase voucher	Indirect material	Consumables, lubricants etc.
Payroll sheets, Time Sheets	Indirect labour	Wages, salaries, contribution to statutory benefits, bonus, incentives, idle time
Cash Books	Indirect material, Indirect labour & Indirect expenses	All type of costs
Subsidiary records – journal	Indirect material, Indirect labour & Indirect expenses	For provisions of costs that are not actually paid for
Other reports	Indirect expenses	Depreciation, scrap, wastage etc

Remember these costs can be collected based on above documents for every function whether manufacturing, administration, selling and distribution. Collection of overheads is the process of actually identifying an item of expense or cost to a cost centre directly. Whatever cannot be directly identified needs to be allocated or apportioned on the most logical basis of distribution.

Depending upon the nature of business, the proportion of overheads related to a particular function will change. In a manufacturing company, production departments will constitute a major proportion in comparison to administration, selling & distribution. For a trading company, selling & distribution will play a major role. A service organisation will have maximum number of common items which will have to be apportioned. We will discuss the general process of linking each item of overhead to the cost unit taking all functional overheads.

(iv) Production Overheads

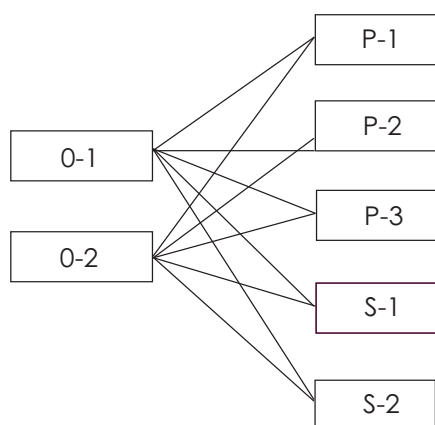
As we know production overheads (also called as manufacturing overheads, works overheads or works on-cost), include all factory indirect costs that cannot be directly linked to production units. Even if a supervisor in working in a production department that produces say 1,000 units in a month, each rupee of his salary of say ₹ 2,500 cannot be identified with every unit produced, as his salary is time based and not piece rate based. The question arises for all such factory on-costs as to how exactly should we associate the same to the cost unit. As there is no direct link, it will have to be in the form of an equitable charge per unit of production. In above case simply put, we can say the cost of supervisor's salary per unit is ₹ 2.50 (i.e. 2,500/ 1,000). But what if there are two different types of products made – both requiring different supervision time? In such case, we cannot average out the salary!

The process of accounting and linking of production overheads is as follows:

- Departmentalisation
- Classification and Collection of overheads
- Allocation and Apportionment of costs
- Distribution of service centre costs to production departments
- Absorption of production department costs to cost units

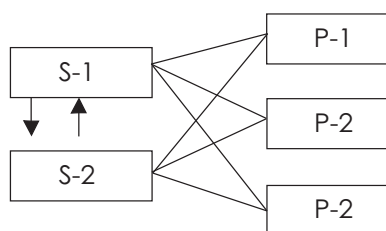


It is a rather lengthy process and understood so as it's an indirect way of allocating. In practice however, it is not so lengthy due to use of computerised systems. Carefully, see the chart below.



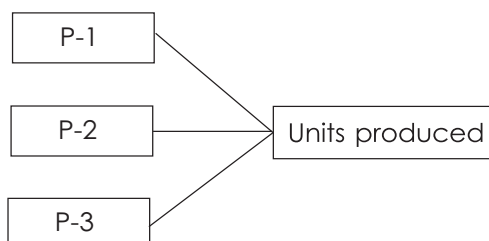
Here O-1 & O-2 are two items of expenses, P-1, P-2, & P-3 are production departments and S-1 and S-2 are production related services departments. This is the process of identification of costs to departments

At the next stage, we take S-1 and S-2 total costs and load it on to P-1, P-2 and P-3 on some suitable basis. This is shown below.



Please carefully note the arrows between S-1 and S-2. This indicates one service department giving service to other service department! Maintenance department may give services to stores. Such services must be re-apportioned

Once this is done, the last step is to absorb the totals of each production department on to the units produced by them. See the following chart.



(a) Allocation of Production Overheads

While identifying the overheads to various departments, it must be made sure that

- the cost is incurred due to action executed by that department and
- Exact amount of overhead is known. This may be found from the source documents listed in above.

For example if a stores requisition is raised by maintenance department for repair of a machine, it could be directly identified with maintenance department. If canteen employees temporary contractor for cleaning, it could be directly identified with canteen based on the bill received from such contractor.

(b) Apportionment of Production Overheads:

Some overheads are not caused by the departments neither the exact cost for that department is known, such expenses need to be prorated or apportioned to various departments on a suitable basis. The basis for apportionment is normally predetermined and is decided after a careful study of relationships

between the base and the other variables within the organisation. The Cost Accountant must ensure that the selected basis is the most logical. A lot of quantitative information has to be collected and constantly updated for the purpose of apportionment. The basis selected should be applied consistently to avoid vitiations. However, there should be a periodical review of the same to revise the basis if needed. A general example of various bases that may be used for the purpose of apportionment is shown below:

Overhead Item	Basis
Rent of Building	Floor space occupied by each department
General Lighting	No. of light points in each department
Telephones	No. of extensions in a department
Depreciation of Factory Building	Floor space
Material Handling	No. of trips made

This list is not exhaustive and depending upon peculiarities of the organisation, it could be extended. This allocation and/or apportionment is called as *Primary Distribution of Overheads*.

Illustration 35

A factory has 3 production departments (P1, P2, P3) and 2 service departments (S1 & S2). The following overheads & other informations are extracted from the books for the month of January 2012.

Expenses	Amount (₹)
Rent	6,000
Repair	3,600
Depreciation	2,700
Lighting	600
Supervision	9,000
Fire Insurance for stock	3,000
ESI contribution	900
Power	5,400

Particulars	P1	P2	P3	S1	S2
Area sq ft	400	300	270	150	80
No. of workers	54	48	36	24	18
Wages (₹)	18,000	15,000	12,000	9,000	6,000
Value of plant (₹)	72,000	54,000	48,000	6,000	
Stock value (₹)	45,000	27,000	18,000		
Horse power of plant	600	400	300	150	50

Allocate or apportion the overheads among the various departments on suitable basis.

Solution:

Expense	Total (₹)	Basis	P1 (₹)	P2 (₹)	P3 (₹)	S1 (₹)	S2 (₹)
Rent	6,000	Area sq ft	2,000	1,500	1,350	750	400
Repair	3,600	Plant value	1,440	1,080	960	120	-
Depreciation	2,700	Plant value	1,080	810	720	90	-
Lighting	600	Area sq ft	200	150	135	75	40
Supervision	9,000	No. of workers	2,700	2,400	1,800	1,200	900
Fire Insurance for stock	3,000	Stock value	1,500	900	600	-	-
ESI contribution	900	Wages	270	225	180	135	90
Power	5,400	Horsepower	2,160	1,440	1,080	540	180
Total	31,200		11,350	8,505	6,825	2,910	1,610



(c) Secondary Distribution of Production Overheads:

After the primary distribution as shown above is over, the next step is to re-distribute the service department costs over the production departments. This also needs to be done on some suitable basis, as there may not be a direct linkage between services and production activity. The products actually do not pass through the service departments. So does it mean that the service cost is not a part of cost of production? It very much is the part of production cost! Hence the loading of service costs onto the production departments is necessary. This process is called secondary distribution of overheads.

The basis for secondary distribution is dependent on

- The nature of service given e.g. it may be maintenance department or stores
- Measurement of service based on surveys or analysis
- General use indices

In the above example, the costs of S1 (₹ 2910) and that of S2 (₹ 1610) will have to be loaded on to the totals of P1, P2 and P3.

Here are some examples of the bases that can be used to distribute cost of different service departments:

Service department	Basis
Quality control	No. of inspections done
Maintenance	No. of maintenance calls or Material usage for maintenance or Time spent on maintenance
Stores	Indirect material cost or No. of issue slips or Quantity of material issued or Value of stock handled
Canteen, welfare	No. of workers
Internal transport	No. of trucks or trolleys used or Tonne-miles consumed
Payroll office	No. of labour hours
Purchase office	No. of purchase orders or Value of material purchased

Again this is not an exhaustive list and could differ from company to company. Many times percentage estimation is also done for such distribution if the service cannot be measured on the basis of any of the above bases. It may be decided that the cost of S1 is to be distributed as P1-40%, P2-25% and P3-35%. Such arbitrary method should be avoided as far as possible.

Methods of Secondary Distribution

- Direct distribution method:** This method is based on the assumption that one service department does not give service to other service department/s. Thus between service departments there is no reciprocal service exchange. Hence under this method, service costs are directly loaded on to the production departments. This is simple. But the assumption may not be correct. Can we say that the canteen service is not available to other service departments like labour office or stores or maintenance department? This is incorrect and thus the method should not be used as far as possible.

In the above example consider that if the S1 and S2 costs are to be distributed on assumption of services rendered as S1 to P1- 40%, P2-30% and P3-30% and the S2 costs are on the basis of 5:3:2, then the table for redistribution of S1 and S2 costs over the production departments P1, P2 and P3 will be as given below.

Department	Total	Basis	P1	P2	P3
Overheads as per primary distribution	26,680		11,350	8,505	6,825
Distribution of S1	2,910	40% : 30% : 30%	1,164	873	873
Distribution of S2	1,610	5:3:2	805	483	322
Total	31,200		13,319	9,861	8020

- II. Step Distribution Method:** This method does away with the assumption made under above method, but only partly. It recognises that a service department may render service to the other service department, but does not receive service from it. In above example, S1 may render services to S2 but not vice versa, i.e. S2 may not render service to S1. In such situation, cost of that service department will be distributed first which render services to maximum number of other service departments. After this, the cost of service department serving the next large number of departments is distributed. This process is continued till all service departments are over. Because it is done in steps, it is called as Step method of distribution.

Illustration 36

A manufacturing company has two production departments Fabrication and Assembly and 3 service departments as Stores, Time office and Maintenance. The departmental overheads summary for the month of March 2012 is given below:

Fabrication	₹ 24000
Assembly	₹ 16000
Stores	₹ 5000
Time office	₹ 4000
Maintenance	₹ 3000

Other information relating to these departments was:

Particulars	Production departments		Service departments		
	Fabrication	Assembly	Stores	Time office	Maintenance
No. of employees	40	30	20	16	10
No. of stores requisition slips	24	20			6
Machine Hours	2,400	1,600			

Apportion the costs of service departments to the production departments.

Solution:

In this example, we will have to determine the sequence in which the service departments should be selected for distribution and the bases on which each of them will be distributed. The following logical bases are decided based on the additional information given:

Time office	No. of employees
Stores	No. of stores requisitions
Maintenance	Machine hours

Also, it can be easily noticed that the time office serves maximum departments (i.e. both production departments, stores & maintenance departments). Stores serve the next larger number of departments (i.e. both production departments and maintenance department). Maintenance department serves only production departments. Hence the sequence for distribution will be time office, stores and maintenance. This is shown in the following table:



Particulars	Total (₹)	Basis	Fabrication (₹)	Assembly (₹)	Time office (₹)	Stores (₹)	Maintenance (₹)
As per primary distribution	52,000	as given	24,000	16,000	4,000	5,000	3,000
Time office	4,000	no. of employees	1,600	1,200	(4,000)	800	400
Stores	5,800	no. of req. slips	2,784	2,320	–	(5,800)	696
Maintenance	4,096	Machine hours	2,458	1,638	–	–	(4,096)
		Total	30,842	21,158	–	–	–

Please notice when we distribute the time office costs first, the charge to stores department is ₹ 800. This makes the total cost of stores to be distributed as ₹ 5,800 (5,000+800). Same is the logic for ₹ 4,096 of Maintenance department.

III. Reciprocal Service Method: This method takes cognizance of the fact that service departments may actually give as well as receive services from and to the other service departments on reciprocal basis. Such inter-departmental exchange of service is given due weight in the distribution of the overheads. There are two methods used for distribution under this logic. One is called Repeated Distribution method and the other Simultaneous Equation Method.

(i) Repeated Distribution Method: This is a continuous distribution of overhead costs over all departments. The decided ratios are used to distribute the costs of service departments to the production and other service departments. This is continued till the figures of service departments become 'nil' or 'negligible'. Consider the following example:

Illustration 37

The summary as per primary distribution is as follows:

Production departments A- ₹ 2,400, B- ₹ 2,100 & C- ₹ 1,500

Service departments X – ₹ 700, Y- ₹ 900

Expenses of service departments are distributed in the ratios of:

X dept. A- 20%, B- 40%, C- 30% and Y- 10%

Y dept A- 40%, B- 20%, C- 20% and X- 20%

Show the distribution of service costs among A, B and C under repeated distribution method.

Solution:

Particulars	Production departments (₹)			Service departments (₹)	
	A	B	C	X	Y
As per primary distribution	2,400	2,100	1,500	700	900
Service dept.					
X Service dept.	140	280	210	(700)	70
Y Service dept.	388	194	194	194	(970)
X Service dept.	38.8	77.6	58.2	(194)	19.4
Y Service dept.	7.76	3.88	3.88	3.88	(19.4)
X Service Dept.	0.776	1.552	1.164	(3.88)	0.388
Total	2,975.336	2,657.032	1,967.244	0	0.388

It can be noticed that the undistributed balance in service department (y) is very negligible and thus can be ignored for further distribution.

- (ii) **Simultaneous Equations Method:** Under this method, simultaneous equations are formed using the service departments' share with each other. Solving the two equations will give the total cost of service departments after loading the inter-departmental exchange of services. These costs are then distributed among production departments in the given ratios. In the above example, service dept X gives 10% of its service to Y and receives 20% of Y's service.

Let 'x' be the total expenses of dept X (its own + share of Y) and

'y' be the total expenses of dept Y (its own + share of X)

This can be expressed as:

$$'x' = 700 + 20\% \text{ of 'y' and}$$

$$'y' = 900 + 10\% \text{ of 'x'}$$

$$\text{i.e. } x = 700 + 0.2y \text{ and}$$

$$y = 900 + 0.1x$$

Multiplying both equations by 10, we get

$$10x = 7000 + 2y \text{ i.e. } 10x - 2y = 7000 \text{ and}$$

$$10y = 9000 + x \text{ i.e. } -x + 10y = 9000$$

Now multiplying 2nd equation by 10, and then adding the two equations we get,

$$98y = 97000$$

$$\text{Thus } y = 990 \text{ and } x = 898$$

Based on this we distribute the service department costs as below:

Particulars	Total (₹)	Production Departments (₹)		
		A	B	C
As per primary distribution	6,000	2,400	2,100	1,500
Service dept X (90% of 898)	808	180	359	269
Service dept Y (80% of 990)	792	396	198	198
Total	7,600	2,976	2,657	1,967

You can notice that the final answers under both methods are same. The simultaneous equation method is quick to apply and hence more in use.

IV. Trial and Error Method

Under this method, the principle of repeated distribution method should be followed for the cost of service department and then total of each service department is transferred to production department as per required basis.

Consider the following illustration.

Illustration 38

The departmental distribution summary showed the following departmental totals.

	Production departments			Service departments	
Departments	A	B	C	X	Y
Amount (₹)	16,000	17,00	18,000	14,000	10,000



The cost of service departments X and Y are to be charged on the basis of the following percentage :

	A	B	C	X	Y
X	20%	30%	40%	-	10%
Y	40%	30%	20%	10%	-

Ascertain the overheads of Production departments under Trial and Error method.

Solution:

Particulars	Service Department (₹)	
	X	Y
Total (given)	14,000	10,000
Service dept. X (10 % to Y)	-	1,400
Service dept. Y (10% to X)	1,140	-
Service dept. X (10 % to Y)	-	114
Service dept. Y (10% to X)	11	-
Total	15,151	11,514

Secondary Distribution Summary

	Production departments			Service departments	
	A (₹)	B (₹)	C (₹)	X (₹)	Y (₹)
Totals per summary	16,000	17,000	18,000	14,000	10,000
Service dept. - X	3,030	4,546	6,060	(15,151)	1,515
					11,515
Service dept. – Y	4,606	3,454	2,303	1,152	(-) 11,515
	23,636	25,000	26,363	=	=

Limitations of Apportionment :

Whichever method we may use, it still depends on a suitable basis used. The basis will always lead to approximations. If an approximate data is used for analysis, control and decision-making, it may cause erroneous results. Thus one has to be careful in relating the cost data to cost centre or cost unit. The natural relation of most of the indirect costs i.e. overheads is to a time period. In other words, almost all overheads are period costs and hence an attempt to link it to cost unit will always be arbitrary. As such, the traditional methods of allocation and apportionment are often challenged by many in the industry. The techniques like marginal costing owe their origin to such limitations of traditional costing.

(d) Absorption of Production Overheads:

Once the steps of primary and secondary distribution are carried out, what we get is total indirect costs of production departments. The next step is to assign these totals to the individual product units. A job or a product passes through all or many production departments before department it passes through per unit. The absorption of overhead enables a cost accountant to recover the overhead cost spent on each product department through each unit produced. Overhead absorption is also known as levy or recovery of overheads. How is this done? Suppose in turning department a total of 1200 tubes are turned and the cost of turning department overheads (after secondary distribution) are ₹ 72000, then can we say the cost of turning per tube is ₹ 6/-? Most probably yes. This ₹ 6 per unit is called as overhead absorption rate.

In general, the formula for overhead absorption rate is give as:

$$\text{Overhead rate} = \frac{\text{Amount of overhead}}{\text{Number of units of the base}}$$

The moot question here is – do we use actual or estimated rates? By the time the actual cost data is known, it will take a lot of time and the data may not be useful for decision making. Hence it's a common practice to determine the rate in advance. Such rates are known as predetermined rates. The predetermined rates are calculated using the budgeted or standard overhead costs for the production

departments as divided by the budgeted or standard number of units of the base. Actual costs as well as output may fluctuate from one period to other, and hence the recovery rates also will fluctuate. In order to even out the rates throughout the year and to use data for decision making, pre-determined rates are used quite commonly.

In the above formula, the numerator is an absolute amount calculated (or budgeted). What should be used in the denominator? What exactly do we mean by the number of units of the base? There are different ways of absorbing overheads using different types of denominators. These are discussed below:

- (i) **Production Unit Method:** Simply put the concept here is to average out the total overheads on total units produced. As seen above the total overheads are ₹ 72000 and total tubes processed are 12000. The overhead absorption rate is: $72000/12000$ i.e. ₹ 6 per tube. If this rate is based on the budgeted costs and number of units, and if the factory now gets an order for 2500 tube processing, the amount of production overheads to be charged to that order will be $(2500 * 6)$ i.e. ₹ 15000/-.
- (ii) **Percentage of Direct Wages:** Under this method, overhead for a job is recovered on the basis of a predetermined percentage of direct wages. This method is used when the component of direct wages is higher. If the overhead to be absorbed is ₹ 120000 and the direct wages are estimated at ₹ 800000, the predetermined rate will be calculated as $(120000/800000)$ i.e. 15%. If a job is received where direct wages are estimated at ₹ 9000/- then the production overheads to be absorbed will be 15% of ₹ 9000 i.e. ₹ 1350/- This method is useful if the direct labour hours can be standardised and the labour rates do not fluctuate too much. However, this method ignores the contribution made by other resources like machinery. The method also ignores the fact that there may be different types or grades of workers and each may cost differently. It also sidelines the fact that most of the production overheads are time-related.
- (iii) **Percentage of Direct Material Cost:** Here the absorption rate is expressed as a material cost is very high and that of labour cost is comparatively negligible. It is useful if material grades and rates do not fluctuate too much. If production overhead to be absorbed is ₹ 2000 and the material cost is expected to be ₹ 4000, then the absorption rate will be $(2000/4000)$ i.e. 50% of direct material cost. This for a job requiring direct material of ₹ 200, the production overheads to be absorbed will be ₹ 100 i.e. 50% of ₹ 200. However, many overhead items bear no relationship with material cost, and also the fact of time dimension of overheads is not taken into account by this method.
- (iv) **Percentage of Prime Cost:** This method combines the benefits of direct wages and direct material cost methods as we know prime cost means direct material plus direct wages plus direct expenses. This method could be used when prime cost constitutes a major proportion of the cost and the rates of material & labour are stable. It is needed that the product made is standard product. If the prime cost is expected to be ₹ 50000 and the production overheads are estimated at ₹ 2500, then the absorption rate will be 5% of prime cost. If a job has a prime cost of ₹ 800, then overhead absorbed on that job will be ₹ 40.
- (v) **Direct Labour Hour Rate:** Under this method, the absorption rate is calculated by dividing the overhead amount by the actual or predetermined direct labour hours. This is extremely useful when the production is labour intensive. This method is superior to the earlier ones, because it takes cognizance of the time factor. If the direct labour hours for a month amount to 10000 and the overheads to be absorbed are ₹ 5000, then the absorption rate is ₹ 0.50 per hour (i.e. $5000/10000$). If a job is going to require a labour time of 250 hours, the production overheads to be loaded on the job will be ₹ 125 (i.e. $250 * 0.50$). the data related to labour hours has to be properly collected or estimated. The labour hour rate may be calculated as a single rate or different for different groups of workers.

Illustration 39

Modern Automobiles Ltd. has three production departments X, Y and Z and two service departments A and B. Following figures are available from the records of the company.



Particulars	Amount (₹)
Indirect materials	7,500
Indirect wages	5,000
Depreciation of machinery	2,500
Depreciation on building	1,000
Rent and rates	1,000
Electric power for machinery	7,500
Electric power for lighting	500
General expenses	1,500

Items	Total (₹)	X (₹)	Y (₹)	Z (₹)	A (₹)	B (₹)
Direct materials	30,000	10,000	5,000	9,500	3,000	2,500
Direct wages	20,000	7,500	7,500	2,000	1,000	2,000
Value of machinery	50,000	12,000	20,000	8,000	5,000	5,000
Floor area (Sq. ft.)	5,000	1,500	1,000	1,000	500	1,000
Horsepower of machine (HP)	150	50	60	30	5	5
No. of light points (nos.)	50	15	10	10	5	10
Labour (hrs.)	15,000	5,000	5,000	2,000	1,000	2,000

The expense of service departments A and B are to be apportioned as :

	X	Y	Z	A	B
A	4	2	3	-	1
B	3	3	4	-	-

Calculate labour hour rate of the production departments.

Solution:

Statement showing distribution of Overheads

Particulars	Basis of apportionment	Total (₹)	Production departments			Service departments	
			X (₹)	Y (₹)	Z (₹)	A (₹)	B (₹)
Direct materials	Actual	5,500	-	-	-	3,000	2,500
Direct wages	Actual	3,000	-	-	-	1,000	2,000
Indirect materials	Direct materials (20:10:19:6:5)	7,500	2,500	1,250	2,375	750	625
Indirect wages	Direct wages (15:15:4:2:4)	5,000	1,875	1,875	500	250	500
Dep. on machinery	Value of machinery (12:20:8:5:5)	2,500	600	1,000	400	250	250
Dep. on building	Floor area (3:2:2:1:2)	1,000	300	200	200	100	200
Rent and rates	Floor area (3:2:2:1:2)	1,000	300	200	200	100	200
Electric power of machinery	H P of machines (10:12:6:1:1)	7,500	2,500	3,000	1,500	250	250
Electric power of lighting	No. of light points (3:2:2:1:2)	500	150	100	100	50	100

General expenses	Labour (hrs.) (5:5:2:1:2)	1,500	500	500	200	100	200
		35,000	8,725	8,125	5,475	5,850	6,825
Re-distribution of service dept.	Given ratio						
Dept. A	4:2:3:1		2,340	1,170	1,755	- 5,850	585
Dept B	3:3:4		2,223	2,223	2,964		- 7,410
Total		35,000	13,288	11,518	10,194		

Labour hour rate of :

Dept X = ₹ 13,288 / 5,000 hrs. = ₹ 2.6576 or ₹ 2.66 (Approx.)

Dept. Y = ₹ 11,518 / 5,000 hrs. = ₹ 2.3036 or ₹ 2.30 (Approx.)

Dept. Z = ₹ 10,194 / 2,000 hrs. = ₹ 5.097 or ₹ 5.10 (Approx.)

(e) Machine Hour Rate: In the days of mechanised production processes, the most relevant rate to be applied is the machine hour rate. This is the rate calculated by dividing the actual or budgeted overhead cost related to a machine or a group of machines by the appropriate number of machine hours. These hours could be actual hours or budgeted hours. When budgeted hours are used they are taken at average capacity at which a factory normally operates. You cannot take full capacity hours as the factory may not operate at that level and then the absorption rate may be unnecessarily fixed at a lower level. The overheads in a highly mechanised factory are mostly related to the number of hours a machine runs. Hence this is supposed to be the best method for absorbing overhead costs into the cost unit. If a machine normally runs for 2000 hours in a month and monthly overheads to be absorbed are ₹ 15000, then the machine hour rate will be calculated as (15000/2000) i.e. ₹ 7.50 per machine hour. If a job take 75 hours on that machine, then ₹ 562.50 (75 * 7.5) will have to be loaded as cost of using the machine for that job.

A machine hour rate may be calculated using only those overheads which are directly related to the machine e.g. power, fuel, repairs, maintenance, depreciation etc. These expenses are totaled and then divided by the hours to compute the rate. This is called as *ordinary machine hour rate*. Whereas, if costs not related to machine are also included (e.g. supervision, rent, lighting, heating etc.) for the rate calculation, such rate is called as *Composite machine hour rate*.

While calculating machine hour rate, the wages paid to machine operators may be added to the total costs. This is because these operators directly work on the machines & thus related to machine operation. At times a factory may have more than one similar machines simultaneously working. In such case, a *group machine hour rate* may be calculated.

Choice of Method of Absorption Rate Calculation

Which of the above methods should be used for calculating the overhead absorption rates? The choice may be difficult, but could be based on the following:

- The method should bear a logical relationship with items of overhead and the base used.
- It should suit the type of industry and conditions prevailing therein. One cannot use a direct labour hour rate in a fully automated factory.
- It should take into account the nature of overheads. If more proportion of overheads is time related, the method focusing on hours should be used. In case of more percentage of indirect material, a material cost based system has to be used.
- The data needed by a method should be available on a regular basis.



Illustration 40

The particulars relating to four machines are :

Machine nos.	I	II	III	IV
Cost (₹)	50,000	40,000	30,000	20,000
Area occupied (sq. ft.)	500	450	300	250
Light points	10	8	6	4
No. of workers	20	15	8	7
Direct wages (₹)	1,500	1,200	1,000	500
H P of machine	25	20	16	14
Consumable stores (₹)	100	80	75	50

The expenses incurred are :

Particulars	Amount (₹)
Rent and taxes	600
Lighting	140
Depreciation	2,800
Repairs and maintenance	700
Power	375
Indirect wages	840
Consumable stores	305
Canteen expenses	100
General expenses	420

- (a) Compute the machine hour rate for a month of 25 working days with 8 working hours as an average.
- (b) Calculate the cost of production of one unit of product A, if the material cost is ₹ 10, labour cost ₹ 20 and if processed for 1 hour in machine I, 2 hours in machine II, 3 hours in Machine III and 4 hours in machine IV.

Solution:

Computation of Machine Hour Rate

Items	Basis of apportionment	Total	I (₹)	II (₹)	III (₹)	IV (₹)
Rent and taxes	Area occupied (10:9:6:5)	600	200	180	120	100
Lighting	Light points (5:4:3:2)	140	50	40	30	20
Depreciation	Cost of machine (5:4:3:2)	2,800	1,000	800	600	400
Repairs and maintenance	Do	700	250	200	150	100
Power	H P of machines (25:20:16:14)	375	125	100	80	70
Indirect wages	Direct wages (15:12:10:5)	840	300	240	200	100
Consumable stores	Actual	305	100	80	75	50
Canteen expenses	No. of worker (20:15:8:7)	100	40	30	16	14
General expenses	Direct wages (15:12:10:5)	420	150	120	100	50
		6,280	2,215	1,790	1,371	904
Working hours	25 x 8 = 200 hrs.					
Allocated overhead (a)			2,215	1,790	1,371	904
Working hours (b)			200	200	200	200
Machine hour rate (a/b)			11.08	8.95	6.86	4.52

Cost sheet of product A :

	₹
Material cost	10.00
Labour cost	<u>20.00</u>
Prime cost	30.00
Add : Factory overhead:	
Machine I = 1 x ₹ 11.08 = ₹ 11.08	
Machine II = 2 x ₹ 8.95 = ₹ 17.90	
Machine III = 3 x ₹ 6.86 = ₹ 20.58	
Machine IV = 4 x ₹ 4.52 = ₹ <u>18.08</u>	<u>67.64</u>
Cost per unit	<u>97.64</u>

Illustration 41

From the following particulars compute a Comprehensive Machine Hour Rate :

	₹
(i) Original purchase price of the machine (subject to depreciation at 10% p.a. on original cost)	21,600
(ii) Normal working hours for the month (the machine works only 75% of capacity)	200 hrs.
(iii) Wages of machine man	₹ 4 per day (of 8 hrs.)
(iv) Wages of helper (machine attendant)	₹ 2 per day (of 8 hrs.)
(v) Power consumption (HP) estimated at	₹ 150 per mensem for time worked
(vi) Supervision charges apportioned for the machine centre	300 p.m.
(vii) Electricity and lighting	75 p.m.
(viii) Repairs and maintenance (machine) including consumable stores per mensem	150
(ix) Insurance of plant and building (apportioned) p.a.	1,000
(x) Other general expenses (overhead) p.a.	2,160
(xi) Production bonus payable to workers 33 1/3 % in terms of aggregate of basic wages and dearness allowance.	
(xii) Workers are also paid a fixed dearness allowance of ₹ 75 p.m.	
(xiii) Add 10% of the basic wages and dearness allowance against leave wages and holidays with pay to arrive at a comprehensive labour cost for debit to production.	

Solution:**Computation of Comprehensive Machine Hour Rate**

Machine no.	-	Scrap value	-
Maker	-	Estimated life	-
Date of purchase	-	Basis of depreciation	-
Purchase price	-	Year of manufacturing	-
Installation expenses	-		
Additions	-		
Horse power	-		



	Per month (₹)	Per hour (₹)
Standing charges :		
Supervision charges	300	
Electricity and lighting	75	
Repairs and maintenance	150	
Insurance (₹ 1,000 ÷ 12)	83	
General expenses (₹ 2,160 ÷ 12)	180	
Depreciation (₹ 2,1600 ÷ 12) ÷ 10	<u>180</u>	
	968 ÷ 150 hrs.	6.45
Effective working hours = 150 hrs. (200 x 75%)		
Variable expenses		
Wages of machine maintenance (₹ 250.83 ÷ 150 hrs)		1.67
Wages of helper (₹ 179.17 ÷ 150 hrs)		1.19
Power (₹ 150 ÷ 150 hrs)		1.00

Workings :

Wage payment	Machine man		Helper
Wages (200 x ₹ 4 ÷ 8 hrs)	100.00	(200 hrs. x ₹ 2 ÷ 8 hrs)	50.00
Dearness allowances	<u>75.00</u>		<u>75.00</u>
	175.00		125.00
Production bonus (33 1/3% of Basic + D.A.)	58.33		41.67
Leave wages (10% of basic + D.A.)	<u>17.50</u>		<u>12.50</u>
Total	<u>250.83</u>		<u>179.17</u>

(f) Over or Under Absorption of Production Overheads:

If overhead rates are based on the actual data i.e. actual costs and actual base, then the sum of total overheads absorbed in all units produced will match with the total overheads incurred. But if the absorption rate is a pre-determined rate based on budgets or estimates which could be different from the actual, then it may result into either over-absorption or under-absorption of overheads. Consider, a factory uses predetermined machine hour rate based on the machine costs of ₹ 220000 per annum and normal machine hours of 55000 hours. This would give a pre-determined rate of ₹ 4 per machine hour (i.e. 220000/55000). Now if during the year, the actual machine costs happen to be ₹ 235000 and the actual machine hours worked are 53000, then based on the pre-determined rate of ₹ 4 per hour, the factory would have absorbed a total of ₹ 212000 (53000 * 4) through the cost of production as against the actual overheads of ₹ 235000. Here, this is the case of under-absorption by ₹ 23000.

How does one deal with the situation of over or under absorption. There are three ways to handle it:

- Write-off (in case of under absorption) or write back (in case of over-absorption) to the P & L Account. This treatment is valid if most of the overhead items are related to time.
- Carry forward to the next period through a reserve account. This method is not recommended on the logic that it is inconsistent with accounting standards.
- Use of supplementary rates to adjust the effect to the cost of sales, finished stocks and Work in Process stocks. This sounds logical as it does not carry forward the unabsorbed or over absorbed overheads to the next accounting period entirely. It aims at splitting the total effect between the cost of sale (which is charged to current year's profits) and stocks (which get carried forward to the next year). This is illustrated below:

Overhead incurred	₹	150000
Overhead recovered	₹	100000
Cost of sales	₹	1000000
Finished goods	₹	800000
Work in process	₹	700000

Here, the overheads under-absorbed are $(150000 - 100000)$ ₹ 50000. Total of Cost of sales, FG stock & WIP is 2500000

The supplementary rate will be $50000 / 2500000$ i.e. 0.020

This will be distributed as:

₹ 20000 to cost of sales (i.e. 1000000×0.020)

₹ 16000 to FG stock (i.e. 800000×0.020) and

₹ 14000 to WIP (i.e. 700000×0.020)

This will certainly help show a correct picture.

(g) Reporting and Control of Production Overheads

Overheads being indirect costs need a different approach for control. The pre-requirements for controlling production overheads are:

- (i) Correct departmentalisation of the factory.
- (ii) Correct classification according to variability, and functions.
- (iii) Proper quantitative data maintenance such as hours, number of requisitions, repair calls, idle time etc.
- (iv) Proper selection of overhead distribution method and absorption rate method.
- (v) A comprehensive reporting of actual costs and comparison with budgets or standards.

(h) Administration Overheads

As per the functional classification, administration overheads comprise of those indirect costs which are related to the general administrative function in the company. Such functions are related to policy formulation, directing the organisation and controlling the operations of the company. In section 6.9.3(i) we have seen the examples of administration overheads further classified into indirect material, indirect labour and indirect expenses. Please refer to those examples.

Administration overheads are incurred for the benefit of organisation as a whole. Controlling them is difficult for they do not vary with most of the variables viz. production or sales. Photocopying of documents is a major cost which is not related to either production or sales – it's just the habit of people. The size as well as control over these overheads depends largely on decisions of management. Organisations growing very fast face the problem of controlling administrative overheads. Multi-location set up leads to duplication of many administrative costs.

(1) Collection and Absorption of Administration Overheads

The collection of overheads is done firstly by nature of the expenses through the chart of accounts process as explained earlier in this chapter. These expenses are booked under respective departments. The administrative departments in an organisation could be:



Corporate office
Finance and Accounts
Company Secretary
Human resources
Legal
General Administration

The overheads that are common to all these departments are apportioned on some suitable basis e.g. in the following manner:

Office rent, rates & taxes	Floor space
Depreciation on office building	Floor space
Legal fees	No. of cases handled
Salaries of common staff	Ratio of salaries of departments
Typist pool	No. of documents typed

Absorption of the administrative overheads into cost units is very difficult. Many times it is advised that these overheads may not be absorbed into product units because of the difficulty and non-relevance of them with production activity. Normally, the administrative overheads are totaled together and then using a suitable basis, a rate of recovery is arrived at to absorb the same. It could be mostly a percentage of Works cost or Factory cost. Based on the principle of '*charging what the traffic can bear*', the absorption could be on the basis of a percentage of gross profit. Whatever method selected, it will be arbitrary and could lead to erroneous conclusions. A cost accountant has to use all the experience and history of the organisation before he selects a particular method to adopt.

(2) Treatment of Administration Overheads:

There are three different ways of treating the administration overheads:

- (i) **Apportion between Production and Selling & Distribution Functions:** This words, the absorption of administration overheads would happen through production and selling overheads. This means these overheads lose their identity. The problem is of course, selection of basis to divide these overheads over the two principal functions of production and selling.
- (ii) **Transfer to P & L Account:** This method agrees that administrative costs are all time based costs and as such bear no relation what is produced or what is sold. These are mainly of fixed nature. Hence there is no point in dividing them further to be included in the cost of production or cost of selling. They should be simply charged to the P & L account. However, this may lead to undervaluation of stocks.
- (iii) **Treating as a separate addition to Cost of Production & Sales:** In this method, administration is treated as a separate function and is added as a separate line in the cost computation sheet for a job or an order. Here again, the basis for inclusion as a part of cost of a job is a difficult choice. Generally, a percentage of factory cost is taken as a basis. A care needs to be taken to ensure that the administration overheads are charged equitably to cost of sales, FG stock and WIP as well.

(3) Controlling Administration Overheads

Given the nature of these expenses, they cannot be controlled at the lower level of management. They can be better controlled by top management as they pertain to formulating policy and directing the organisation. The first step in the control mechanism is proper classification of expenses & departmentalisation. The actual expenses are collected for each department and then compared with a bench mark. Deviation are analysed and causes for increase are mitigated by fixing responsibility on the departmental head.

The control benchmarking can be done with respect to:

- Figures of the previous year. Expenses could be compared with the figures of previous year and increase or decrease are analysed. However, comparison with previous year may not help as the condition may have totally changed from one year to the other.
- Use of budgets. Budgets are estimates for the current year, and they take into account the changed conditions. They also built in the year's complete plan which would factor all changes in the cost structure. It is advisable to compare budgeted overheads with actual for control purpose.
- Use of standards. Although very scientific, this method is difficult to operate. Administrative activities (being very subjective) cannot be standardised. On a certain level it can be applied e.g. the time taken to process a voucher by accountant can be standardised, or time taken for processing a payment could be standardised.

(i) Selling and Distribution Overheads (S & D)

As the name suggests these are overheads incurred for handling post-production activity. The purpose of these activities is to make sure that the products are sold & distributed to the the product and secure orders from customers; distribution refers to the physical movement of products through various channels of distribution so that the products reach ultimate customers. Many organisations club these functions as one function called as 'marketing' and as such the S & D overheads can be called as 'Indirect Marketing Costs'.

The magnitude of S & D overheads in the total cost would depend on many factors such as nature of the product, type of customers, spread of market, statutory restrictions etc. A consumer product needs heavy expense on advertising. A sale to institutions rather than individual customers needs a different selling effort. Distribution costs will increase if the spread of the market is large. Some activities cannot be advertised at all such as a doctor, a cost accountant. The total magnitude of S & D costs and the proportion of selling and distribution efforts will decide the treatment thereof and control mechanisms to be used.

For some of selling expenses there may not be a direct relationship with the product. If a company incurs expense on advertising, it may be difficult to relate to a specific product unless it's a product advertisement. But further, there may be a substantial time lag between the expense and the benefit arising out of that. In case of distribution costs many of them may be possibly linked to the product.

(1) Collection and Absorption of S & D Overheads

While classifying the S & D costs are properly bifurcated and coded accordingly. This could be done by having separate account codes for:

Selling Overheads

- Advertising
- Sales commission
- Travelling expenses
- Communication
- Exhibition
- Market survey
- Selling material such as leaflets, pamphlets, posters, danglers, price lists, catalogues etc.
- Free samples
- Credit & collection costs
- Bad debts



Delivery Expenses

- Transportation vehicle related expenses
- Warehousing and storage at different places
- Depreciation and maintenance

Depending upon the size of the organisation, there may be a proper departmentalisation of the S & D activities. The departments could be:

- Sales head office
- Sales regional offices
- Depots
- Direct selling department
- Dealers management
- Credit and collection (commercial)

The costs are collected through various source documents under the above heads and for the above departments. For absorption, the basis to be used will have practical difficulties, as one will have to look for a relationship between the expenses and the cost unit. Some expenses like sales commission, shipping costs, and direct selling expenses can be absorbed directly. The other expenses can be absorbed on the basis of either sales value, cost of goods sold, gross profit or number of units sold. Out of these the sales value method is the most commonly used.

(2) Control over S & D Expense

The S & D expenses are related to sales and distribution activity which is externally focused. The extent of these expenses depend mainly on external factors like consumer profile, changing habits, technology improvements etc. Controlling these expenses does not mean capping them. It aims at increasing the effectiveness of these expenses e.g. getting maximum sales per rupee of S & D expenses. For control purpose, a great care should be taken to ensure correct classification and collection of S & D overheads. The collected expenses must be analysed to assess the effect of them on sales. Such analysis could be done as follows:

- (i) Analysis of sales and S & D expenses by geographical locations – This could be regions, zones, domestic and international etc.
- (ii) Analysis by type of customers - This could be done as institutional, government, retail etc.
- (iii) Analysis by products or services – This may be done as range of products, the application of products, brands etc.
- (iv) Analysis by salesmen
- (v) Analysis by channel of distribution – This analysis pertains to wholesalers, retailers, commission agents etc.

The analysis of sales, profits and S & D expenses on the basis of above factors will give a good insight into the performance as well as control over expenses. All these three parameters may be compared with

- Previous year
- Budget for the current year or
- Standards for the current year

(3) Treatment of Special Items

After Sales Service: This relates to services rendered after a product is sold. If the service is rendered during the warranty period, it is normally free of cost. The cost of in-warranty service is treated as S & D overhead and accounted for accordingly. The services provided after expiry of warranty period, are normally charged to the customer. In such cases, the actual cost incurred on such service is collected as per element in the routine way and treated as cost of production of the service. Let us take sale of a car as an example. Usually, there's one year warranty for manufacturing defects and many companies also provide 3 year or 40000 km servicing free. The cost of this service being free will be treated as S & D overhead. The services after that period will be billed to the customer. A job card is issued for each car when it comes for servicing and the costs of parts, consumables and labour time are booked against that job number. This cost will be charged off against the billing done for service.

Packing Costs: Packing may refer to primary packing and secondary packing. Primary packing is the minimum necessary without which a product cannot be handled. Liquid products must either have bottles or sachets. This packing is considered as direct material cost. These bottles may be further kept in bigger boxes or cartons for ease of transportation. This packing cost is treated as S & D overhead.

Advertising Expenses: The advertising could be done for different purposes. There could be a recruitment ad, which is booked under personnel department and treated as administration overhead. At times there could be a corporate advertisement to be booked under the corporate office and treated as administration overhead. If a product specific advertisement is done, it is treated as selling cost.

Market Research: Many times organisations appoint professional bodies or conduct by themselves a study of potential market for their products. This study is aimed at finding the customer needs, their habits, changing market for the products, technological changes in the product, competition etc. This is treated as S & D cost.

Bad Debts: We know bad debts refer to customers who do not pay money after having purchased the product. This situation arises after the sale is done. Many experts say that bad debt is not an item of expense but it's a financial loss and thus should be excluded for the purpose of costing. However, normal bad debts may be considered as selling expense and included in the cost. An exceptional case like bankruptcy of a big institution may be excluded from cost.

Tool Set up Costs: if the set up is related to specific product or a job, such cost may be treated as a direct cost of the job. But if the set is related to different products, it may be charged as a part of factory overheads.

Carriage and Freight: These are paid for transporting of material. If these are incurred for incoming material, it is included in the cost of material and treated as material cost – either direct or indirect. If it is paid for transportation of finished goods, it is treated as a distribution cost.

Illustration 42

Calculate a comprehensive machine hour rate from the following information:

Cost of machine is ₹ 25 Lacs, having a scrap value of ₹ 1 lac after 10 years. The machine is operated for three shifts of 7 hours each for 300 working days in a year of which 300 hours will be used for normal repairs. The wages payable include ₹ 8000 pm for operator, ₹ 3000 pm for a helper for every shift. ₹ 16000 pm are paid to a supervisor per shift for the department which have 4 machines (including this machine).

The power consumption is 25 units (KWH) @ ₹ 4.80 per unit. Repairs and maintenance are ₹ 30000 per annum. General lighting for the department is ₹ 4000 pm. Insurance is ₹ 18000 per machine per year. Rent, rates & taxes ₹ 3000 for the department and factory overheads are ₹ 36000 for the department.

**Solution:**

As a comprehensive rate is to be calculated, we need to take in to account fixed expenses as well as running expenses of the machine. Secondly we also need to determine the hours workable for the year.

Computation of machine hours	
No. of days operated in the year	300
Shifts per day	3
No. of hours per shift	7
Total available hours	6,300
Less normal repair hours	300
Net hours for calculation	6,000

	Amount (₹)	Amount (₹)
Computation of Costs		
Fixed Expenses		
Depreciation (25,00,000 – 1,00,000) / 10	2,40,000	
Rent, rates & taxes (1/4th share) (3,000 x 12) / 4	9,000	
Supervisor salary (¼ share) (16,000 x 12 x 3) / 4	1,44,000	
Insurance Actual	18,000	
Factory Overheads (36,000/4)	9,000	
General Lighting (4,000 x12)/4	12,000	432,000
Running Expenses		
Operators wages (8,000 x 3 x 12)	2,88,000	
Helpers wages (3,000 x 12 x 3)	1,08,000	
Power (25 x 4.80 x 6,000)	7,20,000	
Repairs & maintenance	30,000	1,146,000
Total Expenses for the year		1,578,000
No of hours calculated as above		6,000
Comprehensive Machine Hour Rate		263

Illustration 43

A company has three production departments (A, B and C) and two service departments (D & E).The following figures are extracted from its books. Calculate the overhead rate per labour hour.

Indirect material	₹ 15,000
Indirect wages	₹ 10,000
Depreciation on machinery	₹ 25,000
Depreciation on building	₹ 5,000
Rent, rates & taxes	₹ 10,000
Power for machinery	₹ 15,000
Power for lighting	₹ 500
General expenses	₹ 15,000

The additional information available is given below:

Items	Total	A	B	C	D	E
Direct material (₹)	60000	20000	10000	19000	6000	5000
Direct wages (₹)	40000	15000	15000	4000	2000	4000
Machinery value (₹)	250000	60000	100000	40000	25000	25000
Floor area sq ft	50000	15000	10000	10000	5000	10000
No. of light points	50	15	10	10	5	10
Horse power	150	50	60	30	5	5
Labour hours	15000	5000	5000	2000	1000	2000

Expenses of D and E are apportioned as follows:

	A	B	C	D	E
Dept D	40	20	30	-	10
Dept E	30	30	30	10	-

Solution:

Computation of Direct Labour Hour Based Overhead Rate

Item	Basis of apportionment	Total (₹)	A	B	C	D	E
Indirect material	direct material	15,000	5,000	2,500	4,750	1,500	1,250
Indirect wages	direct wages	10,000	3,750	3,750	1,000	500	1,000
Depreciation on machinery	machine value	25,000	6,000	10,000	4,000	2,500	2,500
Depreciation on building	floor space	5,000	1,500	1,000	1,000	500	1,000
Rent, rates & taxes	floor space	10,000	3,000	2,000	2,000	1,000	2,000
Power for machinery	horse power	15,000	5,000	6,000	3,000	500	500
Power for lighting	light points	500	150	100	100	50	100
General expenses	labour hours	15,000	5,000	5,000	2,000	1,000	2,000
		95,500	29,400	30,350	17,850	7,550	10,350
Re-apportionment of service departments							
Dept D			3,020	1,510	2,265	(7,550)	755
Dept E			3,332	3,332	3,332	1,109	(11,105)
Dept D			444	222	333	(1,109)	110
Dept E			33	33	33	11	(110)
Dept D			4	2	3	(11)	2
			36,233	35,449	23,816		
Labour Hours			5,000	5,000	2,000		
Labour Hour Rate			7.25	7.09	11.91		

Illustration 44

A factory has 3 production departments viz. 2 machine shops and 1 assembly shop. It also has 3 service departments viz. stores, engineering services & general services. The engineering services department serves the machine shops only. The annual budgeted overheads are as follows:



	Indirect wages (₹)	Consumables (₹)
Machine shop A	23,260	6,300
Machine shop B	20,670	9,100
Assembly shop	8,110	2,100
Stores	4,100	1,400
Engg. Services	2,670	2,100
General services	3,760	1,600

The other costs are: Depreciation on machinery- ₹ 22,000, Insurance of machinery – ₹ 4,000, Insurance of building – ₹ 1,800, Power – ₹ 3,600, Lighting & heating – ₹ 3,000 and Rent – ₹ 7,050. Machine shop A is exposed to special fire risks and hence insurance of building is apportioned to machine shop A to the tune of 1/3rd of total. The general services department is situated in the building owned by the company valued at ₹ 6,00,000. It is charged at a notional rent of 0.08% in addition to the rent figure given above. The value of issues of material to the production departments are in the same proportion as shown above for consumables. You are required to:

- Prepare a summary of primary & secondary distribution of overheads, showing bases of apportionment.
- Calculate an appropriate overhead absorption rate for production departments.
- Calculate the overheads to be absorbed on the two products X and Y whose cost sheet shows the following times spent in the different departments as:

Machine shop A -	X – 5 hours and Y – 3 hours
Machine shop B -	X – 2 hours and Y- 7 hours
Assembly shop -	X – 7 direct labour hours & Y – 9 direct labour hours

Following additional data is also provided to you.

Department	Machine value	Area sq ft	HP hours %	direct labour hours	machine hours
Machine shop A	60,000	5,000	50.00	2,00,000	40,000
Machine shop B	45,000	6,000	33.33	150,000	50,000
Assembly shop	15,000	8,000	4.17	3,00,000	
Stores	6,000	2,000			
Engg. Services	18,000	2,500	12.50		
General Service	6,000	1,500			

Solution:

Overhead Distribution Summary

Item of expenses	Basis of apportionment	Total Amount (₹)	Production departments			Service departments		
			M Shop A	M Shop B	Assembly	Stores	Engg. Serv	Gen. Serv
Indirect wages	as given	62,570	23,260	20,670	8,110	4,100	2,670	3,760
Consumables	as given	22,600	6,300	9,100	2,100	1,400	2,100	1,600
Depreciation on machinery	machine value	22,000	8,800	6,600	2,200	880	2,640	880
Insurance - machinery	machine value	4,000	1,600	1,200	400	160	480	160
Insurance - building	1/3rd M shopA & balance on area	1,800	600	360	480	120	150	90
Power	HP hours %	3,600	1,800	1,200	150	–	450	–

Item of expenses	Basis of apportionment	Total Amount (₹)	Production departments			Service departments		
			M Shop A	M Shop B	Assembly	Stores	Engg. Serv	Gen. Serv
Lighting & heating	Area	3,000	600	720	960	240	300	180
Rent	Area	7,050	1,500	1,800	2,400	600	750	
Notional rent	Gen serv	480	—	—	—	—	—	480
		1,27,100	44,460	41,650	16,800	7,500	9,540	7,150

Secondary Distribution

Department	Basis of apportionment	Total Amount (₹)	Production departments		
			M Shop A	M Shop B	Assembly
As per primary distribution		1,02,910	44,460	41,650	16,800
Stores	consumables (63:91:21)	7,500	2,700	3,900	900
Engg. Serv.	Machine hours of shops A & B only	9,540	4,240	5,300	—
General services	Labour hours (20:15:30)	7,150	2,200	1,650	3,300
Total		1,27,100	53,600	52,500	21,000

Illustration 45

A company manufactures 3 products PRIMA, SUPREME and SUPERB. These products are marketed in the North, South and West regions. The estimated sales for 2012 are as follows:

	North	South	West	
Prima	20000	8000	—	
Supreme	12000	—	32000	
Superb	—	28000	16000	
Budgeted advertising outlay for 2012 is				
	North	South	West	Total
Local cost	1280	1800	1680	4760
General				2320

Work out a statement to present the advertising cost percent of sales for each product and for each region.

**Solution:**

The general advertising costs should be apportioned among the regions on the basis of budgeted regional sales. This is done as follows:

Region-wise Distribution of Advertising Costs

Particulars	Basis	Total	North	South	West
Local costs	As given	4,760	1,280	1,800	1,680
General	Regional sales ratio of 8:9:12	2,320	640	720	960
		7,080	1,920	2,520	2,640
Budgeted sales		1,16,000	32,000	36,000	48,000
regional cost as % of sales			6.0%	7.0%	5.5%

Product-wise Apportionment of Advertising Costs

Region	Basis	Total ₹	Prima ₹	Supreme ₹	Superb ₹
North	6% on product sales	1,920	1,200	720	-
South	7% on product sales	2,520	560	-	1,960
West	5.5% on product sales	2,640	-	1,760	880
Total Advertising cost		7,080	1,760	2,480	2,840
Total Sales		1,16,000	28,000	44,000	44,000
Product cost as % of sales			6.29%	5.64%	6.45%

Illustration 46

The following data relate to a manufacturing department for a period:

	Budget ₹	Actual ₹
Direct Material (₹)	1,00,000	1,40,000
Direct labour (₹)	2,00,000	2,50,000
Production overheads (₹)	2,00,000	2,30,000
Direct labour hours	50,000	62,500
Machine hours	40,000	50,000

A job ZX 012 was one of the jobs worked during the period. The actual data for this job were: direct material ₹ 6,000, direct labour ₹ 3,000, direct labour hours 750 and machine hours 750.

Required: (i) calculate pre-determined production overhead absorption rate based on % of direct material cost and machine hours, (ii) calculate the overheads to be absorbed by Job ZX 012 based on these and (iii) Assuming that machine hour rate of absorption is used, calculate the over or under absorption of overheads for the period.

Also recommend the action to be taken for the under or over absorption of the overheads for the period.

Solution:

(i) For the purpose of calculating pre-determined rates, the budgeted data must be used.

Rate based on % of direct material cost

$$\text{Overhead rate} = \frac{\text{Budgeted overhead}}{\text{Budgeted material cost}}$$

This absorption rate is ₹ 2,00,000 / 1,00,000 x 100 i.e. 200% of direct material cost.

Rate based on machine hours

$$\text{Overhead rate} = \frac{\text{Budgeted overhead}}{\text{Budgeted machine hours}}$$

This absorption rate is ₹ 2,00,000 / 40,000 i.e. ₹ 5 per hour.

(ii) The overheads to be absorbed on to the job ZX 012 based on the above 2 rates will be as under:

Description	Material cost based rate	Machine hour rate
Job ZX 012		
Direct material	6,000	
Machine hours		750
Overheads to be absorbed	12,000	3,750

(iii) Over or under absorption based on machine hour rate

Actual machine hours 50,000

Machine hour rate ₹ 5 per hour

Overheads absorbed ₹ 2,50,000

Actual overheads ₹ 2,30,000

There is over-absorption to the tune of ₹ 20,000 for the period.

The over-absorption could be treated in one of the following ways:

- (1) Take a credit in the P & L Account
- (2) Carry forward to the next accounting period
- (3) Use supplementary rate to adjust against cost of sales & inventories of FG and WIP. As this is over-absorption, it will have a credit effect on cost of sales and the cost of inventories will reduce proportionately

Illustration 47

In 365 days a company follows 3 diwali holidays, 2 days for holi, 2 days for Christmas and all Sundays as weekly offs. It works for 8 hours a day for 5 days and 4 hours on Saturday. The machine room works on a 90% capacity and the normal maintenance time is assumed to be 10%. Calculate the machine hour rate.



The following are the estimated expenses for 40 machines the year:

Item	₹
Power	3120000
Lighting	640000
Foremen's salary	1200000
Lubrication oil	66000
Repairs	1446000
Depreciation	785000
Total	7257000

Solution:

Working

Total number of days in a year		365
Less holidays (3+2+2)		7
Less Sundays		52
Less Saturdays		52
	Net days	<u>254</u>
Number of hours available full days	254 x 8	2,032
Add: 4 hours on Saturdays	52 x 4	208
Total available hours		<u>2,240</u>
Hours at operating capacity @ 90%		2,016
Less : Break down time @ 10%		202
Net hours available per machine		<u>1,814</u>
Total cost for 40 machines	₹ 72,57,000	
Cost per machine	₹ 1,81,425	
Hours per machine	1,814	
Machine hour rate	₹ 100 per hour.	

Illustration 48

A particular department of a manufacturing concern has three distinct machines X, Y and Z. It is estimated that each machine will normally work for 50 weeks a year; 45 hours per week. But is anticipated that the machine will remain idle 20% of this time due to normal repairs and maintenance.

The budgeted figures of the production departments for the year ended 31.3.2012 are :

	₹
Rent and rates	4,800
Lighting	900
Depreciation	10,500
Indirect wages	4,500
Canteen expenses	2,500
Repairs and maintenance	6,300
Sundries	3,000
Power	12,000
Other information :	

	X	Y	Z
Space occupied (sq. ft.)	100	150	150
Light points	5	5	8
Cost of machines (₹)	25,000	30,000	50,000
HP of machines	2	2.5	3
No. of workers	3	3	4
Direct wages (₹)	6,000	4,000	5,000

During the four weeks of Feb. 2012, at 80% capacity utilizations, actual overheads incurred was : For Machine X - ₹ 1,200; For Machine Y - ₹ 900 and For Machine Z - ₹ 2,000

You are required to calculate for each machine :

- Pre determined overhead rate based on effective working hours.
- The amount of under & over absorption of overhead.

Solution:

(a) Computation of Pre-determined overhead rate for the year ended 31.3.2012

			Machines		
Overheads	Basis of apportionment	Total (₹)	X (₹)	Y (₹)	Z (₹)
Rent and rates	Space occupied (2:3:3)	4,800	1,200	1,800	1,800
Lighting	No. of light points (5:5:8)	900	250	250	400
Depreciation	Cost of machine (5:6:10)	10,500	2,500	3,000	5,000
Indirect wages	Direct wages (6:4:5)	4,500	1,800	1,200	1,500
Canteen expenses	No. of workers (3:3:4)	2,500	750	750	1,000
Repairs and maintenance	Cost of machines (5:6:10)	6,300	1,500	1,800	3,000
Sundries	Direct wages (6:4:5)	3,000	1,200	800	1,000
Power	HP of machines (2:2.5:3)	12,000	3,200	4,000	4,800
Total overhead		44,500	12,400	13,600	18,500
Effective machine hours	50 x 45 – 20%		1,800	1,800	1,800
Pre-determined overhead rate per machine hour	Actual overhead / Effective machine hrs.		6.89	7.56	10.28

(b) Amount of (under) Over Absorption of Overhead :

	X (₹)	Y (₹)	Z (₹)
Actual overhead	1,200	900	2,000
Overhead absorbed as per pre-determined overhead rate during the 4 weeks of Feb. 2012 at 80% capacity utilization			
Machine X – 144 hrs. x ₹6.89	992		
Machine Y – 144 hrs. x ₹7.56		1,088	
Machine Z – 144 hrs. x ₹10.28			1,480
Over absorption of overhead	-	188	-
Under absorption of overhead	208	-	520

Illustration 49

A manufacturing company has three production departments A, B and C and one service department. A predetermined overhead absorption rate is established for each of the three production departments on the basis of machine hours at normal capacity. The overheads of production departments comprise of direct allocations plus a portion of service costs which are apportioned in the ratio of 3:2:5 to departments A, B and C respectively. All overheads are considered as fixed.

The following information is available concerning apportionment and absorption of production overheads



for a period. You are required to calculate the missing figures in the following table:

Particulars	A	B	C
Budgeted allocated expenditure (₹)	1,43,220	1,25,180	2,13,700
Budgeted service costs apportioned (₹)	(i)	(ii)	66300
Normal machine hours	15,000	(iii)	(iv)
Predetermined absorption rate (₹)	(v)	8.20	(vi)
Actual machine hours	(vii)	19,050	19,520
Over/ (under) absorbed overheads (₹)	(3,660)	(viii)	(6,720)

Actual overheads in each department were as budgeted.

Solution:

Students will have to be absolutely thorough with the concepts discussed above to solve problems of this type. There are 8 missing figures in the given table. The calculation is shown below:

- (i) For calculating this apportioned overhead to dept A, we know the ratio of apportionment used is 3:2:5. We are given allocation to dept C as ₹ 66300. So the total would be $(66,300/5 \times 10)$ i.e. ₹ 1,32,600 of which dept A will get 3/10th i.e. ₹ **39,780**
- (ii) Based on the logic given above the apportionment to department B is 2/10th of ₹ 1,32,600 i.e. ₹ **26,520**
- (iii) The figure asked is machine hours. The machine hour rate is given as ₹ 8.20. The total cost for department B is ₹ 1,51,700 (i.e. 1,25,180 + 26,520). Based on this the machine hours should be $(1,51,700 / 8.20)$ i.e. **18,500 hours**
- (iv) Total overheads for dept C are ₹ 2,80,000 (i.e. 2,13,700 + 66,300). The under absorption is to the tune of ₹ 6,720 which means the overheads absorbed would be ₹ 2,73,280 (i.e. 2,80,000 – 6,720). This means the absorption rate would be ₹ 14 per hour (i.e. 2,73,280/19,520). Therefore the normal machine hours would be **20,000 hours** (i.e. 2,80,000/14)
- (v) Total cost of dept A is ₹ 1,83,000 (i.e. 1,43,220 + 39,780). Normal machine hours are 15,000. Thus the absorption rate will be ₹ **12.20** (i.e. 1,83,000/15,000)
- (vi) Based on explanation given for (iv) above, the predetermined absorption rate for department C is ₹ **14 per machine hour**
- (vii) Total cost for dept A is ₹ 1,83,000. There is under absorption of ₹ 3,660. So the overheads absorbed would be ₹ 1,79,340 (i.e. 1,83,000 – 3,660). The absorption rate for dept A is ₹ 12.20. Thus the actual machine hours would be **14,700**. (i.e. 1,79,340/12.20)
- (viii) Overheads absorbed for dept B would be ₹ 1,56,210 (i.e. 19,050 x 8.20). The budgeted overheads for dept B are ₹ 1,51,700 (i.e. 1,25,180+26,520). Thus there would be an **over absorption of ₹ 4,510**

Illustration 50

The standard departmental overhead rate is fixed at ₹ 15 per machine hour. Based on the following information, work out the activity level at which this rate has been fixed.

Activity level (hours)	Overhead Costs
6,000	₹ 1,20,000
8,000	₹ 1,44,000
10,000	₹ 1,68,000

Solution:

Please refer to the section 6.9.3 (i) (c) where a high and low method of segregating fixed and variable portion of overheads is explained. Let us take the highest and lowest set of figures from given data as follows:

	Activity (hours)	Overheads (₹)
	6000	1,20,000
	10,000	1,68,000
Difference in levels	4,000	48,000

This means for 4,000 additional hours ₹ 48,000 is the incremental overhead cost. This must be the variable portion @ ₹ 12 per hour. If we take the base of 6,000 hours, the fixed element is calculated as:

Total overheads at 6,000 level	1,20,000
Less: Variable Overheads (6,000x12)	72,000
Fixed Overheads	<u>48,000</u>

Now, the overhead rate is fixed at ₹ 15, out of which ₹ 12 is variable. So ₹ 3 must be the fixed element. Total fixed overheads are ₹ 48,000.

Hence, this level must be fixed at 16,000 hours (48,000/3)

Illustration 51

A large manufacturing company having national base operates through four zonal offices viz. West, East, North and South. The budgeted expenditure for a period is given below:

Sales manager's salary ₹ 1,20,000

Expenses related to sales manager's office ₹ 80,000

Travelling salesmen's salaries ₹ 3,20,000

Travelling expenses ₹ 36,000

Advertisements ₹ 30,000

Godown rent West ₹ 15,000

East ₹ 25,200

North ₹ 9,800

South ₹ 18,000

Insurance on inventories ₹ 20,000

Commission on sales @ 5% on sales ₹ 6,00,000

Following particulars are also available:

Zone	Sale in ₹ Lacs	No. of salesmen	Mileage covered	Allocation of Advt	Average stock ₹ Lacs
West	36	5	6,000	30%	6
East	48	6	14,000	30%	8
North	16	2	4,500	20%	4
South	20	3	5,500	20%	2

Compute zone-wise break up of selling overheads as a percentage of sales.



Solution:

Computation of Selling Overheads as a Percentage of Sales

Item	Basis of apportionment	Total (₹)	West (₹)	East (₹)	North (₹)	South (₹)
Sales manager's salary	Sales	1,20,000	36,000	48,000	16,000	20,000
Expenses of sales manager's office	Sales	80,000	24,000	32,000	10,667	13,333
Travelling salesmen's salary	No. of salesmen	3,20,000	1,00,000	1,20,000	40,000	60,000
Travelling expenses	Mileage covered	36,000	7,200	16,800	5,400	6,600
Advertising	Given ratio	30,000	9,000	9,000	6,000	6,000
Godown rent	Actuals	68,000	15,000	25,200	9,800	18,000
Insurance	Average stocks	20,000	6,000	8,000	4,000	2,000
Sales commission	5% on sales	6,00,000	1,80,000	2,40,000	80,000	1,00,000
		1,274,000	3,77,200	4,99,000	1,71,867	2,25,933
Zonal sales		1,20,00,000	36,00,000	48,00,000	16,00,000	20,00,000
Selling overheads as % of sales		10.62%	10.48%	10.40%	10.74%	11.30%

Illustration 52

A manufacturing company generates its own power using generators. It has two production departments A and B and two service departments X and Y. The data for the month of May 2012 are as follows:

Horse power hours	A	B	X	Y
Needed capacity production	10,000	20,000	12,000	8,000
Used for May 2012	8,000	13,000	7,000	6,000

During May 2012, the cost of generating power amounted to ₹ 9,300 out of which ₹ 2,500 was considered as fixed. Dept X renders service to A, B and Y in the ratio of 13:6:1 and dept Y renders service to A and B in the ratio of 31:3. Given that direct labour hours in Dept A and B are 1650 hours and 2175 hours respectively, find the power cost per labour hour for each of the departments.

Solution:

Please note that the fixed portion should be apportioned on the basis of needed HP hours and the variable portion should be divided in the ratio of used HP hours.

Based on this the primary and secondary distribution of the power costs are worked out as follows:

Computation of Overhead Distribution

Item	Basis of apportionment	Total (₹)	A	B	X	Y
Power cost						
Fixed	HP hours needed (10:20:12:8)	2500	500	1000	600	400
Variable	HP hours used (8:13:7:6)	6800	1600	2600	1400	1200
	Total	9300	2100	3600	2000	1600

Redistribution of costs to Production Departments

		Total (₹)	A	B	X	Y
Total costs as above		9,300	2,100	3,600	2,000	1,600
Dept X apportioned (13:6:1)			1,300	600	(2,000)	100
Dept X apportioned (31:3)			1,550	150		(1,700)
	Total		4,950	4,350		
Direct labour hours			1,650	2,175		
Power cost per labour hour			3	2		

Study Note - 7

PREPARATION OF COST STATEMENTS



This Study Note includes

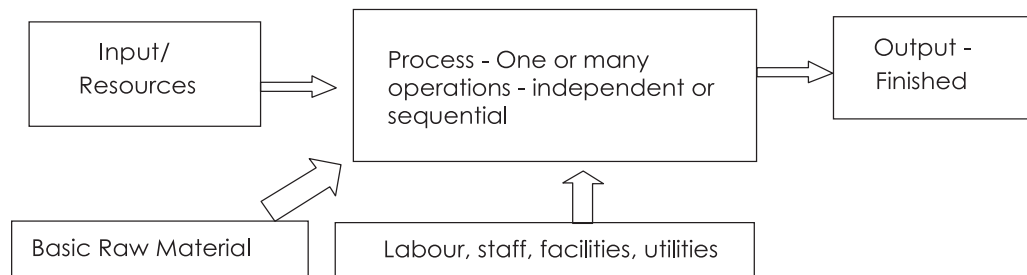
- 7.1 Cost Statements - Introduction
- 7.2 Cost Accumulation
- 7.3 Cost Collection
- 7.4 Cost Sheet Formats & Preparation

7.1 COST STATEMENTS - INTRODUCTION

In the preceding sections, we have dealt with the basic concepts of costs and the various elements of costs. We have also seen the different steps followed in determination of cost of a product or rendering a service. Treatment of various costs has been discussed at length. You are by now very well aware that the term cost has wide connotations and would not mean anything in isolation. Costs must be understood if they are to be controlled. Measurement of costs is the first step in the process of control simply because you cannot control unless you measure. Measurement of cost would mean different when applied to different industries.

The cost has to be measured with respect to the cost centres first and then at a broader level with respect to the cost unit. The journey towards the aim of determining cost of a product or service may take various routes. But the logic is same i.e. collect all relevant costs in the process of converting raw material into finished product and accumulate the total costs.

To put in simple words, to generate any product or service, resources are needed called as inputs. These inputs are used in a process of conversion. The end result is the output which could either be a product or a service. The resources consume costs. While determining total cost of resources, the costs of all resources used (directly or indirectly) in the process are accumulated. This requires establishing the relationship between the resource and the product or service.



The process of accumulating costs will differ according to the nature of business and the activities carried out. The common way to accumulate costs is to prepare cost sheets.

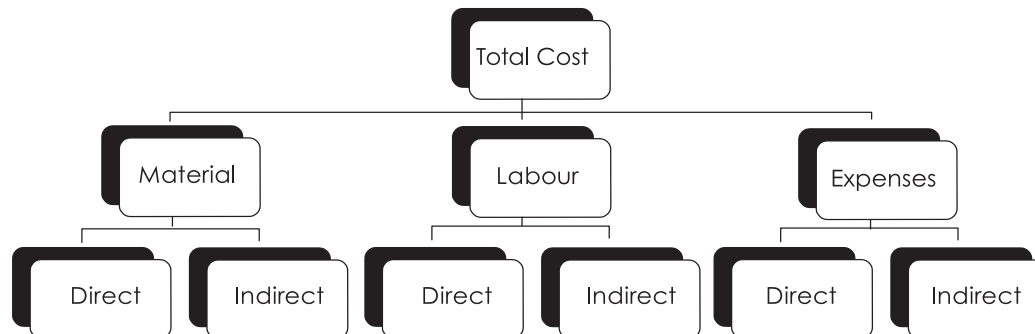
7.2 COST ACCUMULATION

The logic of cost accumulation is to track costs in the same sequence as the resources get used. See the following flow of activities:

- Raw material & other material are purchased and stored
- The material is used up in process of conversion
- People or machines work upon the material while in the process
- The process results into some products that are finished

The cost data needs to be collected along this whole chain that ends when a final product is produced. The cost accumulation is done based on the source documents which are used in booking the costs. Depending upon the type of business, a cost unit is determined for which costs must be accumulated. The departmentalisation of the business organisation is done to suit the production process. For example, in a fruit processing industry, the costs would be accumulated as per different process involved i.e. cutting, pulp formation, blending, purifying and final packing. As the physical flow of material happens from one process to the other, costs are also passed on from one process to the next in line.

For the purpose of convenience, a cost tree in the following format explains the composition of costs:



All the direct element of cost together make Prime Cost. Sequentially, Production Overheads are added to get Factory Cost or Works Cost. Then Administration Overheads are added to the Factory Cost to get Cost of Production. Once the product is ready for sale, the Selling and Distribution Overheads are added to get Cost of Sales or Cost of Goods Sold. When this is deducted from Sales Revenue we get Profit or Loss.

Process of accumulation of cost comprises of:

- Identification of costs to the cost centres or departments.
- Apportionment of service costs to production costs.
- Absorption of costs into cost units.

7.3 COST COLLECTION

Cost collection is the process of booking costs against a particular cost account code under a particular cost centre or directly under a cost unit, as the case may be. Source documents are used to generate the record of the costs incurred or to be incurred. These source documents are properly authorised and numbered. They act as the primary source of entry. In additions to these documents there could be other documents and reports such as Allocation Sheets, Labour Utilisation Reports, Idle Time & Overtime Analysis, Scrap Reports etc. which help in identifying costs. Costs collected under the following heads:

Material Costs: These costs are identified with cost unit with the help of 'Stores Issue Summary'. In case of Job Costing, there will be job-wise summary prepared on the basis of 'Material Issue Notes'. In case of Contracts, the summary will be made contract-wise. At times instead of procuring & storing material, it may be procured and directly used on contract site. 'Purchase Invoice' may be the basis to capture such Direct Material Costs. In case of Process Industry, the material is issued to different processes. Here, the costs input to a process may be collected based on the cost of materials processed in the previous process. A process- wise Summary of Material Issues is maintained. Some material may get added to a process but may not become part of final product. The cost of such material is apportioned on the output of that process. The Indirect Material Costs may be gathered on the basis of Consumable Issues, Scrap Reports, Standard Parts List etc. Care should be taken to account for material losses. Normal Material Losses are to be apportioned to the good units produced, whereas, Abnormal Losses should be excluded from computation of cost of good units and should be directly taken to P & L Account.



Labour Cost: Salaries and Wages Summary prepared after the monthly payroll run is the main basis for labour cost collection. The summary shows department-wise break up, so that the Direct Labour Cost of production department is separately known and that for the cost of other indirect departments is also available to be charged as overheads. In case of contracting business, labour force is usually dedicated to various sites. The cost of labour used on different contracts can be found based on wages sheet maintained for each contract site. In addition, the Idle Time Reports, Overtime Reports are used for booking of the costs of idle time & overtime. In case labourers are common to various Jobs or Contracts or Processes, an estimate of the time that they spend on each of them is made and the costs are allocated accordingly.

Expenses: Accounting entries in Cash Book or Journal Proper help to collect the expenses. Direct expenses which are Job or Contract or Process specific may be collected on the basis of vouchers. The indirect expenses are collected and then apportioned in a summarised form using Apportionment Sheets.

Collection of Budgeted Costs: The cost calculation for the selected cost unit could be either of Actual Cost or Budgeted Cost. While Actual Costs are collected on the basis of documents explained above, the Budgeted Costs are computed using the standard Bill of Material, and predetermined overhead rates. For budgeted direct material, a Bill of Material is prepared for each product (including sub-assemblies). This is a quantitative estimate. Based on the estimates a budgeted material price is considered to value the material cost. Estimated labour hours are costed using estimated labour hour rates. Pre-determined overheads are also computed considering the base selected for absorption. Thus an estimate of total cost with full composition may be made.

Cost Accountant & Cost Data Collection: The Cost Accountant must play a pivotal role in ensuring that the process of cost data collection is very strong. The cost analysis and reporting will not be useful for managerial decision-making if the data collection process is wrong. Presence of a strong and robust Costing System is needed to ensure comprehensive data collection process. The costs account may carry out periodical checks to evaluate the system and also may do the internal audit. He can use all his expertise in the process of establishing cost estimates which will help in decision making.

Cost data collected must be reported in proper format to make it more informative and meaningful. As can be understood, the report must serve the purpose for which it was sought. A complete Cost Sheet may not be always necessary. The Production Manager may require the Cost of Production only. The Cost Report should be able to give this figure separately broken up into all its elements. The sales and marketing cost may be given for each channel of distribution, customers, regions etc. in addition to the product-wise break up.

The cost data should be collected in a manner that will make available cost information to all those who are responsible for the costs. A Cost Sheet should give the figures of each element of cost broken up into Direct and Indirect and also according to functions like Production, Administration and Selling & Distribution. It is therefore logical that the format of the Cost Sheet is derived from the requirements for which it is to be used. Apart from exhibiting the total cost deducted logically, it should highlight other cost also, so that comparison with budget can be made, variances analysed and cost could be controlled to increase profits.

7.4 COST SHEET FORMATS & PREPARATION

The cost concept itself being subjective, there is no standard format in which the collected costs can be presented. It has to suit the type of business, need of the details, and management's requirement of control over costs. Yet a simple way to show the total cost of any cost unit is shown below:

Specimen Cost Sheet

Period from.....		To.....	
Cost Units			
Cost items	Amount (₹)	Amount (₹)	
<u>Direct Material</u>			
Opening Stock	xxxxxx		
Add: Purchases	xxxxxx		
Add: Incidental charges	xxxxxx		
Less: Closing Stock	xxxxxx	xxxxxx	
<u>Direct Labour</u>		xxxxxx	
<u>Direct Expenses</u>		xxxxxx	
PRIME COST		xxxxxx	
Add: Production Overheads	xxxxxx		
Add: Opening Work in Process	xxxxxx		
Less: Closing Work in Process	xxxxxx	xxxxxx	
FACTORY COST OR WORKS COST		xxxxxx	
Add: Administrative Overheads		xxxxxx	
COST OF GOODS MANUFACTURED		xxxxxx	
Add: Opening Finished goods stock	xxxxxx		
Less: Closing Finished goods stock	xxxxxx	xxxxxx	
COST OF FINISHED GOODS SOLD		xxxxxx	
Add: Selling & Distribution Overheads			
COST OF GOODS SOLD		xxxxxx	

You can observe the logical way in which the cost flow has been shown in the above chart. The focus in this specimen is on elements and functions split further into direct and indirect costs with respect to the cost units. Although the formats could be different, the contents of a cost sheet must be understood and interpreted correctly so that one can analyse it for control and decision making. For example if it has to be prepared for a Process Industry, the format would reflect the portion up to Factory Cost for each process separately. Then the Administration Costs will be added together. The cost per unit will be computed for every process separately. The stock for processes subsequent to process one will mean stocks transferred from earlier processes and stocks transferred to the next processes. The objective here is to compute the cost per process.

Depending on number of processes, the working will be shown up to Factory Cost. Subsequently, the Administration, Selling & Distribution Overheads are added like that shown in the format. Some process companies may prepare a different cost sheet for each process. When it is available process wise, control of process costs and process losses could be better controlled by the concerned process managers.

7.4.1 Important Components of Cost Sheet

1) Cost Sheet has reference to the Job or Contract or a Batch of Production or a Service undertaken to be rendered. If the completion of the job at hand relates to more than one accounting period, it is better that separate columns are provided to mention figures for those period. The Job or Batch reference should also be mentioned on the header.



2) If there is an estimate made for the costs, a separate column must be provided for estimated costs against which the actual costs should be plotted to get ready comparison. This will make Cost Sheets more user-friendly and meaningful.

3) In certain cases, material may not form any significant portion of the Total Cost and as such may be treated as an overhead item. In such cases, the Prime Cost will mainly constitute as labour and other expenses.

4) Treatment of raw material stocks should be carefully understood. As the costs are to be linked to the units produced, the material consumption, completion of earlier period's semi-finished goods and the finished goods sold needs to be properly computed. It is computed as followings:-

Raw Material Consumed: Opening Stock + Purchases – Closing Stock

One has to go into the depth of this arithmetical formula. Where do we get the figure of purchases from? It is from the suppliers invoices for purchase of stockable material. It also should include all charges incidental to purchase of goods like carriage, insurance, customs duty etc which is directly associated with the incoming material.

We know that the stocks are always valued at cost or market price whichever is less. This norm has to be applied to the rates of all the items of material in stock, and then the total valuation of stock is done. The stock ledger records all receipts and issues of the quantity and rate of material items. The valuation of material issues has to be properly done based on correctly chosen method of issue pricing. This summary figure as per the issue column should exactly match with the raw material consumed figure as included in the Cost Sheet.

The normal losses on account of material shortages must be included in the cost of raw material consumed. Care should be taken to remove the abnormal losses there from.

5) Treatment of Work in Process is another important step. If the format is carefully seen, it will be noticed that the cost of WIP stocks is adjusted specifically after adding Factory Overheads. Why adjusted? And why at that stage only? Please note that Cost Sheet is prepared for a period of time for a cost unit. At the beginning of that period, if the job has been carried forward from the previous period, there may be some partly finished work that is carried forward. At the same time there may be partly finished production at the end of current period. These stocks must be adjusted to reflect the cost consumed during the current period. Further, the Work in Process is normally valued at Factory Cost. It does not include Administration Overheads as the production of goods is not yet fully complete. Administration Costs are absorbed at the stage of finished production. Hence the adjustment of WIP stocks is to be done before adding the Administration Overheads.

6) Similarly, the adjustment for the opening and closing stocks of finished goods should be done. This has to be done after the stage of Cost of Production.

7) One could have separate columns for Total Costs and per unit costs side by side. This will help have a quick glance at the per unit figures. Management at operating level will find this very helpful.

8) Interest and Finance charges have come to be included in Cost of Sales though not in Cost of Production. Interest and Finance Charges are element of Cost and such Costs are also assigned to products before arriving at margin by products.

7.4.2 Cost Sheet Format for Service Costing

The cost sheet format for service costing takes into account the requirements of different types of services. It could be used to find out cost of internal services like boiler house, maintenance of delivery van fleet etc. In such cases the main purpose is to control the costs. It could also apply in case of services that are sold such as transport companies, hospitals, hotels, etc. Selling services and making profit thereon is the main purpose of these services.

As we know, material costs constitute a lower proportion of the total costs and the proportion of labour and other expenses is higher. As most of the costs are indirect, it is difficult to accumulate costs in the traditional format as shown above, neither is it useful. Hence, the emphasis is on variability of expenses. The cost collection is also done in the same manner. All items of costs are bifurcated into:

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- Fixed or standing costs
- Maintenance expenses
- Other Variable or running expenses

Based on this bifurcation a cost sheet is prepared. In most of the services, the cost unit is a composite unit such as per passenger-kilometer, per patient-bed, per Kilo-Watt-Hour, per room- day etc. In such cases it is necessary that quantity of the cost units is properly mentioned in the cost sheet so that per unit cost can be correctly calculated.

Here are some examples of contents of cost sheets for different services:

- (a) Transport:** The costs are shown under the heads of fixed expenses, running expenses and maintenance expenses. The fixed expenses will be time related such as salaries, garage rent, insurance etc. The maintenance charges will be like tyres & tubes, repairs, etc. The operating expenses will mainly include petrol, diesel & fuel oil, drivers & cleaners' wages etc. The cost unit data will comprise of mileage run, tonnage carried, days on road etc. The specimen cost sheet format is shown below:

Specimen Cost Sheet - Transport Service

Period From..... To.....	Vehicle no xx	Vehicle no yy
Cost items	Amount (₹)	Amount (₹)
<u>Operating costs</u>		
Petrol	xxxxxx	xxxxxx
Diesel Engine Oil	xxxxxx	xxxxxx
Drivers' wages	xxxxxx	xxxxxx
Cleaners' wages	xxxxxx	xxxxxx
Depreciation	xxxxxx	xxxxxx
Sub-total (a)	xxxxxx	xxxxxx
<u>Maintenance costs</u>		
Tyres and tubes	xxxxxx	xxxxxx
Painting, denting	xxxxxx	xxxxxx
Cleaning & overhauls	xxxxxx	xxxxxx
Sub-total (b)	xxxxxx	xxxxxx
<u>Fixed costs</u>		
Garage rent	xxxxxx	xxxxxx
Insurance	xxxxxx	xxxxxx
Taxes	xxxxxx	xxxxxx
Road permits	xxxxxx	xxxxxx
General supervision	xxxxxx	xxxxxx
Sub-total (c)	xxxxxx	xxxxxx
Grand total (a+b+c)	xxxxxx	xxxxxx
<u>Cost units</u>		
Mileage run	xxxxxx	xxxxxx
Days on road	xxxxxx	xxxxxx
Load carried (tonnes)	xxxxxx	xxxxxx
Capacity utilisation %	xxxxxx	xxxxxx
Total Tonne-miles	xxxxxx	xxxxxx
Cost per tonne-mile	xxxxxx	xxxxxx



- (b) **Boiler house:** It generates steam that is used in production activity. Main items of costs are fuel & labour, power, fuel handling, ash removal, water softening, maintenance etc. The cost unit will be **cubic feet**.

Specimen Cost Sheet - Boiler House

Period From..... To.....	Total Cost	Cost per 1000 hours
Steam produced in 1000 hours.....		
Less: Used in boiler house.....		
Less: Lines losses		
Net production		
Cost items	Amount (₹)	Amount (₹)
<u>Fuel & Labour</u>		
Fuel oil	xxxxxx	xxxxxx
Electric power	xxxxxx	xxxxxx
Fuel handling	xxxxxx	xxxxxx
Ash removal & disposal	xxxxxx	xxxxxx
Direct wages	xxxxxx	xxxxxx
Sub-total	xxxxxx	xxxxxx
<u>Water</u>		
Storage	xxxxxx	xxxxxx
Softening	xxxxxx	xxxxxx
Sub-total	xxxxxx	xxxxxx
<u>Maintenance</u>		
Boiler cleaning	xxxxxx	xxxxxx
Coal bunkers	xxxxxx	xxxxxx
Economisers	xxxxxx	xxxxxx
Mechanical stokers	xxxxxx	xxxxxx
Service pipes	xxxxxx	xxxxxx
Sub-total	xxxxxx	xxxxxx
<u>Fixed Costs</u>		
Supervision	xxxxxx	xxxxxx
Rent	xxxxxx	xxxxxx
Depreciation	xxxxxx	xxxxxx
Sub-total	xxxxxx	xxxxxx
Grand total	xxxxxx	xxxxxx

- (c) **Power House:** The main components of cost are steam production and electricity generation. The former comprises of coal, water, wages, maintenance etc. and the latter contains steam consumption, wages, supervision etc. Cost units will be for steam produced and electricity generated.

Specimen Cost Sheet - Power House

Period From..... To.....	Total Cost	Cost per KWH
Electricity generated in KWH		
Less: Lines losses		
Net production		
Cost items	Amount (₹)	Amount (₹)
<u>Steam production costs</u>		
Coal bunkers	xxxxxx	xxxxxx
Water	xxxxxx	xxxxxx
Wages	xxxxxx	xxxxxx
Maintenance of boilers	xxxxxx	xxxxxx
Depreciation	xxxxxx	xxxxxx
<i>Sub-total</i>	xxxxxx	xxxxxx
<u>Less: used for heating purposes</u>		
Steam used for electricity generation	xxxxxx	xxxxxx
<i>Sub-total</i>	xxxxxx	xxxxxx
<u>Electricity Generation costs</u>		
Wages	xxxxxx	xxxxxx
Stores	xxxxxx	xxxxxx
Maintenance of power generators	xxxxxx	xxxxxx
Repairs	xxxxxx	xxxxxx
Transmission lines	xxxxxx	xxxxxx
<i>Sub-total</i>	xxxxxx	xxxxxx
Grand total	xxxxxx	xxxxxx

- (d) **Canteen:** Here the cost will be labour, consumption of provision such as vegetables, meat, fruits, and other costs like depreciation, maintenance, power & electricity etc. In case canteen is an internal service, it is subsidised. The company contributes a portion of the costs. From total costs subsidy is reduced and then the net costs are reflected.



Specimen Cost Sheet - Canteen

Period From.....	Total Cost	Cost per meal
To.....		
Number of meals		
Less: meals consumed by staff		
Net Meals		
Cost items	Amount (₹)	Amount (₹)
<u>Provisions</u>		
Meat, fish, eggs	XXXXXX	XXXXXX
Vegetables	XXXXXX	XXXXXX
Fruits	XXXXXX	XXXXXX
Milk	XXXXXX	XXXXXX
Tea, coffee	XXXXXX	XXXXXX
Bread, cakes	XXXXXX	XXXXXX
others	XXXXXX	XXXXXX
<i>Sub-total</i>	XXXXXX	XXXXXX
<u>Wages & salaries</u>		
Cooks Cleaning	XXXXXX	XXXXXX
Staff Helpers	XXXXXX	XXXXXX
Supervision	XXXXXX	XXXXXX
<i>Sub-total</i>	XXXXXX	XXXXXX
<u>Services</u>		
Steam, Gases	XXXXXX	XXXXXX
Electricity & lights	XXXXXX	XXXXXX
Power	XXXXXX	XXXXXX
<i>Sub-total</i>	XXXXXX	XXXXXX
<u>Fixed Costs</u>		
Rent	XXXXXX	XXXXXX
Depreciation	XXXXXX	XXXXXX
<i>Sub-total</i>	XXXXXX	XXXXXX
Grand total	XXXXXX	XXXXXX

Similarly one can develop cost sheets for other services like education, BPO, consulting etc. The basic idea is to be able to correctly report costs for the selected cost unit. In case of services, comparison with budgets will enable the management to control cost of services in a better way.

Illustration 1.

Following data is available from the cost records of a company for the month of Feb. 2012:

- (i) Opening stock of job as on 1st Feb 2012
Job no 410: Direct material ₹ 80, Direct wages ₹ 150 and Factory Overheads ₹ 200
Job no 411: Direct material ₹ 420, Direct wages ₹ 450 and Factory Overheads ₹ 400
- (ii) Direct material issued during the month of February 2012 was:
Job no 410 ₹ 120
Job no 411 ₹ 280
Job no 412 ₹ 225
Job no 413 ₹ 300

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(iii) Direct labour details for February 2012 were

Job no	Hours	Amount (₹)
410	400	600
411	200	450
412	300	675
413	100	225

(iv) Factory overheads are applied to jobs on production according to direct labour hour rate which is ₹ 2 per hour.

(v) Factory overhead incurred in February 2012 were ₹ 2100.

(vi) Job numbers 410 & 411 were completed during the month. They were billed to the customers at a price which included 15% of the price of the job for selling & distribution expenses and another 10% of the price for profit.

Prepare:

- Job cost sheet for job number 411 and 410
- Determine the selling price for the jobs
- Calculate the value of work in process

Solution:

Remarks :

- The Factory overheads actually incurred are ₹ 2100. This amount to be apportioned on the basis of labour hours. So the rate to be considered as ₹ 2.1 per unit $= (2100/1000)$ and not ₹ 2 per unit. If we consider the above mentioned point the calculations for Job Sheets & for the work in progress will change accordingly.
- Work in progress is to be calculated for the incomplete jobs hence job no. 412 and 413 should only be included in the calculations of work in progress.

Job Cost Sheets for the month of February 2012

	Job 411 Amount (₹)	Job 410 Amount (₹)
Direct material issued	280	120
Direct labour spent	450	600
Prime Cost	730	720
Factory Overheads @ ₹ 2.1 per hour	420	840
Add: Opening WIP (material + labour + overheads)	1,270	430
Factory Cost	2,420	1,990
Add: Selling & Distribution Overheads (note 1)	484	398
Cost of Sales	2,904	2,388
Profit (note 1)	323	265
Billing Price for the job	3,227	2,653



Note 1

S & D and profit are given in indirect way.

Assume selling price as	100
Less: S & D @ 15%	(15)
Less: Profit @ 10 %	(10)
Balance has to be the Factory Cost	<u>75</u>

S & D price will be 15/75 of Factory Costs	484	398
Profit will be 10/75 of Factory Cost	323	265

COMPUTATION OF VALUE OF WORK IN PROCESS FOR FEBRUARY 2012

		Amount (₹)	Amount (₹)
Opening balance as on 1st February	Job 410	430	
	Job 411	1,270	1,700
Material issued during the month of February	Job 410	120	
	Job 411	280	
	Job 412	225	
	Job 413	300	925
Direct Labour	Job 410	600	
	Job 411	450	
	Job 412	675	
	Job 413	225	1,950
Factory Overheads on 1000 hours @ ₹ 2.1 per hr.			2,100
			6,675
Less: Factory Cost of completed jobs	Job 411	(2,420)	
	Job 410	(1,990)	(4,410)
Value of Closing Work In Process as on 28th February 2012			2,265

Another way to calculate WIP is :

Job 412 and 413 are in progress & WIP includes only incomplete Jobs.

	₹
Direct Material (225+300)	525
Direct Labour (675+225)	900
Factory Overheads [2.1 *(300+100)]	<u>840</u>
Total WIP	<u>2,265</u>

Illustration 2.

Prepare Cost Sheet for an engineering company which produces standard components in batches of 1000 pieces each. A batch passes through three processes viz. Foundry, Machining & Assembly.

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The materials used for a batch number 2012/01 were: Foundry 1300 tonnes @ ₹ 50 per tonne of which 50 tonnes were sent back to stores.

Other details

Process	Direct labour	Overheads
Foundry	200 Hrs @ ₹ 10	₹ 15 per Labour Hour
Machining	100 Hrs @ ₹ 5	₹ 20 per Labour Hour
Assembly	100 Hrs @ ₹ 15	₹ 10 per Labour Hour

A comparison of actual costs with estimated cost discloses that material and overheads have exceeded the estimates by 20% whereas the estimated labour cost is 10% more than the actual. Show the variances with respect to the estimates

Solution:

Cost Sheet for the Batch Number 2012/01

Standard batch size 1000 pieces

Particulars	Actual ₹	Estimated ₹	Variance ₹	F/A ₹
Direct material issued 1250 * 50	62,500	52,083	(10,417)	A
Direct labour spent:				
Foundry 200 * 10	2,000	2,200	200	F
Machining 100 * 5	500	550	50	F
Assembly 100 * 15	1,500	1,650	150	F
Prime Cost	66,500	56,483	(10,017)	A
Factory Overheads applied:				
Foundry 200 * 15	3,000	2,500	(500)	A
Machining 100 * 20	2,000	1,667	(333)	A
Assembly 100 * 10	1,000	833	(167)	A
Factory Cost	72,500	61,483	(11,017)	A
Cost per Unit (Factory Cost /1000)	72.5	61.48	11.02	A

Illustration 3.

An advertising agency has received an enquiry for which you are supposed to submit the quotation. Bill of material prepared by the production department for the job states the following requirement of material:

Paper 10 reams @ ₹ 1800 per ream

Ink and other printing material ₹ 5,000

Binding material & other consumables ₹ 3,000

Some photography is required for the job. The agency does not have a photographer as an employee. It decides to hire one by paying ₹ 10000 to him. Estimated job card prepared by production department specifies that service of following employees will be required for this job:

Artist (₹ 12,000 per month) 80 hours; Copywriter; (₹ 10,000 per month) 75 hours; Client servicing (₹ 9,000 per month) 30 hours.



The primary packing material will be required to the tune of ₹ 4000. Production overheads 40% of direct cost, while the S & D overheads are likely to be 25% on production cost. The agency expects a profit of 20% on the quoted price. The agency works 25 days in a month and 6 hours a day.

Solution:

Quotation for a printing Job

	Amount (₹)	Amount (₹)
Direct material required:		
Paper 10 *1800	18,000	
Ink & other printing material	5,000	
Binding material & consumables	3,000	
Primary packing material	4,000	30,000
Direct labour spent		
Artist (12000/(25*6))*80	6,400	
Copywriter (10000/(25*6))*75	5,000	
Client servicing (9000/(25*6))*30	1,800	13,200
Photographer's charges		10,000
Prime Cost		53,200
Factory Overheads applied @ 40% on Direct Cost		21,280
Production cost		74,480
S & D overheads applied @ 25% on Production Cost		18,620
Total Cost		93,100
Profit (20% on price i.e. 25% on cost)		23,275
Price to be quoted		1,16,375

Illustration 4.

The following figures were extracted from the trial balance of a company as on 31st December 2012.

Particulars	Debit (₹)	Credit (₹)
Inventories		
Raw material	1,40,000	
WIP	2,00,000	
FG	80,000	
Office Appliances	17,400	
Plant and machinery	4,60,500	
Buildings	2,00,000	
Sales		7,68,000
Sales returns	14,000	
Material purchased	3,20,000	
Freight on materials	16,000	
Purchase returns		4,800

Particulars	Debit (₹)	Credit (₹)
Direct labour	1,60,000	
Indirect labour	18,000	
Factory supervision	10,000	
Factory repairs & upkeep	14,000	
Heat, light & power	65,000	
Rates & taxes	6,300	
Misc factory expenses	18,700	
Sales commission	33,600	
sales travelling	11,000	
Sales promotion	22,500	
Distribution department salaries & wages	18,000	
Office salaries	8,600	
Interest on borrowed funds	4,000	

Further details are given as follows:

Closing inventories are Material ₹ 1,80,000, WIP ₹ 1,92,000 & FG ₹ 1,15,000.

Accrued expenses are Direct Labour ₹ 8,000, Indirect Labour ₹ 1,200 & Interest ₹ 2,000.

Depreciation should be provided as 5% on Office Appliances, 10% on machinery and 4% on buildings. Heat, light and power are to be distributed in the ratio of 8:1:1 among factory, office and distribution respectively.

Rates & taxes apply as 2/3rd to the factory and 1/3rd to office.

Depreciation on building to be distributed in the ratio of 8:1:1 among factory, office and distribution respectively.

Prepare a Cost Sheet showing all important components and also a condensed P & L Account for the year.

Solution:

Important aspect of this is proper classification of the given items of expenses and costs into prime cost, factory costs and S & D costs. The understanding of the concept of costs is very well tested in this type of problems. Remember that as per GACAP issued by ICAI interest on borrowed capital is also a part of cost. The cost sheet is shown below:

Cost Sheet showing Cost of Sales for the year 2012

Particulars	Amount (₹)	Amount (₹)
Direct Materials		
Opening stock	1,40,000	
Add: Purchases	3,20,000	
Add: Freight	16,000	
Less: Returns	(4,800)	
Less: Closing stock	(1,80,000)	2,91,200
Direct Labour	1,60,000	
Add: Accrued	8,000	1,68,000
Prime cost		4,59,200



Particulars	Amount (₹)	Amount (₹)
Factory Overheads:		
Indirect labour	18,000	
Accrued indirect labour	1,200	
Factory supervision	10,000	
Repairs & upkeep	14,000	
Heat, light & power	52,000	
Rates & taxes	4,200	
Misc. Factory expenses	18,700	
Depreciation on plant & Machinery	46,050	
Depreciation on buildings	6,400	
	1,70,550	
Add: Opening WIP	2,00,000	
Less: Closing WIP	(1,92,000)	1,78,550
Factory Cost		6,37,750
Administration Overheads		
Heat light & power	6,500	
Rates & taxes	2,100	
Depreciation on buildings	800	
Depreciation on office appliances	870	
Office salaries	8,600	
	18,870	
Add: opening FG stock	80,000	
Less: closing FG stock	(1,15,000)	(16,130)
Cost of production (of saleable units)		6,21,620
Selling & Distribution Overheads		
Heat & light	6,500	
Depreciation on buildings	800	
Sales commission	33,600	
Sales travelling	11,000	
Sales promotion	22,500	
Distribution department expenses	18,000	
Interest on borrowings	4,000	96,400
Cost of Sales		7,18,020

Condensed P & L Account for the year ended 31-12-2012		
Sales Income	7,68,000	
Less: Returns	(14,000)	7,54,000
Cost of sales as above		7,18,020
Net Profit		35,980

Illustration 5.

Prakash Transport Company has been given a route of 20 km long to run a bus. The bus costs ₹ 12,50,000 with an estimated useful life of 5 years. It is insured @ 3% pa of the cost. Annual tax amounted to ₹ 25,000. The garage rent is ₹ 5,000 per month. Annual repairs cost is estimated as ₹ 50,000.

The driver is paid a salary of ₹ 7500 per month and the conductor is paid ₹ 5,000 per month in addition to a 10% of takings as commission to be shared equally by them.

Office stationery would ₹ 1,000 pm and office salaries ₹ 10,000 pm.

Diesel will cost @ ₹ 30 per litre and the bus would travel a distance of 5 km per litre. The bus will make 3 round trips carrying on an average 40 passengers on each trip. Assuming a profit of 15% on takings. Calculate the fare to be charged from each passenger. The bus will operate for 25 days in a month.

Solution:**Computation of passenger fare - Prakash transport company**

	Amount (₹)	Amount (₹)
Operating Costs		
Diesel	2,16,000	
Depreciation (12,50,000/5)	2,50,000	
Repairs	50,000	
Commission - Driver & Conductor	1,22,733	
<i>Sub-total</i>		6,38,733
<u>Fixed costs</u>		
Insurance 3% of 1,250,000	37,500	
Taxes	25,000	
Garage Rent (5,000*12)	60,000	
Driver's salary (7,500*12)	90,000	
Conductor's salary (5,000*12)	60,000	
Office stationery (1,000*12)	12,000	
Office salaries (10,000*12)	1,20,000	
<i>Sub-total</i>		4,04,500



Grand total		1,043,233
Profit @ 15% on takings		1,84,100
Total takings		12,27,333
Cost units		
No. of round trips	3	
To & Fro per trip	2	
km per trip	20	
Days on road	25	
Average passengers carried	40	
No. of months	12	
Total passenger miles		14,40,000
Price per passenger km		0.85

Diesel	
No. of km per litre	5
No. of km pa [20 km×3×2×25×12]	36,000
No. of litres required	7,200
Per litre rate ₹	30
Total Cost of diesel	216,000
Commission & profit are given indirect way	
Assume total takings as	100
Less: Commission @ 10%	(10)
Less: Profit @ 15%	(15)
Balance has to be the total cost	75
Cost before commission	9,20,500
Commission (10/75*9,20,500)	1,22,733
Profit (15/75*9,20,500)	1,84,100

Illustration 6.

The City Pride Theatre has revealed the following estimates of their cinema hall.

Salary 1 manager ₹ 8,000 pm, 10 door keepers ₹ 2,000 pm, 2 operators ₹ 4,000 pm, 4 booking clerks ₹ 2,500 pm

Annual expenses:

Electricity ₹ 12,00,000

Carbon ₹ 3,00,000

Misc. expenses ₹ 1,50,000

Advertising ₹ 7,50,000 (it would earn income of ₹ 25,000 on advertisements shown in the hall)

Hire of films ₹ 15,00,000 per film on 15 films

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The premises cost ₹ 60 Lacs and are to be depreciated over 15 years. Projector and other equipments cost ₹ 25 Lacs and to be depreciated @ 25% pa.

The plan is to have 3 daily shows on all 360 days in a year. The capacity is 625 seats divided into

Lower class	250
Upper class	250 and
Balcony	125

20% of the seats are estimated to be vacant. The weightages to be given to the three classes are in the ratio of 1:2:3.

If the management wishes to earn a profit of 25% on gross proceeds, find out the rates to be charged for each class. Round off to nearest rupee.

Solution:

In this case it is important to note the weights given. This is to express each class in equivalent units so that calculations can be made accordingly.

Particulars	Amount ₹	Amount ₹
Operating Costs:		
Electricity	12,00,000	
Carbon	3,00,000	
Misc. Expenses	1,50,000	
Advertising (7,50,000 -25,000)	7,25,000	
Hiring of films (15,00,000*15) Fixed costs	2,25,00,000	2,48,75,000
Salary of manager (1*8,000*12)	96,000	
Door keepers (10*2,000*12)	2,40,000	
Operators (2*4,000*12)	96,000	
Booking clerks (4*2,500*12)	1,20,000	
Depreciation on premises (60/15)	4,00,000	
Depreciation on projecting equipments (25*25%)	6,25,000	15,77,000
Grand Total		2,64,52,000
Profit @ 25% o n gross proceeds (i.e. 1 /3 of cost)		88,17,333
Gross Earnings		3,52,69,333
Cost units		
No. of shows in a year (3*360)	1,080	
No. of equivalent seats:		
Lower class (1*250)	250	
Upper class (2*250)	500	
Balcony (3*125)	375	
Total Seats	1,125	
Less: 20% vacant seats	(225)	
Net chargeable seats	900	
No. of Man-shows in a year (900*3*360)		9,72,000
Earnings per man-show(gross earnings/man-shows)		36.29
Rats of the ticket per seat		
Lower class (1 x 36.29)		36.29
Upper class(2 x 36.29)		72.57
Balcony (3 x 36.29)		108.86



7.4.3 Estimated Cost Sheet

Usually a cost sheet is prepared for ascertaining costs which are incurred for the previous period. Sometimes, a cost sheet is prepared for a future period on the basis of an estimated information. It is simply due to know the price which will be quoted for goods that are produced and sold. Before preparing an estimated cost sheet we are to consider whether the prices of raw materials or labour or overheads are increased or decreased or no change in prices. If there is any change, the same must be considered before preparing an estimated cost sheet. However, the following points must carefully be considered before preparing an estimated cost sheet.

- (a) The cost of the previous period should be taken as base.
- (b) Changes, if any, in price of raw materials, labour and chargeable expenses i.e., direct expenses, should be computed on the basis of previous years' level.
- (c) Similarly, the rate of recovery of overhead should be computed on the basis of previous years' level.
- (d) If there is any change in the above rates, the same should be taken into consideration.
- (e) The profit should be estimated on the basis of percentage of total cost or total sales or any other suitable basis.
- (f) With the amount of estimated total cost, estimated profit should be added to find out the estimated selling price or the quoted price of the product.

Illustration 7

The following particulars are available for the previous years' production of M/s. A Ltd.

- (i) Total production 1,000 units.
- (ii) Total cost of raw materials consumed ₹ 12,000.
- (iii) Total cost of direct labour ₹ 20,000.
- (iv) Total works overhead expenses ₹ 40,000.
- (v) Total general overhead expenses ₹ 36,000.
- (vi) Total selling and distribution overhead expenses ₹ 16,000.
- (vii) Total selling price of 800 units ₹ 1,12,640.

On the basis of the under mentioned instructions prepare a detailed price quotation per unit of product for the current year:

- (a) Cost of raw material and direct labour are to increase by 10% and 15% respectively over the previous years' level.
- (b) Works overhead, general overhead as well as selling and distribution overhead are to be charged at the same respective percentage as in the previous year.
- (c) Profit is to be estimated at the same percentage on total cost as is earned in the previous year.

Solution:**Cost Sheet**

Period.....

Units produced – 1,000

Particulars	Total cost (₹)	Cost per unit (₹)
Raw material consumed	12,000	12.00
Direct labour	20,000	20.00
Prime cost	32,000	32.00
Works overhead expenses	40,000	40.00
Works cost	72,000	72.00
General overhead expenses	36,000	36.00
Cost of production	1,08,000	108.00
Less : Closing stock (200 units @ ₹ 108)	21,600	-
Cost of production of goods sold of 800 units	86,400	108.00
Selling and distribution overhead (800 units)	16,000	20.00
Total cost	1,02,400	128.00
Profit (balancing figure)	10,240	12.80
Selling price	1,12,640	140.80

Before ascertaining the price quotation, we are to compute the following percentage which will be applied for preparing estimated cost sheet

- Percentage of Works Overhead on direct labour = $(₹ 40,000 / ₹ 20,000) \times 100 = 200\%$
- Percentage of General Overhead on works cost = $(₹ 36,000 / ₹ 72,000) \times 100 = 50\%$
- Percentage of Selling & Distribution Overhead on cost of production of goods sold = $(₹ 16,000 / ₹ 86,400) \times 100 = 18.50\%$.
- Percentage of Profit on cost = $(₹ 10,240 / ₹ 1,02,400) \times 100 = 10\%$

Estimated Cost Sheet per unit or Price to be quoted per unit

Particulars	Amount (₹)
Raw material $(₹ 12 \times 110/100) = ₹ 12 + 10\% \text{ increase}$	13.20
Direct labour $(₹ 20 \times 115/100) = ₹ 20 + 15\% \text{ increase}$	23.00
Prime cost	36.20
Works overhead (200% of direct labour = $₹ 23 \times 200/100$)	46.00
Works cost	82.20
General overhead 50% of works cost = $₹ 82.20 \times 50/100$	41.10
Cost of production	123.30
Selling and distribution overhead @ 18.50% on cost of production of goods sold $(₹ 123.30 \times 18.50/100)$	22.80
Total Cost	146.10
Profit @ 10% on total cost	14.61
Price to be quoted	160.71

Illustration 8

The following data relate to the manufacturer of a standard product during the four weeks of July, 2012.

Raw material consumed ₹ 25,000.

Manual and machine labour wages (directly chargeable) ₹ 15,000.



Machine hour worked 1,000 hrs

Chargeable expenses ₹ 4,500

Establishment and general expenses ₹ 4,700

Selling and distribution overhead per unit – 8 paise

Units produced 10,000 units

Units sold 8,000 units

Selling price per unit ₹ 6

Required :

- To prepare a Cost Sheet in respect of the above showing there in the cost per unit under each element of cost and the profit for the period. Also show the percentage that the works overhead cost bears to the manual and machine labour wages and the percentage that the establishment and general expenses bear to the works cost.
- What price should the company quote to produce 1,000 units of another product which will require an expenditure of ₹ 8,000 for the materials and ₹ 6,000 for direct wages, so that it will yield a profit of 25% on the cost of sales ?

Solution.

Cost Sheet

(during four weeks of July, 2012)

Production – 10,000 units

Particulars	Total Cost (₹)	Cost per unit (₹)
Raw material consumed	25,000	2.50
Manual and machine labour wages	15,000	1.50
Chargeable expenses	4,500	0.45
Prime cost	44,500	4.45
Works overhead (MHR x machine hr. worked) i.e., 1,000 x ₹ 2.50	2,500	0.25
Works cost	47,000	4.70
Establishment & General expenses	4,700	0.47
Cost of production	51,700	5.17
Less : Closing stock (2,000 units @ ₹ 5.17)	10,340	-
Cost of production of goods sold of 8,000 units	41,360	5.17
Selling and distribution overhead (8,000 units x 0.08)	640	0.08
Total cost/ Cost of goods sold	42,000	5.25
Profit (balancing figure)	6,000	0.75
Selling price	48,000	6.00

Workings :

Before ascertaining the price quotation we are to compute the following :

- Works overhead percentage to manual & machine labour wages = $(\text{₹ } 2,500 / \text{₹ } 15,000) \times 100 = 16 \frac{2}{3}\%$
- Establishment and General Expenses percentage to works cost = $(\text{₹ } 4,700 / \text{₹ } 47,000) \times 100 = 10\%$

Estimated Cost Sheet/ Pricing to be quoted

Particulars	Amount (₹)
Raw material	8,000
Direct wages	6,000
Chargeable expenses (amount to be proportionate to direct wages - (₹ 4,500/15,000 x ₹ 6,000)	1,800
Prime cost	15,800
Works overhead recovered as a % of direct wages (₹ 6,000 x 16 2/3%)	1,000
Works cost	16,800
Establishment and General overhead @ 10% of works cost of ₹ 16,800	1,680
Cost of production	18,480
Selling and distribution overhead (1,000 x.08)	80
Cost of goods sold	18,560
Profit @ 25% on cost	4,640
Price to be quoted	23,200

Illustration 9.

The expenses of a cost centre for a particular month are as follows :

Power - ₹ 50,000

Repairs and maintenance - ₹ 10,000

Machine operator's wages - ₹ 2,000

Supervision cost - ₹ 6,000

Depreciation - ₹ 40,000

Other particulars are given below :

Products	Rate of production	Production units
A	30 units per hr.	1800 units
B	10 units per hr.	500 units
C	6 units per hr.	300 units
D	4 units per hr.	260 units

The entire production was to be offered to Government on "Cost plus 20% profit basis". Materials cost per unit are : A - ₹ 40; B - ₹ 60; C - ₹ 100; D - ₹ 300;

Prepare a statement showing product wise cost and the offer price to the Government.

Solution:

We are to calculate at first the utilization of machine hours for production.

Machine hour utilized

= Production units/Rate of production	= for Product A = 1,800 units/30 units per hr.	= 60 hrs.
	= for Product B = 500 units/10 units per hr.	= 50 hrs.
	= for Product C = 300 units/6 units per hr.	= 50 hrs.
	= for Product D = 260 units/4 units per hr.	= <u>65 hrs.</u>
		225 hrs.



Computation of Absorption of Machine Hour Rate

Expenses are :	₹
Power	50,000
Repairs and maintenance	10,000
Machine operator's wage	2,000
Supervisor's cost	6,000
Depreciation	<u>40,000</u>
Total	<u>1,08,000</u>

Apportionment of expenses :	₹
Product A – 60 hrs. x ₹ 480	28,800
Product B – 50 hrs. x ₹ 480	24,000
Product C – 50 hrs. x ₹ 480	24,000
Product D - 65 hrs. x ₹ 480	<u>31,200</u>
	<u>1,08,000</u>

Therefore, machine hour absorption rate = ₹ 1,08,000/225 hrs. = ₹ 480 per hr.

Computation of Product wise Cost and Offer Price

Particulars	A (₹)	B (₹)	C (₹)	D (₹)	Total (₹)
Cost of materials :					
A – 1,800 units x ₹ 40	72,000				
B - 500 units x ₹ 60		30,000			
C - 300 units x ₹ 100			30,000		
D - 260 units x ₹ 300				78,000	2,10,000
Apportioned expenses	28,800	24,000	24,000	31,200	1,08,000
Total Cost (a)	1,00,800	54,000	54,000	1,09,200	3,18,000
Units produced (b)	1,800 units	500 units	300 units	260 units	
Cost per unit (a) / (b)	56.00	108.00	180.00	420.00	
Profit @ 20% on cost	11.20	21.60	36.00	84.00	
Offer price	67.20	129.60	216.00	504.00	

Study Note - 8

FUNDAMENTALS OF MANAGEMENT ACCOUNTING



This Study Note includes

- 8.1 Marginal Costing-Introduction
- 8.2 Concept of Contribution, P/V Ratio and Break even Point
- 8.3 Concept of Margin of Safety (MOS)
- 8.4 Cost - Volume - Profit Relationship (CVP Analysis)
- 8.5 Application of Marginal Costing for Decision Making

8.1 MARGINAL COSTING - INTRODUCTION

In general marginal cost is variable cost. It is the cost of producing one additional unit of product. Take for example,

Variable cost per unit is ₹ 25

Fixed cost for the month are ₹ 50,000

Present volume of activity is 1,000 units of production. At this volume what is the total cost? It will be Variable cost (25*1000) + fixed cost (50,000) = ₹ 75,000.

Now if it is decided to produce 1 unit more. What will be the total cost?

It will be Variable cost (25*1001) + fixed cost (50,000) = ₹ 75,025. (*fixed cost will not change*) Or if it is decided to reduce the production by 1 unit. What will be the total cost?

It will be Variable cost (25*999) + fixed cost (50,000) = ₹ 74,975. (*fixed cost will not change*) What do we notice here? The total costs in both situations have changed by an amount

exactly equal to the variable cost of 1 unit. *This is called as marginal cost.*

The **CIMA** terminology defines marginal costs as 'the amount at any given level of output by which the aggregate costs change due to change in the volume of activity by one unit'

Here, the change in the level of output would mean either increase or decrease by 1 unit. In the above example when the production was increased by one unit, the aggregate costs changed from ₹ 75,000 to ₹ 75,025 i.e. increased by ₹ 25. When production was reduced by 1 unit the aggregate costs changed from ₹ 75,000 to ₹ 74,975 i.e. reduced by ₹ 25. Hence the figure of ₹ 25 per unit is called the marginal cost of the product.

A point to note here is the behaviour of fixed costs. Just because the volume has changed, the fixed costs have not changed. They remain at ₹ 50,000. They will remain so within the relevant range of volume of activity. See the following table:

Volume	Variable cost	Fixed cost	Total costs	Change in volume	Change in total costs	Change in cost per unit
1,000	25,000	50,000	75,000	250	6,250	25
1,250	31,250	50,000	81,250	450	11,250	25
1,700	42,500	50,000	92,500	650	16,250	25
2,350	58,750	50,000	108,750	350	8,750	25
2,700	67,500	50,000	117,500			

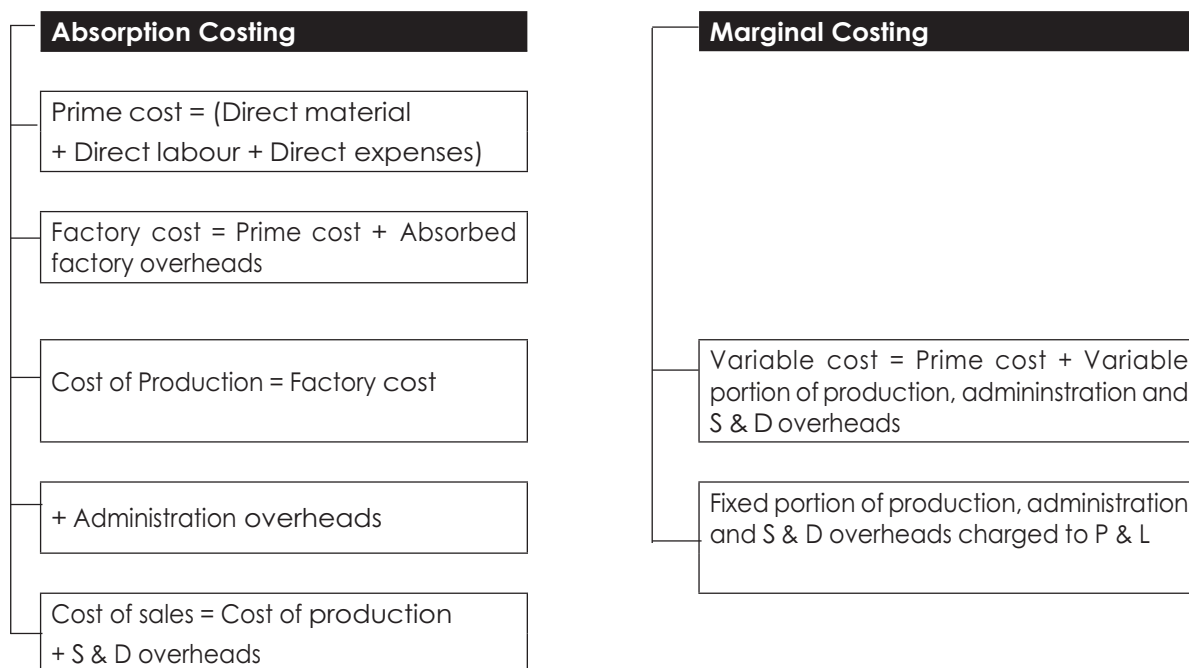
It can be observed that when decisions about the volume of activity are to be made the manager must understand the impact of such decision on the costs. He would rather concentrate on the variable costs and try to control them, as none of his decisions would influence the fixed costs.

Now let us see the definition of marginal costing.

Marginal costing is defined as 'the ascertainment, by differentiating between fixed and variable costs, of marginal costs and of the effect of changes in the volume of output.'

It comprises of the ascertainment of marginal cost for the purpose of understanding the effect of changes in the level of output. This technique advocates charging of variable costs to cost units and fixed costs for the period to the profit and loss account.

If we compare the presentation of the cost statement under the traditional absorption costing and marginal costing it will be as follows:



The fixed costs are delinked from the per unit costs and treated as total directly against the profits for the period. So the profit under both techniques is computed differently.

Two very crucial aspect about the marginal costing technique are:

- the stocks are valued at marginal costs i.e. no loading of fixed overheads on the stocks
- There is no over or under absorption of overheads

The income statements under both absorption costing and marginal costing should be noted carefully. The profit figure shown under absorption costing and marginal costing are different because of the above named two reasons. First, it is clear that the stocks under marginal costing are valued at lesser cost as only variable costs are loaded on unsold units, and there is no loading of fixed overheads.

Another reason is the over or under absorption of overheads under absorption costing.

Absorption Costing

Sales		XXXX
Less :		
Direct Material	XXXX	
Direct Labour	XXXX	
Direct Expenses	XXXX	
Prime Cost	XXXX	
Add : Factory Overheads	XXXX	
Factory Cost	XXXX	
Add : Administration Overheads	XXXX	
Cost of Production	XXXX	
Add : S & D Overheads	XXXX	
Cost of Sales		XXXX
Profit/(Loss)		XXXX

Marginal Costing

Sales		XXXX
Less :		
Direct Material	XXXX	
Direct Labour	XXXX	
Direct Expenses	XXXX	
Prime Cost	XXXX	
Add : Variable Factory Overheads	XXXX	
Add : Variable Administration Overheads	XXXX	
Add : Variable S & D Overheads	XXXX	
Total Variable Cost		XXXX
Contribution (Sales - Variable Cost)		XXXX
Less : Fixed Factory Overheads	XXXX	
Fixed Administration Overheads	XXXX	
Fixed S & D Overheads	XXXX	(XXXX)
Profit/(Loss)		XXXX

8.2 CONCEPT OF CONTRIBUTION, P/V RATIO AND BREAK EVEN POINT

8.2.1 Contribution:

Contributions is the excess of sales over variable cost. Naturally, total contribution is determined by multiplying the per unit contribution to the volume of sales. We know that the amount of contribution to be contributed at first towards fixed overheads and if fixed overheads are recovered then next towards profit. If contribution is found to be higher, there will be profits as fixed overhead remains constant. If any firm wants to increase its contribution it must have to increase the volume of sales or to reduce marginal cost or to increase per unit selling price.

Contribution is algebraically represented as

$$S - V = C \text{ or, } C = F + P \text{ where}$$

C	=	Contribution
S	=	Total Sales
V	=	Total Variable cost
F	=	Total Fixed Cost
P	=	Total Profit

From the above, we can say

$$S - V = C = F + P$$

$$\text{Or, } C - F = P$$

Illustration 1.

From the following information, find out marginal cost if (i) profit is ₹ 10,000; (ii) Loss is ₹ 5,000; and (iii) Loss is ₹ 22,000; sales ₹ 80,000; Fixed overhead ₹ 20,000.

Solution:

Variable cost = Sales – Contributions

$$(i) \quad C = P + F$$

$$= ₹ 10,000 + ₹ 20,000$$

$$= ₹ 30,000$$

$$V = S - C$$

$$= ₹ 80,000 - ₹ 30,000$$

$$= ₹ 50,000$$

$$(ii) \quad C = P + F$$

$$= (-) ₹ 5,000 + ₹ 20,000$$

$$= ₹ 15,000$$

$$V = S - C$$

$$= ₹ 80,000 - ₹ 15,000$$

$$= ₹ 65,000$$

$$(iii) \quad C = P + F$$

$$= (-) ₹ 22,000 + ₹ 20,000$$

$$= (-) ₹ 2,000$$

$$V = S - C$$

$$= ₹ 80,000 - [₹ 2,000]$$

$$= ₹ 82,000.$$

Illustration 2.

Ascertain the units to be sold to earn a profit of ₹ 1,00,000 from the following data.

Fixed Cost Per unit ₹ 3,00,000; Variable cost Per Unit ₹ 30; Selling Price Per Unit ₹ 50.

Solution:

Let x be the number of units to be sold for desired profit

Sales – Variable Cost = Fixed Cost + desired profit

$$\text{Or, } ₹ 50x - 30x = ₹ 3,00,000 + ₹ 1,00,000$$

$$\text{Or, } 20x = ₹ 4,00,000$$

$$\text{Or, } x = \frac{₹ 4,00,000}{20}$$

$$\text{Or, } = 20,000 \text{ Units.}$$



The very basic idea of profit can be expressed as

$$\text{Profit} = \text{Sales} - \text{Cost}$$

Normally the assumption here is that the cost per unit can be easily computed. But we know the difficulty in apportioning costs that are not related directly to every unit of production. Therefore, under Marginal Costing Costs are divided into Variable Costs and Fixed Costs. With this distinction the above equation can be re-written as

$$\text{Profit} = \text{Sales} - (\text{Variable Cost} + \text{Fixed Cost})$$

Because the marginal costing technique believes in differentiating costs into fixed and variable, we may write the above equation as

$$\text{Profit} = \text{Sales} - \text{Variable Cost} - \text{Fixed Cost} \text{ i.e. } \text{Profit} + \text{Fixed Cost} = \text{Sales} - \text{Variable Costs}$$

This is called as the basic equation of marginal costing.

8.2.2 Profit Volume Ratio (P/V Ratio)

Profit Volume Ratio is the ratio of Contributions to sales i.e.,

$$\text{P/V Ratio} = \frac{C}{S} = \frac{S - V}{S} \text{ or } \frac{F + P}{S} \text{ Where, } C = \text{Contribution}$$
$$S = \text{Sales}$$
$$F = \text{Fixed Cost}$$
$$P = \text{Profit}$$
$$V = \text{Variable cost}$$

This ratio is expressed in turn of percentage. It is also known as contribution margin ratio. It express the relationship between sales and contribution.

An important feature of the P/V ratio is that it remains constant at all levels of output.

P/V ratio may be expressed as

$$\text{P/V ratio} = \frac{\text{Sales} - \text{Variable Cost}}{\text{Sales}} \times 100 = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$\text{P/V ratio} = \frac{\text{Change in Profits}}{\text{Change in Sales}} \times 100$$

Limitations of P/V Ratio:

- (a) It pre-supposes a linear relationship between volumes and costs. In actual terms it is hardly the case.
- (b) Segregation of fixed and variable portion of the costs is a very difficult task.
- (c) It helps take decisions only in the short run, as fixed costs are subject to changes beyond the relevant range.

Illustration 3.

From the following particulars find out (i) P/V Ratio; (ii) BEP Sales; (iii) Net Profit for ₹ 1,50,000, (iv) sales required for a profit of ₹ 1,50,000. Sales amounted to ₹ 1,00,000 and Net Profit and fixed overheads amounted to ₹ 10,000 and ₹ 15,000 respectively.

Solution:

- (i) To find out P/V Ratio

$$P/V = \frac{\text{Contribution (C)}}{\text{Sales (S)}}$$

$$\text{Hence, } C = F + P$$

$$\text{or, } C = ₹ 15,000 + ₹ 10,000$$

$$= ₹ 25,000$$

$$\text{or, } P/V = \frac{₹ 25,000}{₹ 1,00,000} = \frac{1}{4} \text{ or } 25\%$$

- (ii) To find out BEP Sales

$$P/V = \frac{C}{S} \text{ and } C = F$$

$$\text{So, BEP, } P/V = \frac{F}{S}$$

$$\text{or, } \frac{1}{4} = \frac{₹ 15,000}{S}$$

$$\text{or, } S = ₹ 60,000.$$

- (iii) To find out profit from ₹ 1,50,000 Sales

$$P/V = \frac{C}{S}$$

$$\text{or, } \frac{1}{4} = \frac{C}{₹ 1,50,000} \text{ or, } 4C = ₹ 1,50,000$$

$$C = ₹ 37,500$$

$$\text{Now, } C = F + P$$

$$\text{or, } ₹ 37,500 = ₹ 15,000 + P$$

$$P = ₹ 22,500$$

- (iv) To find out sales required for a profit of ₹ 15,000

$$C = F + P$$

$$\text{Or, } C = ₹ 15,000 + ₹ 15,000 = ₹ 30,000$$

$$\text{And } P/V = \frac{C}{S}$$

$$\text{Or, } \frac{1}{4} = \frac{₹ 30,000}{S}$$

$$\text{Or, } S = ₹ 1,20,000.$$



Illustration 4.

The sales turnover and profit during the two periods are as follows:

Period – I Sales ₹ 2,00,000 Profit ₹ 2,00,000

Period – II Sales ₹ 3,00,000 Profit ₹ 4,00,000

Calculate (i) P/V Ratio ; and (ii) the sales required to earn a profit of ₹ 5,00,000.

Solution:

(i) P/V Ratio

	Period – I	Period – II	Increase
	₹	₹	₹
Sales	2,00,000	3,00,000	1,00,000
Profit	2,00,000	4,00,000	2,00,000

So, contribution on increased sales of ₹ 1,00,000 is ₹ 2,00,000

$$P/V \text{ Ratio} = \frac{C}{S} = \frac{\text{₹ } 2,00,000}{\text{₹ } 10,00,000} = \frac{1}{5} = 20 \%$$

(ii) Required sales for a profit of ₹ 5,00,000

Contribution of Period – I (20% of ₹ 20,00,000) = ₹ 4,00,000

Profit of Period – I = ₹ 2,00,000

So, $C = F + P$

Or, $F = C - P$

$F = \text{₹ } 4,00,000 - \text{₹ } 2,00,000$

$= \text{₹ } 2,00,000$

$$P/V = \frac{C}{S}$$

$$\text{Or, } S = \frac{C}{P/V} = \frac{F + \text{Required Profit}}{P/V}$$

$$\text{Or, Required Sales} = \frac{\text{₹ } 2,00,000 + \text{₹ } 5,00,000}{\frac{1}{5}}$$

Or, Required Sales = ₹ 35,00,000

The technique of marginal costing is based on the three fundamental concepts of Contribution, PV ratio and Break Even Point. It helps a Cost Accountant to measure the Cost-Volume- Profit relationship. In decision-making this relationship is very important as it helps management concentrate only on the things that vary or change and ignore things that are not going to affect the decision. Let us see how these relationships are brought out in varying volumes of output.

If we assume selling price as ₹ 100 per unit and the Variable Cost as ₹ 60 per unit, the Contribution will be ₹ 40/- per unit. This Contribution is per unit of Sales.

Here, the P/V Ratio = $(100 - 60)/100 = 40 / 100$ or 40%

Every unit produced and sold will bring in ₹ 40 which will be utilised first to recover the fixed overheads, then after full fixed costs are recovered, the profit will emerge. We assume fixed costs at ₹ 50000. See the following table:

Volume	Sales at ₹ 100 per unit	Variable cost at ₹ 60 per unit	Contribution at ₹ 40 (100-60) per unit	Fixed cost	Profit
1,000	1,00,000	60,000	40,000	50,000	(10,000)
1,250	1,25,000	75,000	50,000	50,000	-
1,700	1,70,000	1,02,000	68,000	50,000	18,000
2,350	2,35,000	1,41,000	94,000	50,000	44,000
2,700	2,70,000	1,62,000	1,08,000	50,000	58,000

The P/V ratio can be found out with the second formula as under, as we consider the sales and profits at 1700 and 2350 levels:

$$\begin{aligned} \text{P/V ratio} &= \frac{\text{Change in Profit}}{\text{Change in Sales}} \times 100 \\ \text{i.e. P/V ratio} &= \frac{44,000 - 18,000}{2,35,000 - 1,70,000} \times 100 = \frac{26,000}{65,000} \times 100 \\ &= 40\% \end{aligned}$$

What we see is at the volume of 1000 units the total contribution is ₹ 40,000 which is not sufficient to recover full fixed costs of ₹ 50,000, so the result is a loss of ₹ 10,000. At the next level, contribution is ₹ 50,000 which is exactly equal to fixed cost, hence there is no profit no loss situation.

This level of output at which there is no profit no loss, is called the Break Even point (BEP).

The sales level at which the BEP occurs is referred to as **Break even sales**.

Normally, we know the equation

$$\text{Contribution} - \text{Fixed Cost} = \text{Profit}$$

But at break even point, we have seen that profit is zero. Therefore, the above equation becomes,

$$\text{Contribution} - \text{Fixed Cost} = 0 \text{ i.e. Contribution} = \text{Fixed Cost}$$

8.2.3 Break-Even Point: Break-Even Point reveals the quantity or volume of sales at which no profit or no loss is made i.e., total cost is equal to total selling price or where contribution is equal to fixed cost.

If the production is increased beyond this level, there will be profit and vice-versa.

In the above table, please carefully observe the sales level of 1,250 units where the contribution equals the fixed cost and hence the profit is exactly zero. This level of 1,250 units is called as break even sales level or break even point.

What does this show?

- 1) At any volume lesser than 1,250 units, the company will make a loss and
- 2) At any volume above 1,250 units the company will make profit.

Hence for any manager knowing this threshold level of sales is very crucial in making decisions. The break even point may be expressed in two ways:



a) In terms of quantity

$$\text{BEP (in units)} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

This shows that the total fixed costs are recovered in so many units of output which has a certain contribution per unit. If we apply this formula in the above example, where fixed cost are ₹ 50000 and the contribution per unit is ₹ 40, the BEP is shown as below:

BEP (in units) =

i.e. BEP (in units) = $50,000 / 40 = 1,250$ units This conforms to the answer we had found earlier.

(b) In terms of amount

$$\text{BEP (in amount)} = \frac{\text{Fixed Cost}}{\text{PV Ratio}}$$

i.e. BEP (in amount) = $50,000 / 40\% = ₹ 1,25,000$. This also conforms to the table above. Students are advised to study these relationships conceptually as well as in terms of mathematical formulae.

Illustration 5.

From the following information, find out :

- (i) P/V Ratio
- (ii) Profit when sales are ₹ 40,000; and
- (iii) New BEP if selling price is reduced by 20% .

Fixed Expenses ₹ 8,000

BEP point ₹ 20,000

Solution:

(i) $\text{BEP} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}}$

$$\therefore \text{P/V Ratio} = \frac{\text{Fixed Expenses}}{\text{BEP}}$$

$$= \frac{₹ 8,000}{₹ 20,000}$$

$$= 40\% \text{ or } \frac{2}{5}$$

- (ii) Profit when sales amounted to ₹ 40,000

Profit = (Sales x P/V Ratio) - Fixed Expenses

$$= (₹ 40,000 \times \frac{2}{5}) - ₹ 8,000$$

$$= ₹ 8,000.$$

(iii) New BEP if selling price is reduced by 20%

That is, present selling price will be $(₹ 100 - ₹ 20) = ₹ 80$

Marginal cost per unit is ₹ 60 [(i.e., $100 - 40$ (old P/V Ratio))]

$$\therefore \text{New P/V Ratio} = \frac{₹ 80 - 60}{₹ 80} = 25\% \text{ or } \frac{1}{4} \%$$

$$\begin{aligned} \text{So, Break Even Point} &= \frac{₹ 8,000}{\frac{1}{4}} \\ &= ₹ 32,000. \end{aligned}$$

8.3 CONCEPT OF MARGIN OF SAFETY (MOS)

We know that at BEP the company operates at no-profit-no-loss situation. When the company moves above the breakeven level, it starts making profit. Margin of safety indicates the gap between the sales level (which is above breakeven) and the BEP level. A business will always like to have a very higher level of margin of safety. Higher margin of safety will always indicate the soundness of the business. It will mean that the breakeven point is much below the actual sales level, so that a small drop in the sales may not result into an immediate loss. Actually, a high PV ratio and a high margin of safety are indications of a very efficiently run business.

Mathematically,

Margin of Safety = Sales – BEP sales

In the above table if we assume the sales volume of 2700 units at which the sales value is ₹ 2,70,000 and we know that the break even sales are ₹ 1,25,000. In this case the margin of safety is ₹ 1,45,000 (i.e. $2,70,000 - 1,25,000$)

$$\text{Margin of safety} = \text{Sales} - \frac{\text{Fixed Cost}}{\text{P/V Ratio}} = 2,70,000 - (50,000 / 0.40) = 1,45,000$$

$$\text{Margin of safety} = \frac{(\text{Sales} \times \text{P/V Ratio}) - \text{Fixed Cost}}{\text{P/V Ratio}}$$

Also

$$\text{Margin of safety} = \frac{\text{Contribution} - \text{Fixed Cost}}{\text{P/V Ratio}} = \frac{\text{Profit}}{\text{P/V Ratio}} = 5,800 / 0.40 = 1,45,000$$

Illustration 6. (on Margin of Safety)

Calculate margin of Safety from the following:

Fixed cost ₹ 2,00,000

Variable Cost ₹ 3,00,000

Total Sales ₹ 6,00,000

Solution:

Contribution = Sales – Variable Cost

= ₹ 6,00,000 - ₹ 3,00,000

= ₹ 3,00,000.



$$P/V \text{ Ratio} = \frac{C}{S}$$

$$= \frac{₹ 3,00,000}{₹ 6,00,000} \times 100 = 50\% \text{ or } \frac{1}{2}\%$$

$$\text{BEP Sales} = \frac{\text{Fixed Cost}}{P/V \text{ Ratio}} = \frac{₹ 2,00,000}{\frac{1}{2}} = ₹ 4,00,000$$

$$\text{Net Profit} = \text{Contribution} - \text{Fixed Cost}$$

$$= ₹ 3,00,000 - ₹ 2,00,000$$

$$= ₹ 1,00,000$$

$$\text{Margin of Safety} = \text{Sales} - \text{BEP Sales}$$

$$= ₹ 6,00,000 - ₹ 4,00,000$$

$$= ₹ 2,00,000$$

The expressions of sales, variable cost, fixed costs, contribution, profit, PV ratio, BEP level, Margin of safety are inter-related and the ability of a cost accountant to use these relationships effectively to aid management in decision making is always an asset. Please observe the logical deduction of the mathematical formulae of these relationships.

Use of P/V ratio, BEP and MOS

The concepts of PV ratio, Breakeven and margin of safety are very useful in decision making. It can help management in the following situations:

- 1) It helps in revising the selling prices. If the PV ratio is lower, it can be improved either by improving the selling price or reducing the variable cost by efficient use of men, material and machines.
- 2) If the company is having more than one product having different PV ratios, the overall PV ratio can be improved by concentrating on the product with a higher PV ratio.
- 3) The BEP level is very useful in early stages of business. A newly started business will start making profits after the initial high fixed costs are recovered. This will happen only when the volumes start increasing. The knowledge of BEP level will help management to take steps to take volumes beyond that level to earn profit.
- 4) The PV ratio helps management in estimating profits at various volumes of business without indulging into long drawn calculations. This happens because PV ratio is constant at same prices and different volumes and fixed cost are same.
- 5) The margin of safety helps management to fight complex business situations. If the business is facing recession and higher volumes can be achieved only on reduction in selling prices, then the knowledge of margin of safety will enable the decision maker to decide the best possible price reduction.

8.4 COST-VOLUME-PROFIT RELATIONSHIP (CVP ANALYSIS)

The main aim of marginal costing is to study the impact on sales and profits of the changes in the volume of activity. It will not only explain this relationship in retrospect, but also help management to simulate the cause and effect relationship for the purpose of future forecast. Volume of sales is subject to fluctuations, which in turn leads to changes in profits. Profit is the result of interplay between costs, volume and selling prices. The manager's effectiveness lies in his capability to predict the future profits. He can do it effectively by understanding the dynamic interplay between the costs, volumes and profits. When we talk about future, a manager may be confronted with many decision situations, a few of them are mentioned below:

- a) How much should be the sales volume for a desired level of profits?
- b) How will the changes in selling price affect the future profits?
- c) What impact will the changes in cost have on profits?
- d) What should be the optimum sales mix?

The CVP analysis is useful for the management in following decision situations

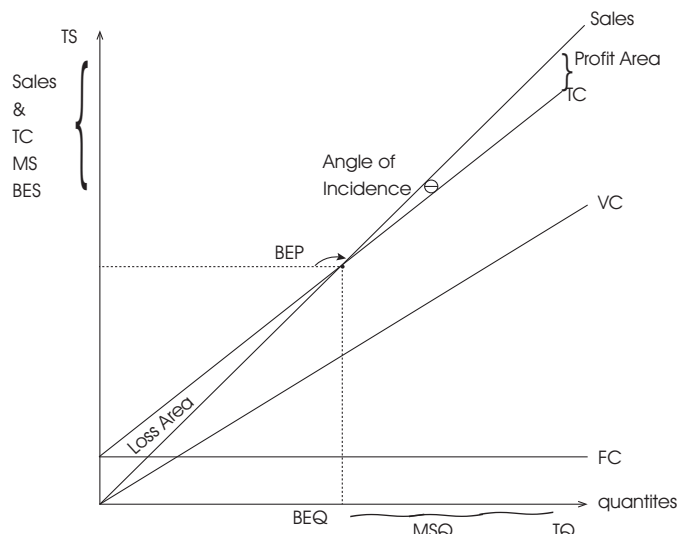
- 1) Profit planning & selection of profit mix
- 2) Resource utilisation for getting the best result. We know resources are limited and can be put to multiple uses. CVP analysis helps management to decide how to use the limited resources to maximise the profits.
- 3) It presents information to enable performance evaluation of different product lines or channels of distribution.
- 4) It helps to decide whether additional business is to be taken or not at prices lower than usual
- 5) Management can decide whether to produce a component in house or buy it from outside
- 6) It helps to decide whether or not to close a particular line of business.

Please go through the examples given at the end of this chapter to understand the application of CVP analysis in a better way.

The CVP relationship can be expressed in two ways:

- a) Mathematical formulae – Please refer to the various formulae discussed in the earlier sections.
- b) Graphical methods – Let us discuss the graphical presentations now. Graphical presentations can be done through the following charts
 - Break-Even Chart
 - Profit-Volume Charts

Break-Even Chart : The BEP chart presents the basic relationship between cost, volume and profit. They show the break-even point, and also the profit or loss at different volumes of activity. The volume of output is shown on the x-axis and the costs & revenues are shown on the y-axis. The BEP chart shows the lines for sales, total costs and the fixed costs. The point, at which the Total sales and Total cost lines intersect, is the BEP level.



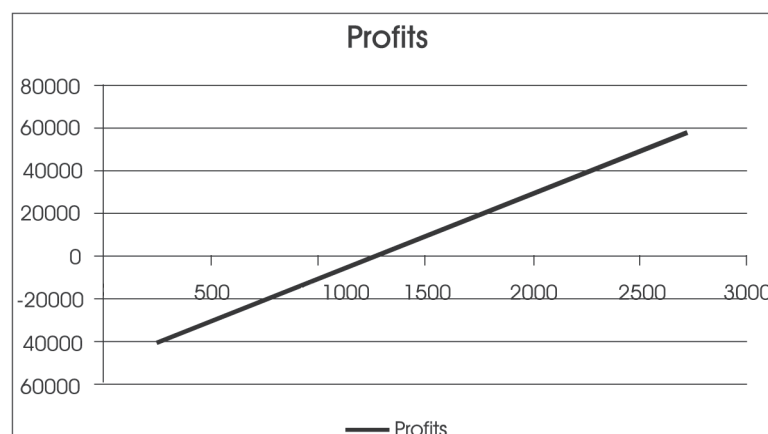
As you can see the breakeven point is shown at the point of intersection of the TS and TC lines. This graph is based on the figures taken from the table given in the section 13.5.1 above. See that for the volumes below this level, the TS line is below the TC line indicating the situation of loss.

The gap between the TS and TC line shows the profit. The angle formed by the TS and TC line is called as angle of Incidence. Wider this angle, larger will be the profits.

The main limitation of this chart is that it only reflects the break even sales level. Looking at the graph can not readily tell the figure of profit at various volumes. From this angle, this is a static chart and therefore has limited usage.

Profit-Volume Chart: This graph shows the profits at various volumes of business. Again, the x-axis represents volumes and profits are shown on the y-axis. The PV graph overcomes the difficulty of the BEP chart in that it clearly shows the profits at various volumes of output and the trend line can be established from the chart quite easily. This chart has a better predictability than the BEP chart. The point at which the profit line touches the x-axis is the break even volume. A figure below x-axis indicates loss, whereas the figures above the x-axis denote profits.

Again taking the figures from the table shown in the PV chart is shown as below. You can see the profit line intersects the x-axis at the volume level of 1250 which is the break even sales level. The angle formed by the profit line and x-axis represents the angle of incidence.



Let us now see some of the examples on the CVP analysis.

Illustration 7.

A company produces and sales a single product and has the following details:

Selling price per unit	₹ 20
Variable Cost per unit	₹ 12
Fixed expenses per annum	₹ 8,00,000

Find out PV ratio & BEP sales both in units and in value.

What will be the sales level to earn a profit of ₹ 1,00,000? What is the profit at the sales value of ₹ 60 lacs? What is the margin of safety at the sales level of ₹ 60 lacs?

Find out the new break even sales value if selling price is dropped by 10%.

Solution:

The student is advised to study the formulae for the various CVP relationships. This and many other problems on this topic will require a student to grasp the concept thoroughly. It is advised that you solve as many practical problems as possible.

Sales Price (₹)		20
Less: Variable Cost (₹)		12
Contribution per unit (₹)	Sales - Variable Cost	8
Fixed Cost per annum (₹)		8,00,000
PV Ratio	Contribution/Selling Price per unit	40%
BEP (in units)	Fixed cost/Contribution per unit	1,00,000
Fixed Cost / PV Ratio		20,00,000
Ratio		
Sale level to earn profit of ₹ 100000	$F + P = \text{Contribution } (8,00,000 + 1,00,000)/0.40$	22,50,000
Sales		
Profit when sales value is ₹ 60 Lacs		
Sales		60,00,000
Contribution	(Sales * PV Ratio)	24,00,000
Less: Fixed Costs	as given	(8,00,000)
Profit at this level		16,00,000

Margin of Safety at Sales of ₹ 60 Lacs	₹
Sales value	60,00,000
BEP sales	20,00,000
Thus, Margin of Safety (Sales - BEP sales)	40,00,000
New BEP if Selling price is dropped by 10%	
Current Selling Price per unit	20
Less : Reduction of 10 %	-2
Revised Selling Price	18
Variable Cost per unit remains same	12
Revised Contribution per unit (Revised S.P-V/c)	6
New PV ratio = (Revised Contribution/Rev. S.P.)	
$[\frac{6}{18} \times 100]$	33%
New BEP Sales Value = [Fixed Cost/Revised PV Ratio	24,00,000
$= [8,00,000/33\%]$	



Illustration 8.

From the following, calculate Variable Cost, Fixed Cost and Contribution.

Period I Sales ₹ 39,000 and Total Cost ₹ 34,800

Period II Sales ₹ 43,000 and Total Cost ₹ 37,600

Solution:

In this problem very limited information is given and we are required to calculate many details. We will have to be logical and clear in concept while attempting these problems.

We are given only Sales and Total Costs. We will have to use the knowledge of CVP to find out other details.

We know the PV ratio can be found out as (Change in Profits ÷ Change in Sales) We first determine the Profits:

	Sales (₹)	Total Cost (₹)	Profit (₹)
Period 1	39,000	34,800	4,200
Period 2	43,000	37,600	5,400
Increase	4,000		1,200

We now apply the formula for PV ratio

Increase in Profits / Increase in Sales i.e. $1,200/4,000 \times 100$ i.e. 30% Now let us apply the other formula for PV ratio which is

PV ratio = Contribution / Sales

i.e. Contribution = PV ratio * Sales

i.e. Contribution = 30% * 39,000 (considering the 1st period)

Thus Contribution = ₹ 11,700

We know, Contribution = Sales – Variable Cost

Here, 11,700 = 39,000 – Variable Cost

Thus variable cost = ₹ 27,300

Now, for Period 1: Total Cost is ₹ 34,800 and we have calculated Variable Cost as ₹ 27,300.

Thus, Fixed Cost = Total Cost – Variable Cost = 34,800 – 27,300 = ₹ 7,500

You may verify the answer taking the period 2 figures as well. It will also show the same fixed cost.

Illustration 9.

Following details are available: Actual Sales ₹ 20,000

Break Even Sales ₹ 10,000

Fixed Costs ₹ 5,000

Find out the Profit at Actual Sales.

Solution:

We know at Break Even Point, Contribution = Fixed Cost

Given at Break Even Point, Contribution = ₹ 5,000

Now, PV ratio can be Calculated as:

Contribution/Sales = 5,000 / 10,000 = 50%

We apply the PV ratio % to Actual Sales of ₹20,000 so as to get the contribution amount at that level.

Therefore, contribution at Actual Sales Level = $20,000 \times 50\% = ₹10,000$

Now we know that Fixed Costs are ₹5,000 which will not change at any volume of output within the relevant range.

Profit at Actual Sales is calculated as Contribution – Fixed Cost = $10,000 - 5,000 = ₹5,000$.

Illustration 10.

Find out the Break Even Point and profit if the sales are ₹50 Lacs and PV ratio & Margin of Safety are 50% and 40% respectively.

Solution:

Margin of Safety is given as 40%. This means that the difference between Actual Sales and Break Even Sales is 40% of Actual Sales. Thus the value of Margin of Safety is

$₹50 \text{ Lacs} \times 40\% = ₹20 \text{ Lacs}$

We know, Margin of Safety = Actual Sales - Break Even Sales

Thus, $20 = 50 - \text{BEP Sales}$. Therefore, BEP sales = ₹30 Lacs

We know, Margin of Safety = Profit / PV ratio i.e. $20 = \text{Profit} / 50\%$ Therefore, Profit = $20 \times 50\% = ₹10 \text{ Lacs}$.

Illustration 11.

Following details were available for a company producing three products.

Particulars	A ₹	B ₹	C ₹
Sales	1,00,000	1,50,000	2,50,000
Variable Costs	90,000	1,00,000	1,50,000
Fixed Cost (apportioned on sales basis)	20,000	30,000	50,000
Total Cost	1,10,000	1,30,000	2,00,000
Profit/(Loss)	(10,000)	20,000	50,000

As product A is making loss, it is proposed to discontinue the same. Advise the management on its decision.

Solution:

The total Profit made by the company today is ₹60,000. However, it can be noted that the Fixed Costs are apportioned on sales basis which is arbitrary and hence cannot be the basis to judge the performance of any product line. The real test is whether the product is recovering the Variable Cost or not? Or simply is it earning any Contribution to recover company's Fixed Costs or not. Keeping Fixed Costs out off analysis and applying the concept of Marginal Costing, the performance can be represented as given below:

Total Sales	₹ 5,00,000
Total Variable Cost	₹ 3,40,000
Total Contribution	₹ 1,60,000
Fixed Cost	₹ 1,00,000
Net Profit	₹ 60,000

Now for product A Sales are ₹1,00,000 and Variable Cost is ₹90,000, thus it brings in a positive contribution of ₹10,000. If this product is discontinued, the company will lose the contribution of ₹10,000, and this will bring down the Net Profit by that amount to ₹50,000 only.



Thus it is recommended that the product A should be continued.

Illustration 12.

The per unit cost structure of the company who sale a product at ₹ 100 per unit are as follows:

Direct material	₹ 60
Direct wages	₹ 10
Variable overheads	₹ 10

Number of units sold during the current year was 5035 units. As per the wage agreement with the union, direct wages are going to increase by 10% in the next year. Work out the number of units to be sold next year to earn the same quantum of profits. By what amount should the selling price be increased to maintain the same PV ratio?

Solution:

	₹
Selling Price	= 100
Less : Variable Cost (60+10+10)	= 80
Contribution	= <u>20</u>

Thus PV ratio is 20% (Contribution/Sale)

Total Contribution on 5,035 units (5,035 * 20) = ₹ 1,00,700

Next year the Variable Cost would increase by ₹ 1 per unit, due to increase in wages cost by 10% of ₹ 10. This will bring down the Contribution per unit to ₹ 19.

The quantum of Profit will be same if the total Contribution is same (as Fixed Costs will remain the same).

Now when total contribution is to be kept at ₹ 1,00,700 and the per unit contribution would be ₹ 19 next year, the number of units to be sold = 1,00,700 / 19 = 5,300 units. Hence, the company will have to sell 265 more units than the current year to maintain the same quantum of profit.

If the company desires to keep the same PV ratio which is 20% at the moment, the revised selling price will be computed as follows:

We know, PV ratio = Contribution/ Sales

Thus, 20% = (Selling Price – Variable Cost)/Selling Price

Thus, 20% * Selling Price = Selling Price – 81

Thus, Selling Price = ₹ 101.25

At this price the contribution per unit will be ₹ 20.25 which is 20% of the new selling price.

Illustration 13.

A company manufactures "Product A" and sells them at ₹ 20 each with a profit of ₹ 5 each. It operates at 50% of the machine capacity at 50,000 units. The cost of each unit is as under:

Direct Material	₹ 6
Direct Labour	₹ 2
Works Overheads	₹ 5 (50% fixed) Sales Expenses ₹ 2 (25% variable)

It is anticipated that next year material cost will go up by 5%, labour by 20% and fixed expenses by 10%. There will be no change, however, in the selling price per unit. The company has received an additional order for 20,000 unit in the next year.

What will be the lowest price it can quote so as to earn the same profit as current year?

Solution:

Here, firstly we need to compute and show how current year's cost structure and profit look like in the Marginal Costing Format. This is shown below:

Current Profitability Statement at Sales = 50000 units

		Per Unit ₹	Total ₹
Sales	6.00	20	10,00,000
Less: Variable Costs :			
Material Wages	2.00	11	5,50,000
Works Overheads	2.50	9	4,50,000
Sales Expenses	0.50	4	2,00,000
Contribution	2.50		2,50,000
Fixed Overheads Works Sales	1.50		
Net Profit	1.00		

Next year material will increase by ₹ 0.30 (5% of 6), labour by ₹ 0.40 (20% of 2). So the total increase in variable cost will be ₹ 0.70 per unit.

Revised Variable Costs will be $11 + 0.70 = ₹ 11.70$.

As there is no change in the Selling Price, the Revised Contribution will be ₹ 8.30 (i.e. $20 - 11.70$).

Total contribution for 50,000 units will be ₹ 4,15,000 (i.e. $50,000 \times 8.30$)

Next year the Fixed Costs will increase by 10%. So the Revised Fixed Cost will be ₹ 2,20,000 (i.e. $200,000 + 10\%$ increase).

So the net profit expected will be = Contribution – Fixed Cost = $4,15,000 - 2,20,000 = ₹ 1,95,000$. Now, if the additional order is to be accepted for 20,000 units, on the condition that the total profit of the current year is to be maintained, the profit must be ₹ 2,50,000. The profit calculated above is ₹ 1,95,000 which is ₹ 55,000 short of the desired level. This must be recovered through the sale of additional 20,000 units. Thus, the new order must bring in contribution of ₹ 55,000.

Hence per unit Contribution desired out of the additional order will be:

Additional Contribution/Additional Output = $55,000/20,000$ i.e. ₹ 2.75 per unit.

Hence the Minimum Price should be ₹ 2.75 above the Variable Cost which is ₹ 11.70. Therefore the Minimum Price to keep profit at the level of ₹ 2,50,000 for the next year will be

$₹ 2.75 + ₹ 11.70 = ₹ 14.45$ per unit.

Illustration 14.

The budgeted details of a company included

Product	Sales (₹)	P/V ratio
A	50,000	50%
B	80,000	40%
C	1,20,000	30%

The Fixed Overheads for the period were ₹ 1,00,000. The directors are worried about the results. They have requested you to prepare a statement showing the amount of loss expected and recommend a change in sale of each product or in total mix which will eliminate the expected loss.

**Solution:**

Product	sales (₹)	P/V ratio	Contribution
A B C			
Total	50,000	50%	25,000
Contribution Fixed costs	80,000	40%	32,000
Expected loss	1,20,000	30%	36,000
			93,000
			1,00,000 (7,000)

The overall PV ratio is $93,000 / 2,50,000 = 37.2\%$.

The objective is to eliminate the expected loss of ₹ 7,000. This would mean that the additional contribution of ₹ 7,000 should be earned. The sales increase needed for this is given by

Additional Sales needed = Additional Contribution / PV ratio i.e. Additional Sales = $7,000 / 37.2\% = ₹ 18,817$

There are a number of ways in which the sales can be increased:

- (i) Increase should entirely come from product A as it gives highest contribution
- (ii) It could be achieved by increasing the turnover of each product in the current mix ratio.
- (iii) With same production capacity and change in product mix the total contribution can be increased in the above problem by increase in sales of A and decrease in sales of C to the extent of ₹ 50,000 each will bring the contribution to ₹ 50,000 + ₹ 32,000 + ₹ 18,000 = ₹ 1,00,000. Thus the loss will be wiped off.

Illustration 15.

State how the following independent situations will affect the P/V ratio and BEP

- (a) Increase in the volume of Sales by 4,000 units
- (b) Decrease in Fixed Cost by ₹ 2 Lacs
- (c) Decrease in Variable Cost by ₹ 5 per unit
- (d) Decrease in Contribution Margin by ₹ 1 per unit e) Increase in Selling Price by 5%
- (f) Increase in Fixed Cost by ₹ 10,000
- (g) 10% increase in Selling Price and Variable Cost
- (h) 10% increase in Selling Price and 10% decrease in sales volume i) 50% increase in Variable Cost and 50% decrease in Fixed Costs j) Increase in Angle of Incidence

Solution:

Conceptual knowledge of the student will be put to test in question like this. One should not get bogged down by the figures given, but see actually what has happened. This is why it's called as study of interplay between Cost-Volume-Profit.

We know that the PV ratio is the Ratio of Contribution (Sales – Variable Cost) to Selling Price per unit. BEP is excess of Contribution over Fixed Cost. Now let us apply this to the independent situations given:

- (a) Increase in sales volume by 4,000 units: mere increase in volumes will not affect ratios.
It will increase profit in absolute terms. Hence, no effect on PV ratio and BEP
- (b) Decrease in Fixed Cost by ₹ 2 Lacs: The effect of Fixed Cost will be after the PV ratio.
Hence, this won't affect PV ratio. But BEP will reduce due to decrease in Fixed Cost.

- (c) Decrease in Variable Cost by ₹ 5 per unit: Any decrease in Variable Cost will have positive impact on PV ratio as Contribution Margin will increase. It will also have positive impact on the BEP and it will reduce.
- (d) Decrease in Contribution Margin by ₹ 1 per unit: reduction in Contribution Margin will have a negative impact. So PV ratio will decrease and BEP will increase.
- (e) Increase in Selling Price by 5%: this will have positive impact, so there will be improvement in PV ratio and reduction in BEP level.
- (f) Increase in Fixed Cost by ₹ 10,000: The effect of Fixed Cost will be after the PV ratio.
Hence, this won't affect PV ratio. But BEP will increase due to increase in Fixed Cost.
- (g) 10% increase in Selling Price and Variable Cost: As the increase in both is of same magnitude, this will neither change PV ratio nor change the BEP level.
- (h) 10 % increase in selling price will increase PV ratio and decrease BEP, However change in sales volume does not affect either.
- (i) 50% increase in Variable Cost and 50% decrease in Fixed Costs : The former will reduce the PV ratio as the Contribution Margin will be lower, and the later will re- duce the BEP level.
- (j) Increase in Angle of Incidence: This is the angle reflected by the sales and total cost lines in the simple BEP chart. Increase in the angle will denote increase in PV ratio and decrease in the BEP level.

Illustration 16.

A company operates through its three plants one each in East, West and North. Each factory has sent a summary report as given below:

₹ in 000s				
	Sales		Profits	
	Actual	Over (under) budget	Actual	Over (under) budget
East	1,100	(400)	135	(180)
West	1,450	150	210	90
North	1,200	(200)	330	(110)

Calculate for each factory and for the company as a whole, the Fixed Costs and the Break Even Sales.

Solution:

We know the P/V ratio is also given by (Change in Profits/Change in Sales). Here the change is with respect budget. Thus we can use this formula to compute PV ratios first as below:

Factory	Change in profit	Change in sales	PV ratio
East	180	400	45%
West	90	150	60%
North	110	200	55%

Please note that the word 'change' here means both increase and decrease. Hence, the absolute values of the change must be considered without positive or negative signs in above calculations.



Now we know, Sales * PV ratio = Contribution = Fixed Cost + Profit. Taking the actual sales and profit figures for each region and the whole company, we get

Factory	Sales ₹	Contribution (sales * PV ratio) ₹	Profit ₹	Fixed cost (contribution - profit) ₹	BEP sales (fixed cost/PV ratio) ₹
East	1,100	495	135	360	800
West	1,450	870	210	660	1,100
North	1,200	660	330	330	600
Total	3,750	2,025	675	1,350	2,500

Illustration 17.

If the Margin of Safety is ₹ 2,40,000 which is 40% of sales and the P/V ratio is 30%, calculate the BEP level and the profit at the sales volume of ₹ 9,00,000.

Solution:

There are many missing link which we need to find out. First, the Margin of Safety is given as 40% of Sales i.e. ₹ 2,40,000 = 40% of Sales.

So Sales = ₹ 6,00,000

We also know that the Margin of Safety = (Profit/P/V ratio) Thus, 2,40,000 = Profit/30%

Thus, Profit = ₹ 72,000

Now, for Sales of ₹ 6,00,000, the Contribution will be (6,00,000*30%) ₹ 1,80,000 and Profit is ₹ 72,000.

Thus Fixed Cost = Contribution – Profit = 1,80,000 – 72,000 = ₹ 1,08,000

Now, BEP = (Fixed Cost / P/V Ratio) = (1,08,000/30%) = ₹ 3,60,000

Secondly, the profit at Sales Volume of ₹ 9,00,000 will be

(Sales * P/V ratio) – Fixed Cost = (9,00,000*30%) – 1,08,000 = ₹ 1,62,000

Illustration 18.

A company manufactures a single product, is operating at 80% of its capacity with at Turnover of ₹ 800,000 at ₹ 25 per unit. The cost data is as under:

Material Cost ₹ 7.50 per unit, Labour Cost ₹ 6.25 per unit

Semi-variable Cost (including ₹ 3.75 as variable portion) ₹ 1,80,000

Fixed Cost is ₹ 90,000 up to 80% capacity and additional ₹ 20,000 will be needed beyond this level.

Calculate:

- Activity level at Break Even Point
- No. of units to be produced to earn Net Profit of 8% on sales
- Activity level needed to earn profit of ₹ 95,000 and
- Selling price per unit, if BEP is to be brought down to 40% of activity level

Solution:

Activity level at BEP

Selling Price 25.00

Variable Cost 17.50 (7.50 + 6.25 + 3.75) Contribution 7.50

No. of units at 80% capacity = 8,00,000 / 25 = 32,000 units

At this level the variable portion of Semi-Variable Costs = 3.75 * 32000 = ₹ 1,20,000

Thus the total Fixed Costs = Fixed Cost up to 80% capacity + Fixed portion of Semi-Variable Cost

Thus, Total Fixed Cost = 90,000 + (1,80,000 – 1,20,000) = ₹ 1,50,000

Now, BEP = (Fixed Cost / Contribution per unit) = (1,50,000/7.50) = 20,000 units.

The activity level at this volume will be = (20,000 * 80%)/32,000 = 50%

No. of units to be sold to get Profit of 8% on Sales

Now, let x be the no of units to be sold to get Profit of 8% on Sales. We get the following equation,

$$25x - 17.50x - 1,50,000 = (25 * 0.08) x$$

Solving it we get x = 27273 units

Activity level to get profit of ₹ 95,000

At the current level of activity, the profit is ₹ 90,000. So if a profit of ₹ 95,000 is needed, the capacity will have to be above 80%. This means an additional burden of ₹ 20,000.

Contribution needed = Fixed Cost + Desired Profit

Contribution needed = (1,50,000 + 20,000) + 95,000 = ₹ 2,65,000

No. of units to be sold = 2,65,000/7.50 = 35,333 units

At this level the capacity will be = (35,333 * 80%) / 32,000 = 88.33% Selling price per unit, if BEP is to be brought down to 40% of activity level Volume at 80% of activity level = 32,000 units

So, Volume at 40% of activity level = 16,000 units

Assume Selling Price x, we get the following equation

$$16,000x - 16,000 * 17.50 = 1,50,000$$

Solving this we get x = 26.875

Hence the price per unit should be ₹ 26.875



8.5 APPLICATION OF MARGINAL COSTING FOR DECISION MAKING

Decision making is a very important factor in every firm. Decision making means choosing or selecting a course of action from a given set of alternatives. Application of marginal costing plays a very significant role in this regard particularly for managerial decisions. These are explained below:

- (a) Fixation of selling price;
- (b) Make or buy decision;
- (c) Shut-Down or Continue decision;
- (d) Selection of most profitable mix;
- (e) Problems of Limiting factor;
- (f) Accepting additional orders and Exploring foreign market;
- (g) Diversification of products; and
- (h) Alternative courses of action;

These are explained below:

(a) Fixation of Selling Price

The techniques of marginal costing is very useful in fixation of selling prices of product, particularly in case of a multi-product company as the fixed overhead, under the circumstances, is not an excessive one. We should always remember while fixation of a selling price that selling price must cover the total cost plus a certain amount of profit. During trade depression or acute competition or exploring foreign markets, pricing of the product may be fixed at below the total cost for some time. The price should be fixed in such a manner that the same will cover the managerial cost plus a certain amount of fixed overhead. After sometime when condition of the market improves, in that case, price should be fixed at that one which must cover a certain amount of margin although margin depends on many factors, say, nature of product, demand and supply, degree of depressions etc. If selling price is fixed at below marginal cost, the firm will suffer a loss for the balance of marginal cost plus fixed expenses. If selling price is equal to marginal cost, there will not be any contribution and hence, the loss will suffer for fixed overhead.

Illustration 19.

From the particulars given below, determine what will be a selling price –

Average P/V Ratio is 50%.

Estimated Marginal Cost is ₹ 60.

Solution:

Let Selling Price be ₹ 100, Variable Cost will be ₹ 50.

i.e. Contribution will be ₹ 50

$$\text{So, P/V Ratio} = \frac{C}{S} = \frac{₹ 50}{₹ 100} = \frac{1}{2} \text{ or } 50\%$$

Naturally, the Selling Price bears a marginal cost of ₹ 60 should be :

$$= \frac{100}{50} \times ₹ 60 = ₹ 120$$

Illustration 20.

Determine whether is it wise to continue products from the particulars given below:

Fixed Cost ₹ 1,00,000

Marginal Cost ₹ 12 per unit

Selling Price ₹ 13 per unit

Units sold 50,000

Solution:

Ascertainment of Total Cost

	₹
Fixed Cost	1,00,000
Marginal Cost	<u>6,00,000</u>
(50,000 units × ₹ 12)	
Total Cost	<u>7,00,000</u>

$$\therefore \text{Cost per unit} = \frac{\text{₹ 7,00,000}}{50,000 \text{ units}} = ₹ 14$$

$$\text{Selling Price} = 50,000 \text{ units} \times ₹ 13 = ₹ 6,50,000$$

Thus, it is quite clear from the above that selling price does not cover total cost. Even then production should not be discontinued since it will minimize loss.

If the production is discontinued, loss will be ₹1,00,000, but if it continues, the loss will be

	₹
Selling price	6,50,000
Less: Total cost	<u>7,00,000</u>
Loss	<u>(-) 50,000</u>

(b) Make or Buy Decisions

Every firm has to face a problem relating to a component or a part, whether the same should be provided by the company itself with the organizations or the same should be purchased from outside suppliers. Decisions depends on the comparing the market price of the component and the marginal cost of producing the component by the company. Needless to say that if outside market price is more in comparison with the marginal cost of the component, then it is profitable to purchase the component. One interesting point is that if that is any unused capacity, the comparison between the two will be very helpful. But if the production is carried on at its full capacity, in that case, this decision should be taken into consideration after adding opportunity cost of the component. In short, if the marginal cost of the component is lower than the purchase price it may be suggested to produce that article is the factory itself.

Moreover, there are certain other factors which may influence or affect "Make or Buy" decisions, viz, (a) Nature of Product; (ii) Plant Capacity; (iii) Profit Maximization; (iv) Specialization etc.

Illustration 21.

A computer manufacturing firm wants to make a component T – 256D. The market price of the component in the open market is ₹ 11.50. but the cost structure of the component is:

	₹
Material	5.50
Labour	3.50
Over variable cost	1.00
Depreciation on fixed Assets	<u>2.50</u>
	<u>12.50</u>



(a) Should you make or buy? (b) Explain with your decision if the supplier of the component from outside offered at ₹ 9.70 each?

Solution:

Statement showing the marginal cost of component T-256D.

	₹
Material	5.50
Labour	3.50
Other variable overhead	<u>1.00</u>
	<u>10.00</u>

Comments:

- (i) The marginal cost of the component is ₹ 10.00. the market price in the open market of the product is ₹ 11.50. So, it can be recommended that the component should be manufactured by the company.
- (ii) But, if the component can be purchased from the open market at ₹ 9.70, it is advisable to purchase the same from outside suppliers, making a savings of ₹ 0.30 P.

(C) Shut-down or continue decision:

Sometimes, it becomes necessary to stop production due to: (i) lack of funds; (ii) shortage or irregular supply of raw materials; (iii) labour troubles etc. This shut down is practically temporary in nature and start its function as soon as condition improves. In this situation absorption costing will not help us due to the part played by fixed overhead. But marginal costing may help us in this regard. If a certain amount is available from contribution, it is advisable to continue production. Because certain amount of fixed costs will be recovered. But, if it is totally closed down, entire amount of fixed overhead shall have to be borne by the firm. So, whether a firm should be shut down or be continued depends on contribution. If contribution is more than the difference between the fixed cost at its normal level and fixed cost at its shut down level, then continuing with the product is advisable.

Illustration 22.

A company has three branches and their summarized accounting particulars for a period are:

Branches	Mumbai	Kolkata	Chennai
Sales	4,50,000	4,00,000	7,00,000
<u>Branch Expenses</u>			
Salaries	41,000	40,000	60,000
Advertisement	9,000	10,000	11,000
Other Expenses	10,000	11,000	12,000

Central office Expenses ₹ 1,55,000 apportioned to branches on the basis of sales. 25% of sales is taken as gross profit. Based on the above information, prepare a comparative Profit and Loss Statement for the different branches. Offer your views on the contemplated closure of the branch which shows a loss assuming that in the event of closure of a branch central office expenses: (a) will remain unaffected; (b) can be reduced by 30%.

Solution:**Comparative Profitability Statement**

	Mumbai		Kolkata		Chennai		Total	
	₹	₹	₹	₹	₹	₹	₹	₹
Gross Profit (25% of Sales) Less: Variable Overhead		1,12,500		1,00,000		1,75,000		3,87,500
Branch Expenses:								
Salaries	41,000		40,000		60,000		1,41,000	
Advertisement	9,000		10,000		11,000		30,000	
Other Expenses	10,000		11,000		12,000		33,000	
		60,000		61,000		83,000		2,04,000
Contribution		52,500		39,000		92,000		1,83,500
Less: Central Office Expenses (in proportion to sales)		45,000		40,000		70,000		1,55,000
Net Profit/Loss		(+) 7,500		(-) 1,000		(+) 22,000		(+) 28,500

From the above, it is quite clear that Kolkata branch shows a loss of ₹ 1,000 which should be closed down. But, as per question, this proposal should be evaluated with the help of two alternative courses of action, viz. (i) Central Office Expenses unaffected; (ii) Central Office Expenses can be reduced by 30% i.e., ₹ 46,500 (₹ 1,55,000 × 30%).

- (i) In the first case, if Kolkata branch is closed down, in that case, the loss of contribution of ₹ 39,000 and the entire central office expenses to be apportioned between two other branches, viz. Mumbai & Chennai, the overall profit i.e., the amount of contribution will naturally be come down by that amount which is shown as under.

	₹
Total contribution from Mumbai & Chennai (₹ 52,500 + ₹ 92,000)	1,44,500
Less: Central Office Expenses	1,55,000
Loss	10,500

Thus, Kolkata branch should not be shut down since its contribution is more than this amount i.e., ₹ 39,000

- (ii) In the second case, it may be mentioned here that if the reduction in central office expenses exceeds the loss of contribution, closing down this branch will improve the overall performances. viz. if Kolkata branch is closed down, profit will be increased by ₹ 7,500 (i.e., ₹ 46,500 – ₹ 39,000) which shows from the following:

	₹
Total contribution from Mumbai & Chennai	1,44,500
Less: Central Office Expenses (₹ 1,55,000 – ₹ 46,500)	1,08,500
Net Profit	36,000

So, closing over of Kolkata Branch is more profitable.



(d) Selection of Most Profitable Mix

Sometimes the management of the firm faces problems regarding the best method of production amount alternatives, or, to decide which product will give maximum profit. Here, technique of marginal costing will help us a lot for determining the best method of production among alternatives or to decide which product will give maximum profit. For this purpose, we are to compute contribution at first under various product-mix. Naturally, the product which represents the highest contribution will be selected/ given highest priority and vice-versa.

Illustration 23.

The Director of a company are considering sales budget for the next budget period. From the following information you are required to show clearly to management:

- (i) The marginal product cost & the contribution per unit.
- (ii) The total contribution resulting from each of following sales mixtures.

	Product -A (₹)	Product-B (₹)
Direct Materials	10	9
Direct Wages	3	2
Selling Price	20	15
Fixed Cost (Total) ₹ 800		

(Variable expenses are allowed to product as 100% of direct wages)

Sales Mixture:

- (a) 100 units of product A and 200 units of B
- (b) 150 units of product A and 150 units of B
- (c) 200 units of product A and 100 units of B

Recommended which of the sale mixture should be adopted.

Solution:

Statement Showing the Comparative Contribution per unit

	Product - A		Product - B	
	₹	₹	₹	₹
Selling Price		20		15
Less: <u>Variable Cost:</u>				
Direct Material	10		9	
Direct Labour	3		2	
Variable Expenses	3	16	2	13
Contribution		4		2
P/V Ratio		20%		13½%

Now it is quite clear from the above comparative statement that as P/V ratio of Product A is higher than P/V ratio of Product B. Product A is more profitable. As such, the mixtures which consider the maximum number of Product A would be more profitable, which is proved from the following computation.

Sales Mixture

Product	Contribution Per Unit (₹)	Mix A		Mix B		Mix C	
		Unit	Total Contribution (₹)	Units	Total Cost (₹)	Units	Total Cost (₹)
A	4	100	400	150	600	200	800
B	2	200	400	150	300	100	200
		300	800	300	900	300	1,000

Sale Mixture (C) 200 units of Product A & 100 units of Product B will give highest contribution.

(e) Problem of Limiting Factor:

Limiting factor or key factor is the factor that sets a limit to the total activity of a firm and which influences budgets as well as production capacity. For example, a firm may have all the available resources except that the same is unable to procure the full quantity of materials which are required for production purpose. Here, material is the key factor or limiting factor. This is very important while preparing budgets for production and sales also.

Thus, there may be different key factors viz. (a) Material (Non-availability of supply); (b) Labour (shortage of skilled labour); (c) Plant (limited capacity due to lack of capital and space or shortage of supply), (d) Sales (Inadequate Warehousing facilities); and (e) Management (shortage of efficient executives) etc.

In order to maximize profit a firm must concentrate to use all its available resources for the purpose of production and to sell the maximum quantities of the said products which must present maximum contribution. Although, we know that key factor does not create any permanent problem and which can be tackled after considering some special decisions, yet, analysis of contribution which is based on key factor can help us to earn maximize profit. In short, if there any limiting factor selection of product must depend on the pairs of contribution per unit of a limiting factor. (Although it is applicable if there is only one key factor). The higher the contribution per unit of limiting factor, the more profitable is the product. Thus, profitability is measured by:

$$\text{Profitability} = \frac{\text{Contribution}}{\text{Key/Limiting factor}}$$

Illustration 24.

	Product –A ₹	Product –B ₹
The following data given:		
Direct Material	20	10
Direct labour @ ₹ 3 per hr	6	9
Direct overhead @ ₹ 4 per hr	9	12
Selling Price	90	100
Standard Time	2 hrs.	3 hrs.

State which product you would recommend to manufacturing where (i) Labour time is the key factor; (ii) Sale is key factor.

**Solution:**

Particulars	Product – A		Product -B	
	₹	₹	₹	₹
Selling Price		90		100
Less: Variable Cost				
Direct Materials	20		10	
Direct Labour	6		9	
Variable overheads	8	34	12	31
Contribution		56		69
(i) Contribution per labour hour	₹ 56 ÷ 2 = ₹ 28		₹ 69 ÷ 3 = ₹ 23	
(ii) Contribution per rupee of sale value	₹ 56 ÷ ₹ 90 = ₹ 0.69		₹ 69 ÷ ₹ 100 = ₹ 0.69	

Comment

- (a) When labour hour is the key factor **Product -A**, should be recommended as its contribution per labour hour is greater than that of **Product - B**.
- (b) Similarly, when sale value is the key factor, **Product – B** should be recommended as its contribution per rupee of sale value is greater than that of **Product - A**.

Illustration 25.

A company manufactures and market three products A,B and C. All the three products are made from the same set of machines. Production is limited by machine capacity.

From data given below, indicate priorities for products A,B and C with a view to maximize profits.

	Product –A ₹	Product – B ₹	Product - C ₹
(i) Direct Material Cost (per unit)	2.25	3.25	4.25
(ii) Direct Labour Cost (,,)	0.50	0.50	0.50
(iii) Other Variable Cost (,,)	0.30	0.45	0.71
(iv) Selling Price cost (,,)	5.00	6.00	7.00
(v) Standard Machine Time Required (,,)	39 units	20 units	28 units

From the following year, the company falls extreme shortage of raw materials. It is noted that 3kg, 4 kg, and 5kg of raw materials are required to produce one unit of A,B, and C respectively.

How would product priorities change?



The home market can consume only 6,000 articles at a selling price of ₹ 120 per articles. An additional order for supply of 4,000 articles is received from a foreign country at ₹45 per article. Should this order be accepted or not?

Solution:

Profitability Statement

Particulars	Cost Per Unit		Cost of 4,000 articles	
	₹	₹	₹	₹
Selling Price		45.00		1,80,000
Materials (84,000 ÷ 6,000)	14.00		56,000	
Wages (72,000 ÷ 6,000)	12.00		48,000	
Variable Overheads (48,000 ÷ 6,000)	7.00		28,000	
Variable Selling Distribution (30,000 ÷ 6,000)	5.00		20,000	
		38.00		1,52,000
Contribution		7.00		28,000

From the above, it becomes clear that if foreign order of 4,000 articles are accepted, there will be an additional contribution of ₹ 28,000. As the amount of total fixed overhead was totally recovered against 6,000 articles for home market, the so called additional contribution is treated as profit. Thus the foreign order should be accepted.

(G) Diversification of Products

Sometimes a firm may introduce a new product in the market along with the existing one to capture increased market share. Whether the said new product will be a profitable one or not depends on the contribution per unit of a product and the fixed overhead. Usually, fixed overhead is recovered against the existing products, so the cost of new products will include only the marginal/ variable cost. As such, whatever will be the contribution the same will be treated as revenue. But, if any extra fixed overhead has to be incurred for such new product, the same must carefully be considered. Whenever the question of diversification of product will arise, it may be assumed that there will not be any additional fixed cost. Whether, the diversification of product is profitable or not, it depends on its contribution. If there is negative contribution, question of diversification of product should not arise.

(H) Alternative Course of Action

If there are more alternative course of action regarding the manufacture of a product, the management has to face a decision-making problem. The problem can be solved by the application of Marginal costing. The solution of such a problem depends on the contribution. In short, the alternative which will present highest contribution should be selected and vice – versa i.e. the alternative which will yield lowest contribution will be rejected.

Illustration 27.

The Management of a concern, manufacturing two products, A and B have the following independent possibilities before them.

- To produce and sell 32,000 additional units of Product B only if the production of A is reduced by 40,000 units.
- To reduce the price of Product A by Re 0.20 per unit. This will result in a 25% increase in the sales of Product A without any change in the activity of Product B.

(c) To produce and sell 1,00,000 units of Product A and 2,00,000 units of Product B.

	Product – A	Product - B
Sales (In units)	1,00,000	2,00,000
Sales (in values)	5,00,000	17,00,000
Cost of sales	3,00,000	12,00,000
Gross Margin	2,00,000	5,00,000
Selling and Distribution Expenses	1,20,000	3,00,000
Net Margin	80,000	2,00,000

Direct cost included in total cost amount to ₹ 2,40,000 for product A and ₹ 6,80,000 for product B.

Present the information to the management in a suitable form, giving your recommendation.

Solution:

At first we are to find out direct cost per unit and total fixed cost of both the products as under.

Ascertainment of Net Profit

Particulars	Product –A		Product – B		Total
	Per unit	1,00,000 units	Per unit	2,00,000 units	
	₹	₹	₹	₹	₹
Sales	5.00	5,00,000	8.50	17,00,000	22,00,000
Less: Direct Cost	2.40	2,40,000	3.40	6,80,000	9,20,000
Contribution	2.60	2,60,000	5.10	10,20,000	12,80,000
Less: Fixed Cost (cost of sales+S.D.cost – Direct cost)		1,80,000		8,20,000	10,00,000
Net Profit		80,000		2,00,000	2,80,000

Comparative Profitable Statement

Particulars	Proposal (a)			Proposal (b)			Proposal (c)		
	Product-A	Product-B	Total	Product-A	Product-B	Total	Product-A	Product-B	Total
No. of units	60,000	2,32,000	2,92,000	1,25,000	2,00,000	3,25,000	1,10,000	2,10,000	3,20,000
	₹	₹	₹	₹	₹	₹	₹	₹	₹
Contribution	1,56,000	11,56,000	13,39,200	3,00,000	10,20,000	13,20,000	2,86,000	10,70,000	13,57,000
Existing Contribution	-	-	12,80,000	-	-	12,80,000			12,80,000
Increased Contribution			59,200			40,000			77,000

Comment:

From the above profitability statements, it becomes clear that **Product – C**. Presents highest contribution and so the same should be accepted at first among all the three alternatives.

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