Paper – 8: Cost Accounting & Financial Management

Question.1

(a) What are the steps involved in Cost Control.

Answer:

Cost Control involves the following steps and covers the various facets of the management.

- Planning
- Communication
- Motivation
- Appraisal and reporting
- Decision making

(b) State the method of Costing that would be most suitable for

(i) Oil refinery

(ii) Bicycle Manufacturing

(iii) Interior decoration

(iv) Airlines Company

Answer:

Industry	Method of Costing
Oil Refinery	Process Costing
Bicycle manufacturing	Multiple Costing
Interior decoration	Job Costing
Airlines	Operating Costing

(c) Distinguish between Product cost and Period Cost.

Answer:

Product Cost: These are also known as variable Cost or inventoriable Costs and vary with change in activity level. It may be noted that, unlike fixed costs, variable cost per unit remains fixed and is the same at all levels of activity E.G. - power, direct raw materials, direct wages, etc.

Period Costs: These are also known as fixed costs or capacity costs and remain fixed irrespective of the volume of output for a given period of time. They remain constant in total amount at all levels of activity. It follows that fixed cost per unit decreases with increase in production and vice-versa. E.g. – factory rent, insurance of machine, manager's salary, etc.

(d) In a factory, Group Bonus system is in use which is calculated on the basis of earnings under time rate.

I.	**Output of the group**	**16,000 units**
II.	**Piece rate per 100 units**	**₹2.50**
III.	**No. of hours worked by:**	**P: 90**
		Q: 72
		R: 80
		S: 100
IV.	**Time rate per hour for:**	**P: Re.0.80**
		Q: Re.1.00
		R: ₹1.20
		S: Re.0.80

Calculate the total of bonus and wages earned by each worker.

Answer:

Total Piece Earnings for the group= $\frac{₹2.50}{100} \times 16,000 = ₹400$

Time Wages of the workers:

P	90 hrs. @ Re.0.80	₹72
Q	72 hrs @ Re.1.00	₹72
R	80 hrs. @ ₹1.20	₹96
S	100 hrs. @ Re.0.80	₹80
		₹320

Therefore, total of Bonus and Wages earned by:

		₹
P	$\frac{400}{320}\times 72$	=90
Q	$\frac{400}{320}\times 72$	=90
R	$\frac{400}{320}\times 96$	=120
S	$\frac{400}{320}\times 80$	=100
		=₹400

(e) Royalty paid on sales ₹25,000; Royalty paid on units produced ₹20,000, hire charges of equipment used for production ₹2,500, Design charges Rs.15,000, Software development charges related to production ₹22,500. Compute the Direct Expenses as per CAS-10.

Answer:

Computation of Direct Expenses

	Particulars	Amount (₹)
	Royalty paid on Sales	25,000
Add	Royalty paid on units produced	20,000
Add	Hire charges of equipment used for production	2,500
Add	Design Charges	15,000
Add	Software development charges related to production	22,500
	Direct Expenses	**85,000**

Note:

- Expenses are related to either manufacturing of the product or rendering of service
- These costs are directly identifiable and can be linked with the cost object and are not related to direct material cost or direct employee cost. Hence, these are considered as Direct Expenses.

(f) From the following particulars given below compute Machine hour rate for a machine.

- **Cost ₹24,000**
- **Scrap value ₹4,000**
- **Estimated Working life 40,000 hours**
- **Estimated cost of repairs and maintenance during the whole life ₹2,000**
- **Standard charges of the shop for 4 weekly period ₹3,000**
- **Working hours in 4 weekly period 100 hours**
- **No. of machines in the shop each of which is liable for equal charge are 30 machines.**
- **Power used per hour 4 units @ 20p. per unit**

Answer:

Computation of Machine Hour Rate ₹

		Rate per hr.

Standing Charges Standing Charges	[3,000 / (100 x 30)	1.00
Machine Expenses Depreciation Repairs Power	[(24,000 – 4,000) / 40,000] = 0.50 [2,000 / 40,000] = 0.05 [4 x 0.2] = 0.80	 1.35
Machine Hour Rate =		**2.35**

(g) The total asset-turnover ratio and total asset to net-worth of LEENZA LTD. are 2 and 1.75 respectively. If the net-profit margin of the company is 8%, what will be its Return on Equity (ROE)?

Answer:

The Return on Equity (ROE):
PAT/Sales × (SALES /TA × TA/Net worth)
= 0.08 × 2.00 × 1.75 = 28% (0.28).

(h) The Degree of Operating Leverage (DOL) and the Degree of Financial Leverage (DFL) of ARASKA LTD. are 3 and 1.67 respectively. If the management of the company targets to increase the EPS by 10%, by how much percentage should sales volume be increased? (Rounded off your answer to the nearest integer.)

Answer:

DTL =DOL × DFL = 3 × 1.67 = 5.01
Therefore, as per the concept of DTL, in order to increase the EPS by 10% the sales volume will be increased by 10 ÷ 5.01 = 2%

(i) Why a dividend policy is important?

Answer:

The dividend policy of a company determines what proportion of earnings is distributed to the shareholders by way of dividends, and what proportion is ploughed back for reinvestment purposes. Since the main objective of financial management is to maximize the market value of equity shares, one key area of study is the relationship between the dividend policy and market price of equity shares. In this regard dividend policy assumes significance.

(j) A company has expected Net Operating Income – ₹ 4,80,000; 10% Debt – ₹14,40,000 and Equity Capitalisation rate - 20% what is the weighted average cost of capital for the company?

Answer:

$$\text{Market value of equity (s)} = \frac{4,80,000 - 1,44,000}{0.20} = 16,80,000$$

Total value of firm (V) = S + D = 16,80,000 + 14,40,000 = 31,20,000

$$K_0 = \frac{NOI}{V} = \frac{4,80,000}{31,20,000} = 0.15385$$

Section A

Question.2

(a) Costing is defined as the technique and process of ascertaining costs. Explain.

Answer:

The technique in costing consists of the body of principles and rules for ascertaining the costs of products and services. The technique is dynamic and changes with the change of time. The process of costing is the day to day routine of ascertaining costs. It is popularly known as an arithmetic process and daily routine. For example If the costs of producing a product say

₹ 200/-, then we have to refer material, labour and expenses accounting and arrive the above cost as follows:

Material	₹	100
Labour	₹	40
Expenses	₹	60
Total	₹	200

Finding out the breakup of the total cost from the recorded data is a daily process. That is why it is called daily routine. In this process we are classifying the recorded costs and summarizing at each element and total is called technique.

(b) Discuss the classification of cost based on behavior and controllability.

Answer:

Classification on the basis of behavior or variability

- **Fixed Cost**: Fixed cost is the cost which does not vary with the change in the volume of activity in the short run. These costs are not affected by temporary fluctuation in activity of an enterprise. These are also known as period costs. Example: Rent, Depreciation...etc
- **Variable Cost**: Variable cost is the cost of elements which tends to directly vary with the volume of activity. Variable cost has two parts (i) Variable direct cost (ii) Variable indirect costs. Variable indirect costs are termed as variable overheads. Example: Direct labour, Outward Freight...etc
- **Semi-Variable Costs:** Semi variable costs contain both fixed and variable elements. They are partly affected by fluctuation in the level of activity. These are partly fixed and partly variable costs and vice versa. Example: Factory supervision, Maintenance...etc.

Classification on the basis of controllability

- **Controllable cost:** These costs are influenced by the managerial action and are within their control. Controllability depends upon the level of management, the time period (short term or long term), location of the unit, etc. Controllable costs incurred in a particular responsibility centre can be influenced by the action of the executive heading that responsibility centre.
- **Uncontrollable cost:** These costs are not influenced by managerial action are not within the control.

Question.3

(a) Define Cost Accountancy. Cost Accountancy is the science, art and practice of a Cost Accountant. State.

Answer:

Cost Accountancy is defined 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 purposes of managerial decision making. Thus, Cost Accountancy is the science, art and practice of a Cost Accountant.

- It is **science** because it is a systematic body of knowledge having certain principles which a cost accountant should possess for proper discharge of his responsibilities.
- It is an **art** as it requires the ability and skill with which a Cost Accountant is able to apply the principles of Cost Accountancy to various managerial problems.
- **Practice** includes the continuous efforts of a Cost Accountant in the field of Cost Accountancy. Such efforts of a Cost Accountant also include the presentation of information for the purpose of managerial decision making and keeping statistical records.

(b) Distinguish between Cost Control and Cost Reduction.

Answer:

Both Cost Reduction and Cost Control are efficient tools of management but their concepts and procedure are widely different. The differences are summarized below:

Cost Control	Cost Reduction
Cost Control represents efforts made towards achieving target or goal.	Cost Reduction represents the achievement in reduction of cost.
The process of Cost Control is to set up a target, ascertain the actual performance and compare it with the target, investigate the variances, and take remedial measures.	Cost Reduction is not concern with maintenance of performance according to standard.
Cost Control assumes the existence of standards or norms which are not challenged.	Cost Reduction assumes the existence of concealed potential savings in standards or norms which are therefore subjected to a constant challenge with a view to improvement by bringing out savings.
Cost Control is a preventive function. Costs are optimized before they are incurred.	Cost Reduction is a corrective function. It operates even when an efficient cost control system exists. There is room for reduction in the achieved costs under controlled conditions.
Cost Control lacks dynamic approach.	Cost Reduction is a continuous process of analysis by various methods of all the factors affecting costs, efforts and functions in an organization. The main stress is upon the why of a thing and the aim is to have continual economy in costs.

Question.4 List out the advantages and disadvantages of Cost Accounting System.
Answer:

The Cost Accounting System has the following advantages:-

- A cost system reveals unprofitable activities, losses or inefficiencies occurring in any form such as
  - Wastage of man power, idle time and lost time.
  - Wastage of material in the form of spoilage, excessive scrap etc., and
  - Wastage of resources, e.g. inadequate utilization of plant, machinery and other facilities.
- Cost Accounting locates the exact causes for decrease or increase in the profit or loss of the business. It identifies the unprofitable products or product lines so that these may be eliminated or alternative measures may be taken.
- Cost Accounts furnish suitable data and information to the management to serve as guides in making decisions involving financial considerations.
- Cost Accounting is useful for price fixation purposes. Although sale price is generally related more to economic conditions prevailing in the market than to cost, the latter serves as a guide to test the adequacy of selling prices.
- With the application of Standard Costing and Budgetary Control methods, the optimum level of efficiency is set.
- Cost comparison helps in cost control. Comparison may be period to period, of the figures in respect of the same unit or factory or of several units in an industry by employing Uniform Costs and Inter- Firm Comparison methods. Comparison may be made in respect of cost of jobs, process or cost centres.
- A cost system provides ready figures for use by the Government, wage tribunals and boards, and labour and trade unions.

- When a concern is not working to full capacity due to various reasons such as shortage of demands or bottlenecks in production, the cost of idle capacity can readily worked out and repealed to the management.
- Introduction of a cost reduction programme combined with operations research and value analysis techniques leads to economy.
- Marginal Costing is employed for suggesting courses of action to be taken. It is a useful tool for the management for making decisions.
- Determination of cost centres or responsibility centres to meet the needs of a Cost Accounting system, ensures that the organizational structure of the concern has been properly laid responsibility can be properly defined and fixed on individuals.
- Perpetual inventory system which includes a procedure for continuous stock taking is an essential feature of a cost system.
- The operation of a system of cost audit in the organization prevents manipulation and fraud and assists in furnishing correct and reliable cost data to the management as well as to outside parties like shareholders, the consumers and the Government.

Limitations of Cost Accounting system

Like any other system of accounting, Cost Accountancy is not an exact science but an art which has developed through theories and accounting practices based on reasoning and commonsense. Many of the theories cannot be proved nor can they be disproved. They grownup in course of time to become conventions and accepted principles of Cost Accounting. These principles are by no means static, they are changing from day to day and what is correct today may not hold true in the circumstances tomorrow.

Large number of Conventions, Estimates and Flexible factors: No cost can be said to be exact as they incorporate a large number of conventions, estimations and flexible factors such as:-

- Classification of costs into its elements.
- Materials issue pricing based on average or standard costs.
- Apportionment of overhead expenses and their allocation to cost units/centres.
- Arbitrary allocation of joint costs.
- Division of overheads into fixed and variable.

Cost Accounting lacks the uniform procedures and formats in preparing the cost information of a product/ service. Keeping in view this limitation, all Cost Accounting results can be taken as mere estimates.

Question.5 Distinguish between Financial Accounting and Cost Accounting.

Answer:

The main differences between Financial and Cost Accounting are as follows:

	Financial Accounting	Cost Accounting
a.	It provides the information about the business in a general way. i.e Profit and Loss Account , Balance Sheet of the business to owners and other outside partners.	It provides information to the management for proper planning, operation, control and decision making.
b.	It classifies records and analyses the transactions in a subjective manner, i.e according to the nature of expense.	It records the expenditure in an objective manner, i.e according to the purpose for which the costs are incurred.
c.	It lays emphasis on recording aspect without attaching any importance to control.	It provides a detailed system of control for materials, labour and overhead costs with the help of standard costing and budgetary control.
d.	It reports operating results and financial	It gives information through cost reports

	position usually at the end of the year.	to management as and when desired.
e.	Financial Accounts are accounts of the whole business. They are independent in nature.	Cost Accounting is only a part of the financial accounts and discloses profit or loss of each product, job or service.
f.	Financial Accounts records all the commercial transactions of the business and include all expenses i.e Manufacturing, Office, Selling etc.	Cost Accounting relates to transactions connected with Manufacturing of goods and services, means expenses which enter into production.
g.	Financial Accounts are concerned with external transactions i.e transactions between business concern and third party.	Cost Accounts are concerned with internal transactions, which do not involve any cash payment or receipt.
h.	Only transactions which can be measured in monetary terms are recorded.	Non-Monetary information like No of of units/ hours etc are used.
i.	Financial Accounting deals with actual figures and facts only.	Cost Accounting deals with partly facts and figures and partly estimates / standards.
j.	Financial Accounting do not provide information on efficiencies of various workers / Plant & Machinery.	Cost Accounts provide valuable information on the efficiencies of employees and Plant & Machinery.
k.	Stocks are valued at Cost or Market price whichever is lower.	Stocks are valued at Cost only.
l.	Financial Accounting is a positive science as it is subject to legal rigidity with regarding to preparation of financial statements.	Cost Accounting is not only positive science but also normative because it includes techniques of budgetary control and standard costing.
m.	These accounts are kept in such away to meet the requirements of Companies Act as per Sec 209 (1) (a) to (c)& Income Tax Act Sec 44AA.	Generally Cost Accounts are kept voluntarily to meet the requirements of the management, only in some industries Cost Accounting records are kept as per the Companies

Question.6

(a) Write a note on CAS-4.

Answer:

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

- 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.

- The cost statement prepared based on standard will be used for determination of assessable value of excisable goods used for captive consumption.
- 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 standard 1.

(b) Explain the term Cost Apportionment and Cost Absorption.

Answer:

Cost Apportionment

When items of cost cannot directly charge to or accurately identifiable with any cost centres, they are prorated or distributed amongst the cost centres on some predetermined basis. This method is known as cost apportionment. Thus we see that items of indirect costs residual to the process of cost allocation are covered by cost apportionment. The predetermination of suitable basis of apportionment is very important and usually following principles are adopted - (i) Service or use (ii) Survey method (iii) Ability to bear. The basis ultimately adopted should ensure an equitable share of common expenses for the cost centres and the basis once adopted should be reviewed at periodic intervals to improve upon the accuracy of apportionment.

Cost Absorption

Ultimately the indirect costs or overhead as they are commonly known will have to be distributed over the final products so that the charge is complete. This process is known as cost absorption, meaning thereby that the costs absorbed by the production during the period. Usually any of the following methods are adopted for cost absorption - (i) Direct Material Cost Percentage (ii) Direct Labour Cost Percentage (iii) Prime Cost Percentage (iv) Direct Labour Hour Rate Method (v) Machine Hour Rate, etc. The basis should be selected after careful maximum accurancy of Cost Distribution to various production units. The basis should be reviewed periodically and corrective action whatever needed should be taken for improving upon the accuracy of the absorption.

Question.7

(a) List out the objective of Material Control System.

Answer:

The objectives of a system of material control are as following:-

- To make continuous availability of materials so that there may be uninterrupted flow of materials for production. Production may not be held up for want of materials.
- To purchase requisite quantity of materials to avoid locking up of working capital and to minimize risk of surplus and obsolete stores.
- To make purchase competitively and wisely at the most economical prices so that there may be reduction of material costs.
- To purchase proper quality of materials to have minimum possible wastage of materials.
- To serve as an information centre on the materials knowledge for prices, sources of supply, lead time, quality and specification.

(b) State the term Purchase Requisition.

Answer:

Purchases Requisition is a request made to the Purchase Department to procure materials of given description and of the required quality and quantity within a specified period. It is a

formal request and it authorizes the Purchase Department to issue a Purchase Order to secure materials intended for periodic requirements of a given material or materials to provide guidance to the Purchase Department to estimate the future requirements in order to secure maximum purchase benefits in the form of higher discount and better credit terms. The extent and range of materials requirements provide a basis for preparation of a purchase budget. The actual requirements of a given period can be summarised from the purchases requisition and compared with the purchase budget in order to determine the variances and the reasons thereof. This form is prepared by storekeeper for regular items and by the departmental head for special materials not stocked as regular items.

The Purchase Requisition is prepared in three copies. Original will be sent to Purchase department, Duplicate copy will be retained by the indenting (request initiating) department and the triplicate will be sent to approver for approving the purchase requisition.

Purchase Requisition provides the three basic things:-

- What type of material is to be purchased?
- When to be purchased?
- How much is to be purchased?

Question.8

(a) How do you treat the following items in Cost Accounting?

(i) Treatment of Packing Cost

(ii) Treatment of Tools Cost

(iii) Treatment of Discount Allowed by supplier for Bulk Purchase

(iv) Treatment of Variance Detected at Stock Taking:

Answer:

(i) Treatment of Packing Cost

Packing materials is of two types - primary and secondary. Primary containers are essential to put the goods in a saleable condition like ink in a bottle, jam in a jar, etc. Secondary containers are required for delivery/transportation like crates, etc., they are returnable and reusable.

The cost of primary containers should be charged off as a production overhead and included in production cost. On the other hand, the cost of secondary containers should charge as a selling and distribution overhead. The cost of reusable container should be charged when they could not be used any more due to damage, wear and tear, etc.

In some cases, the primary packing materials may be made decorative with a view to promote sales, and in such a case a part of the primary packing materials should be apportioned as a selling cost.

(ii) Treatment of Tools Cost:

Tools may be classified as (i) large tools and (ii) small tools, large tools are normally capitalized and depreciation charged to Factory Overheads. For small tools the following treatment may apply:

- **Capitalization Method:** In line with large tools.
- **Revaluation Method:** At the end of the year revaluation for unused life of the tools is made and the difference between original cost and revalued cost is charged as factory overheads.
- **Write-off-Method:** Whenever such small tools are issued the department is debited with the cost. Alternatively cost of tools issued during a period is accumulated and distributed to various departments on some suitable basis, e.g., hours worked.

(iii) Treatment of Discount Allowed by Suppliers for Bulk Purchases:

Discounts Allowed on purchases are of two types, viz., Cash Discount and Quantity and Trade Discount. Cash Discount is usually allowed for prompt payment and the Quantity and Trade Discount for heavy purchases. The amount of the latter discount is already

credited in the invoice and the net landed cost of the material exclusive of the discount is considered as the material cost.

(iv) Treatment of Variance Detected at Stock Taking:

If the variances are due to normal causes, i.e., due to normal dry age, shrinkage, evaporation, etc., these are valued at the ruling ledger rates of the items of material concerned and the amount is taken as an item of stores overhead and recovered from production as a percentage of direct material cost consumed. If the variances are due to abnormal causes, viz., theft, fraud, misappropriation etc., these are valued by writing off to Costing Profit and Loss Account.

(b) Explain the general principles in designing the system of remuneration to employees.

Answer:

The general principles which should be considered in designing a proper method of labour remuneration is summarized below:-

- The basis should be simple to understand and the various segments of the system, should clearly mention in detail.
- The employees should be able to accept the method without any doubts or hesitation in their mind.
- The method should be flexible enough to adopt any changes or variation which may become inevitable at a later stage.
- The method should be able to cut down/stabilize the labour turnover which is often causes due to unsatisfactory or unacceptable method of remuneration.
- The method should assure fair wages to the employees so that both the employers and the employees can gain by such methods, the former by way of higher productivity and the latter by way of higher earnings.
- Incentive payments should be a part of the method of remuneration with a view to increase the labour productivity.
- The method should be able to minimise the level of absentees so that avoidable wastages in labour cost can be reduced.
- The method should ultimately result into higher production and improved quality of the output.

Question.9

(a) Explain the principle of valuation of Receipts of Material and valuation of Martial issues as per CAS-6.

Answer:

Principles of valuation of receipt of materials as per CAS-6 are as follows:-

- The material receipt should be valued at purchase price including duties and taxes, freight inwards, insurance and other expenditure directly attributable to procurement (net of discounts, rebates, taxes and duties refundable) that can be quantified with reasonable accuracy at the time of acquisition.
- Finance costs incurred in connection with the acquisition of materials shall not form part of the material cost.
- Self manufactured item shall be valued including the direct material, direct labour, direct expenses, factory overheads, share of administrative overheads relating to the production but excluding share of other administrative overheads, finance cost and marketing overheads. In case of captive consumption, valuation shall be in accordance with Cost Accounting Standard-4.
- Spares which are specific to an item of equipment shall not be taken into inventory, but shall be capitalized with cost of specific equipment. Cost of spares procured for equipment shall be amortized over a period, not exceeding the useful life of the equipment.

- 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.
- 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.
- The foreign exchange component of imported material cost is converted at the rate on the date of transaction (material / service recording in books of accounts). Any subsequent change in the exchange rate till payment or otherwise will not form part of the material cost.
- Any demurrage or detention charges or penalty levied by transport or other authorities shall not form part of the cost of materials.
- Subsidy/grant/incentive and any such payment received / receivable with respect to any material shall be reduced from cost for ascertainment of the cost of cost object.

Valuation of Material Issues:

Principles of valuation of issue of materials as per CAS-6 are as follows :-

- Issues shall be valued using appropriate assumptions on cost flow such as FIFO, LIFO, and Weighted average rate. The method of valuation shall be followed on a consistent basis.
- Where materials are accounted at standard cost, the price variances related to materials shall be treated as part of material cost.
- Any abnormal cost shall be excluded from the material cost.
- Wherever the material cost includes the transportation costs, determination of transportation cost shall be based on CAS-5, i.e Equalized Transportation Costs.
- Material cost may include imputed costs not considered in Financial Accounts.
- Self manufactured item shall be valued including the direct material, direct labour, direct expenses, factory overheads, share of administrative overheads relating to the production but excluding share of other administrative overheads, finance cost and marketing overheads. In case of captive consumption, valuation shall be in accordance with Cost Accounting Standard-4.
- The material cost of normal scrap / defectives which are rejected shall be included in the material cost of goods manufactured. The material cost of actual scrap / defectives, not exceeding the normal shall be adjusted in the material cost of good production. Material cost of abnormal scrap/ defectives should not be included in material cost.

(b) Describe how to measure Employee Cost as per CAS-7.

Answer:

Measurement of Employee Cost: Inclusions and Exclusions:

The following items are to be **'included'** for the purpose of measuring employee cost:

- Any payment made to an employee either in cash or kind
- Gross payments including all allowances payable and includes all benefits
- Bonus, ex-gratia, sharing of surplus, remuneration payable to Managerial personnel including Executive Directors and other officers
- Any amount of amortization arising out of voluntary retirement, retrenchment, termination, etc
- Variance in employee payments/costs, due to normal reasons (if standard costing system is followed)
- Any perquisites provided to an employee by the employer

The following items are to be 'excluded' for the purpose of measuring employee cost:

- Remuneration paid to Non-Executive Director
- Cost of idle time [= Hours spent as idle time x hourly rate]
- Variance in employee payments/costs, due to abnormal reasons (if standard costing system is followed)

- Any abnormal payment to an employee – which are material and quantifiable
- Penalties, damages paid to statutory authorities or third parties
- Recoveries from employees towards benefits provided – this should be adjusted/reduced from the employee cost
- Cost related to labour turnover – recruitment cost, training cost and etc
- Unamortized amount related to discontinued operations.

Question.10

(a) From the details given below, calculate:

(i) Re-ordering level

(ii) Maximum level

(iii) Minimum level

(iv) Danger level

Re-ordering quantity is to be calculated on the basis of following information:

- **Cost of placing a purchase order is ₹20**
- **Number of units to be purchased during the year is 5,000**
- **Purchase price per unit inclusive of transportation cost is ₹50**
- **Annual cost of storage per units is ₹5**
- **Details of lead time: Average 10 days, Maximum 15 days, Minimum 6 days.**

For emergency purchases 4 days

- **Rate of consumption: Average: 15 units per day,**
  Maximum: 20 units per days

Answer:

$$EOQ = \sqrt{\frac{2 \times 5{,}000 \times 20}{5}}$$

= 200 units

Min. Rate of Consumption = (15×2)–20

= 10 units per day

(i) Re-order Level (ROL)	= Maximum usage per period x Maximum Re-order Period
	= 20 units per day x 15 days = 300 units
(ii) Maximum level	= ROL + ROQ – (Min. Rate of Consumption x Min. Re-order Period)
	= 300 units + 200 units – (10 units per day x 6 days) = 440 units
(iii) Minimum level	= ROL – (Average Rate of Consumption x Average Re-order Period)
	= 300 units – (15 units per day x 10 days)= 150 units
(iv) Danger level	= Average Consumption x Lead time for Emergency Purchases
	= 15 units per day x 4 days = 60 units

(b) The Purchase and issues of material X in the month of January, 2014 is as follows:

Jan. 3 Purchase 800 units @ ₹ 20 per unit.
Jan. 17 Purchase 800 units @ ₹ 20 per unit.
Jan. 8 Purchase 700units @ ₹ 18 per unit.
Jan.25 Purchase 500 units @ ₹ 25 per unit.

Jan. 9 Issue 600 units.
Jan. 11 Issue 800 units.
Jan.31 Issue 1,000 units

The standard price per unit of material is ₹ 20 fixed for the year 2014. Show the Stores Ledger entries and determine the price variance for the month of January.

Answer:

STORES LEDGER ACCOUNT

Date	Receipts			Issues			Balance		
	Qty-	Rate ₹	Amt. ₹	Qty-	Rate ₹	Amt. ₹	Qty-	Rate ₹	Amt. ₹
Jan. 3	800	20	16,000				800		16,000
8	700	18	12,600				1,500		28,600
9				600	20	12,000	900		16,600
11				800	20	16,000	100		600
17	800	20	16,000				900		16,600
25	500	25	12,500				1,400		29,100
31				1,000	20	20,000	400		9,100

Closing Stock = 400 units of ₹9,100
The stock valuation of 400 units at the standard price of ₹20 per unit comes to ₹8,000

Material Price variance = standard Cost – Actual Cost
= ₹8,000 – ₹9,100 = ₹1,100 (Adverse)

Question.11

(a) Meera Industries Limited is a single product organization having a manufacturing capacity of 6,000 units per week of 48 hours. The output data vis-a-vis different elements of cost for three consecutive weeks are given below:

Units produced	Direct Material	Direct Labor	Total Factory Overheads (Variable and Fixed)
2,400	**₹ 4,800**	**₹ 6,000**	**₹ 37,200**
2,800	**5,600**	**7,000**	**38,400**
3,600	**7,200**	**9,000**	**40,800**

As a cost Accountant, you are asked by the Company management to work out the selling price assuming an activity level of 4,000 units per week and a profit of 20% on selling price.

Answer:

(i) Variable Overheads per unit $= \frac{\text{Change in expense}}{\text{Change in output}} = \frac{38,400 - 37,200}{2,800 - 2,400}$

$= \frac{₹1,200}{400}$ = ₹3.00

This result can also be verified from the figures given for third week.

(ii) Calculation of Fixed Overheads:

Total Factory Overheads for 2,400 units	₹37,200
Less: Total Variable Overheads for 2.400 units (2,400 units × ₹ 3.00)	7,200
Total Fixed Overhead for the company	30,000

This result can also be verified from the figures of next two weeks.

(iii) STATEMENT SHOWING COST OF 4,000 UNITS

Direct Material	: 4,000 units × ₹4,800/2,400	8,000
Direct Labour:	: 4,000 units × ₹6,000/2,400	10,000
Variable Overhead	4,000 Units × ₹3.00	12,000
Fixed Overheads		30,000
Total cost		60,000

(iv) Profit for 4,000 units:

Profit required is 20% on selling price or 25% of cost.

Cost will be = (100 - 20) = ₹80.

Profit desired will amount to ₹60,000 × 25/100 = ₹ 15,000.

This selling price for 4,000 units can now be ascertained as under:

Cost of 4,000 units	₹60,000
Profit	15,000
Total sales	75,000

Selling price per unit = 75,000 ÷ 4,000 = ₹18.75

(b) A large consignment of materials of various types of makes was purchased for ₹ 40,000. Later on these were sorted out into the following categories:

Category A	**6,000 units**	**Market price ₹ 4 per unit**
Category B	**4,000 units**	**Market price ₹ 3 per unit**
Category C	**7,000 units**	**Market price ₹ 2 per unit.**

You are required to calculate the purchase price for each of the materials presuming that percentage of profit in each case is the same.

Answer:

Presuming that all units were sold away, the percentage of profit will be as follows:

Category A	6,000 units × ₹4 =	24,000
Category B	4,000 units × ₹3 =	12,000
Category C	7,000 units × ₹2	14,000
	Total sales	50,000
	Total cost ₹	40,000
	Profit ₹	10,000

Percentage of Profit on Sales = $\frac{10,000 \times 100}{50,000}$ = 20%

Material	S. P. per unit	Profit per unit	Cost per unit	Total cost
A	₹4	₹0.80	₹3.20	₹19,200
B	3	0.60	2.40	9,600
C	2	0.40	1.60	11,200
				40,000

Question.12

(a) From the data given below answer the following:

(i) What is the simple average price of the four weeks' receipts of material A?

(ii) What is the weighted average price of the four week' receipts of material B?

(iii) What is the value of the balance of materials, in stock at the close of the fourth week if issues are priced on LIFO basis?

Raw Material Received					Issued	
	A		B		A	B
Week	Kg-	₹	Kg-	₹	Kg-	₹
1st	250	1,000	1,250	1,690	175	1,500
2nd	300	1,260	1,400	1,960	250	1,200
3rd	200	880	750	1,050	300	1,300
4th	250	960	1,600	2,400	300	1,100

Stores Opening Stocks: A – 200 kg. ₹720; B – 2,000 kg. ₹2,900.

Answer:

(i) Simple average price of four weeks' receipts material A:

$$\frac{1}{4}\times ₹\left(\frac{1,000}{250}+\frac{1,260}{300}+\frac{880}{200}+\frac{960}{250}\right)$$

$$= ₹\frac{4+4.20+4.40+3.84}{4} = \frac{16.44}{4} = ₹4.11 \text{ per kg.}$$

(ii) Weighted average price of our weeks' receipts of material B:

$$\frac{1,690+1,960+1,050+2,400}{1,250+1,400+750+1,600} = ₹\frac{7,100}{5,000} = ₹1.42 \text{ per kg.}$$

(iii) Value of materials in stock of A at the close of the 4th week when issues are priced on LIFO basis.

Total Receipts (including Op. stock)	1,200 units
Total Issues	1,025 units
Balance	175 units

The stock consists of units of opening stock of 200 units of ₹. 720. Thus, their value is:

175 × 720/200 = ₹630

(b) The following transactions in respect of material Y occurred during the six months ended 30th June, 2014:

Month	Purchase (Units)	Price per unit (₹)	Issued (Units)
January	200	25	NIL
February	300	24	250
March	425	26	300
April	475	23	550
May	500	25	800
June	600	20	400

Required: The chief accountant argues that the value of closing stock remains the same no matter which method of pricing of material issues is used. Do you agree? Why or why not? Detailed stores ledgers are not required.

Answer:

In the problem given the total number of units purchased from January to May, 2014 is 1,900 and the same have also been issued during this period. Thus, there was no stock at the end of May, 2014, which could become opening stock for the next month. In June, 2014, only a single purchase and a single issue of material was made. The closing stock is of 200 units. In this situation stock of 200 units at the end of June, 2014 will be valued at ₹ 20 per unit

irrespective of the pricing method of material issues, hence, one would agree with the argument of the Chief Accountant.

However, this will not be true with the value of closing stock at the end of each month. Moreover, the value of closing stock at the end of June, 2014 would have been different under different pricing methods if there were several purchases at different prices and several issues during the month.

Question.13

(a) The particulars relating to 1,200 kg. of a certain raw material purchased by a company during June, were as follows:

Lot prices quoted by supplier and accepted by the company for placing the purchase order:

Lot up to 1,000 kg	**@ ₹22 per kg**	**F.O.R supplier's Factory.**
Between 1,000 – 1,500 kg	**@ ₹20 per kg**	
Between 1,500 – 2000 kg	**@ ₹18 per kg**	

- **Trade discount 20%.**
- **Additional charge for containers @ ₹ 10 per drum of 25 kg.**
- **Credit allowed on return of containers @ ₹ 8 per drum.**
- **Sales Tax at 10% on raw material and 5% on drums.**
- **Total freight paid by the purchaser ₹ 240.**
- **Insurance at 2.5% (on Net Invoice Value) paid by the purchaser.**
- **Stores overhead applied at 5% on total purchase cost of material.**

The entire quantity was received and issued to production. The containers are returned in due course. Draw up a suitable statement to show:

- **Total cost of material purchased; and**
- **Unit cost of material issued to production**

Answer:

Statement of total cost of material purchased and unit cost of material

Particulars	Total Amount ₹	Per Unit ₹
Raw material 1,200 kg. at ₹ 20 per kg	24,000.00	20.00
Less Trade discount @ ₹ 20% thereof	4,800.00	4.00
	19,200.00	16.00
Add: Charge for containers: 48 drums* @ ₹ 10 each	480.00	0.40
(*1200 kg, 25 kg per drum)	19,680.00	16.40
Sales Tax:		
10% on ₹ 19,200 (raw material)	1,920,00	1.60
5% on ₹ 480 (drums)	24.00	0.02
Net Invoice Value:	21,624.00	18.02
Freight paid:	240.00	0.20
Insurance at 2.5% on ₹ 21,624	540.60	0.45
	22,404.60	18.67
Less: Credit for containers 48 Nos. @ ₹ 8 each	384.00	0.32
	22,020.60	18.35
Stores overheads charged at 5%	1,101.03	0.92
	23,121.63	19.27

(b) A manufacturer has shown an amount of ₹16,190 in his books as "Establishment" which really includes the following expenses:

From this information prepare a statement showing in separate totals (a) Selling Expenses, (b) Distribution Expenses, (c) Administration Expenses, and (d) Expenses which you would disregard estimating costs.

No.	Particulars	₹
1.	Agents' Commission	5,750
2.	Warehouse Wages	1,800
3.	Warehouse Repair	510
4.	Lighting of Office	70
5.	Office salaries	1,130
6.	Directors' remuneration	1,400
7.	Travelling Expenses	760
8.	Rent, Rates and Insurance of Warehouse	310
9.	Rent, Rates and Insurance of Office	230
10.	Lighting of Warehouse	270
11.	Printing Stationary	1,500
12.	Trade Magazine	70
13.	Donation	150
14.	Bank Charges	100
15.	Discount Allowed	1,970
16.	Bad Debt	170

Answer:

The expenses given in the problem have been put under different categories as follows:

(a)	Selling expenses:	₹	(b)	Distribution Expenses:	₹
(i)	Agent's Commission	5,750	(i)	Warehouse Wages	1,800
(ii)	Traveling Expenses	760	(ii)	Warehouse repairs	510
(iii)	Bad debt	170	(iii)	Rent, rates & Insurance of Warehouse	310
			(iv)	Lighting of Warehouse	270
		6,680			2,890

(c)	Administration Expenses:	₹	(d)	Expenses excluded from cost Accounts:	₹
(i)	Office salaries	1,130	(i)	Donations	150
(ii)	Lighting of Office	70	(ii)	Discount Allowed	1,970
(iii)	Directors remuneration	1,400			
(iv)	Rent, Rates and Insurance of office	230			
(v)	Printing & stationery	1,500			
(vi)	Trade Magazine	70			
(vii)	Bank Charges	100			
		4,500			2,120

Total Expenses:

6,860 + 2,890 + 4,500 + 2,120 = 16,190

Notes:

- Travelling expenses have been assumed to have been related to salesmen.

- Discount allowed is presumed to be as cash discount which is a financial item.

Question.14

(a) Describe the methods of Job Evaluation.

Answer:

Methods of Job Evaluation

Methods of job evaluation are as follows:-

(i) Point Ranking Method: In this method each job is analyzed in terms of various job factors or characteristics. The characteristics are skills required, efforts involved, working conditions, hazards, responsibility and so on. In other words the job factors are the requirements needed for performing the job effectively. Each job factor is given weightage or points depending upon its value for the job. For example, for certain jobs, maximum value is assigned to experience while for some jobs, education may be the most crucial factor. Finally each job is ranked in the order of points or weights secured by them. The wage structure can be suitably designed according to the points assigned to each job. The method is quite sound in principle but difficulties may be faced assigning the weights to each job.

(ii) Ranking Method: In this method, jobs are ranked in order of importance on the basis of skills required, experience requirements, working conditions etc. Jobs are rearranged in an order, which can be either from the lowest to the highest or in the reverse. Wage scales are determined in terms of ranks. Though this method is quite simple to operate and less costly as well as easy for understanding, it is suitable when the size of the organization is small and jobs are few and well defined. In a large organization, where jobs are quite complex, this method is not beneficial.

(iii) Grading Method: This method is an improvement over the ranking method. Under this method, each job is analyzed in terms of a predetermined grade and then assigned a grade or class. Grades are established after making an investigation of job factors, such as complexity in the job, supervision, responsibility, education etc.

(b) How do you treat Idle Time in Cost Accounting?

Answer:

Treatment of Idle Time

Treatments of different categories of Idle Time are as below:-

- Unavoidable idle time above would be for insignificant periods. In Cost Accounts, this is allowed to remain merged in the Production Order or Standing Order Number on which the worker was otherwise employed.
- Normal Idle Time is booked to factory or works overhead. For the pur-pose of effective control, each type of idle time, i.e., idle time classi-fied according to the causes is allocated to a separate Standing Order Number.
- Abnormal Idle Time would usually be heavy in amount involves longer periods and would mostly be beyond the control of the management. Payment for such idle time is not included in cost and is adjusted through the Costing Profit and Loss Account or included in Profit and Loss Account, when the accounts are integrated.
- Tendency to conceal Idle Time should be discouraged. It is a non-effective time and the resultant loss of profit due to reduced production activity but also increases the cost per unit of production as the fixed costs continue to be incurred, irrespective of the reduced quantum of production due to loss of labour time. Idle Time should, therefore, be highlighted prominently so that action can be taken to remove the causes thereof. Although for obvious reasons, it is not possible to record minor details, vigilance is neces-sary for finding out long-term idleness among the workers.

Question.15

(a) Define Time Booking. Discuss the methods of time booking.

Answer:

Time Booking:

In time keeping we have seen that the basic objective of time keeping is to mark the attendance time, i.e. time in and time out. Time keeping aims at keeping a check on the number of hours spent by a worker in the factory. However, it does not record the productive time of the workers. It means the time keeping methods do not provide information about how the time is spent by the workers in the factory. For example, the time keeping record will show that the worker has reported for duty at 8 am and left at 6 pm, thus, he has spent 10 hours in the company. But the analysis of these 10 hours is not provided by the time keeping. In view of this there is a need to have a system, which will tell about the productive time spent by the workers in the factory. The method, which supplies this information, is known as 'Time Booking Methods' and the recording the time spent by a worker in each job, process or operation is known as 'Time Booking'.

Time Booking Methods

The following methods are used for time booking:-

- **Daily Time Sheet:** In this method, each worker records the time spent by him on the work during the day, for which a sheet is provided to each worker. The time is recorded daily and hence accuracy is maintained. However, the main limitation of this method is lot of paper work is involved as daily sheets are maintained on daily basis by each worker.
- **Weekly Time Sheets:** The only difference between the daily time sheet and weekly time sheet is that these time sheets are maintained on weekly basis. This means that each worker prepares these sheets weekly rather than daily. This helps in reducing the paper work to a great extent.

  The only care to be taken is that since the information is filled up on daily basis, there may be inaccuracies and hence filling the information should be done on daily basis only.
- **Job Ticket:** Job tickets are given to all workers where time for commencing the job is recorded as well as the time when the job is completed. The job tickets are given for each job and the recording of the time as mentioned above helps to ascertain the time taken for each job. After completing one job, the worker is given another job.
- **Labour Cost Card:** This card is meant for a job, which involves several operations or stages of completion. Instead of giving one card to each worker, only one card is passed on to all workers and time taken on the job is recorded by each one of them. This card shows the aggregate labour cost of the job or the product.
- **Time and Job Card:** This card is a combined record, which shows both, the time taken for completion of the job as well as the attendance time. Therefore there is no need to keep separate record of both, time taken and attendance time.

(b) The standard time for a job is 60 hours. The hourly rate of guaranteed wages is ₹ 0.75. Because of savings in time, a worker A gets an hourly wage of ₹ 0.90 under Rowan Premium Bonus system. For the same savings in time, calculate the hourly rate of wages a worker B will get under Halsey-Weir Premium Bonus system assuming 40 per cent to worker.

Answer:

Let x = Time taken to complete the job

$\therefore$ Time saved = Time allowed - Time taken

= (60 - x) hours

Bonus under Rowan Premium Bonus system

= Bonus ratio × time wages

$$= \left(\frac{\text{Time saved}}{\text{Time allowed}}\right) \times \text{Actual hrs.} \times \text{Rate}$$

$$= \left(\frac{60 - x}{60}\right) \times (x \times 0.75)$$

The effective hourly wage rate is ₹ 0.90.
Hence, total earnings of A = x × 0.90
Thus, total earnings of A under Rowan scheme:

$$(x \times 0.75) + \left(\frac{60 - x}{60}\right) \times (x \times 0.75) = x \times 0.90$$

Dividing both sides by x, we get:

$$0.75 + \left(\frac{60 - x}{60}\right) \times 0.75 = 0.90$$

Or, $45 + 45 - 0.75x = 54$
Or, x = 48 hours, i. e., time taken by A.
∴ Time saved = 60 – 48 = 12 hours
Under Halsey-Weir 40 per cent premium scheme, bonus to B will be:
40% × Hours saved × Hourly rate
= 0.40 × 12 × ₹0.75 = ₹3.60

Total earnings of B:
Time wages + Bonus
= 48 × ₹0.75 + ₹3.60 = ₹36 + 3.60 = ₹39.60
∴ Effective hourly rate of wages of B:

$$\frac{\text{Total earnings}}{\text{Actual hours}} = \frac{₹39.60}{78} = ₹0.825$$

Question.16

(a) The following information relates to the activities of a production department of factory for a certain period.

	₹
Material used	**36,000**
Direct Wages	**30,000**
Labour hours	**12,000**
Hours of Machinery-operation	**20,000**
Overhead Chargeable to the Dept	**25,000**
On one order carried out in the department during the period the relevant data were:-	
Material used (₹)	**6,000**
Direct Wages (₹)	**4,950**
Labour hours worked	**1,650 Hrs.**
Machine Hours	**1,500**

Calculate the overheads chargeable to the job by four commonly used methods.

Answer:

The four commonly used methods of absorbing or recovering overheads are as follows:
1. % of overheads on material = (25,000 / 36,000) x 100 = 69.44%
2. % of overheads on direct wages = (25,000 / 30,000) x 100 = 83.33%
3. Overhead rate per labour hour = 25,000 / 12,000 = 2.083
4. Machine hour rate method = 25,000 / 20,000 = 1.25

The overheads chargeable to job under the above methods is as follows:
1. Material = 6,000 x 69.44% = 4,166.40
2. Wages = 4,950 x 83.33% = 4,125
3. Labour hour rate = 1650 x 2.083 = ₹3,437
4. Machine hour rate = 1,500 x 1.25 = ₹1,875

(b) What will be the earning of a worker at ₹0.55 per hour when he takes 140 hours to do a volume of work for which the standard time allowed is 200 hours? The plan of payment of bonus is on a sliding scale as under:

Within the first 10% of saving in standard time, bonus is	**40% of time saved**
Within the second 10% of saving in standard time, bonus is	**50% of time saved**
Within the third 40% of saving in standard time, bonus is	**50% of time saved**
Within the fourth 10% of saving in standard time, bonus is	**70% of time saved**
For the rest	**75% of time saved**

Answer:

Standard time	200	hours		
Time taken	140	hours		
Time saved	60	hours		
Normal wages:	140	hours	@ ₹ 0.55 =	₹ 77.00

Bonus:

Time saved			**Bonus hours**		
First	6	hours	2.40	hours	(40%)
Next	6	hours	3.00	hours	(50%)
	24	hours	12.00	hours	(50%)
	6	hours	4.20	hours	(70%)
	42	hours			
Rest	18	hours	13.50	hours	(75%)
Total	60	hours	35.10	hours	
			35.10	hours	@ ₹ 0.55 = 19.31
Total wages					₹ 96.31

Question.17

(a) Calculate the overhead allocable to production department X and Y. Thare are also two service department A and B.

A render service worth ₹12,000 to B and the balance to X and Y as 3:2. B renders service to X and Y as 9:1.

	X	**Y**	**A**	**B**
Floor space (sq.ft)	**5,000**	**4,000**	**1,000**	**2,000**
Assets (₹in lakh)	**10**	**5**	**3**	**1**
H.P. of machines	**1,000**	**500**	**400**	**100**
Number of workers	**100**	**50**	**50**	**25**
Light and Fan points	**50**	**30**	**20**	**20**

Expenses and charges are:

	₹
Depreciation	**1,90,000**
Rent, Rates and Taxes	**36,000**
Insurance	**15,200**
Power	**20,000**
Canteen expenses	**10,800**
Electricity	**4,800**

Answer:

Statement of Apportionment of Overheads

Particulars	**Basis of apportionment**	**Total ₹**	**Service Dept.**		**Production Dept.**	
			A (₹)	**B (₹)**	**X (₹)**	**Y (₹)**
Depreciation	Value of assets	1,90,000	30,000	10,000	1,00,000	50,000

Rent, Rates, and Taxes	Floor space	36,000	3,000	6,000	15,000	12,000
Insurance	Value of assets	15,200	2,400	800	8,000	4,000
Power	H.P. of machines	20,000	4,000	1,000	10,000	5,000
Canteen expenses	No. of workers	10,800	2,400	1,200	4,800	2,400
Electricity	Light and Fan points	4,800	800	800	2,000	1,200
		2,76,800	42,600	19,800	1,39,800	74,600
Service Dept. A			(42,600)	12,000	18,360	12,240
Dept. B				(31,800)	28,620	3,180
Total					1,86,780	90,020

(b) For a production department of a manufacturing company you are required to:

(i) Prepare a flexible budget of overhead

(ii) Prepare flexible budget of overhead at 70% and 110% of budget volume;

(iii) Calculate a departmental hourly rate of overhead absorption as per (i) and (ii) above.

The budgeted level of activity of the department is 5,000 hours per period and the study of the various items of expenditure reveals the following:

	₹	₹ per hour
Indirect wages		**0.40**
Repairs upto 2,000 hours	**100**	
For each additional 500 hours		
Upto a total of4,000 hours	**35**	
Additional from 4,001 to 5,000 hrs.	**60**	
Additional above 5,000 hrs.	**70**	
Rent and Rates	**350**	
Power upto 3,600 hrs	**0.25**	
For hours above 3,600	**0.20**	
Consumable supplies		**0.24**
Supervision upto 2,500 hours		**400**
Additional for each extra 600 hrs		
Above 2,500 and upto 4,900 hrs		**100**
Additional above 4,900 hrs		**150**
Depreciation up to 5,000 hrs		**650**
Above 5,000 hrs and upto 6,500 hrs.	**820**	
Cleaning upto 4,000 hrs.	**60**	
Above 4,000 hrs	**80**	
Heat and from 2,100 hrs to 3,500 hrs	**120**	
Lighting from 3,500 hrs to 5,000 hrs	**150**	
Above 5,000 hrs	**175**	

Answer:

Fixed and Flexible budget showing overhead cost per hour:

Particulars	**(3,500) 70%**	**(5,000) 100%**	**(5,500) 110%**
Indirect wages (0.4/hrs.)	1,400	2,000	2,200
Repairs	205	300	370
Rent & Rates	350	350	350
Power	875	1,180	1,280
Consumable supplies	840	1,200	1,320
Supervision	600	950	950

Depreciation	650	650	820
Cleaning	60	80	80
Heating & Lighting	120	150	175
	5,100	6,860	7,545
OH rate per hour	[5,100/3,500] =1.457	[6,860/5,000] =1.372	[7,545/5,500] =1.371

Working Notes:

Repairs	100+(3×35) =205	100+(4×35)+60 =300	100+(4×35)+60+70 =370
Power	(3,500×0.25) =875	(900+280) =1,180	900+280+100 =1,280
Supervision	400+(2×100) =600	400+(4×100)+150 =950	400+(4×100)+150 =950

(c) Distinguish between Allocation and Apportionment. Discuss the principle of Apportionment of Overhead Cost.

Answer:

Distinction between Allocation & Apportionment

Although the purpose of both allocation and apportionment is identical, i.e to identify or allot the costs to the cost centres or cost unit, both are not the same.

Allocation deals with the whole items of cost and apportionment deals with proportion of items of cost.

Allocation is direct process of departmentalization of overheads, where as apportionment needs a suitable basis for sub-division of the cost.

Whether a particular item of expense can be allocated or apportioned does not depends on the nature of expense, but depends on the relation with the cost centre or cost unit to which it is to be charged.

Principles of Apportionment of Overhead Cost

- **Services Rendered**
  The principle followed in this method is quite simple. A production department which receives maximum services from service departments should be charged with the largest share of the overheads. Accordingly, the overheads of service departments are charged to the production departments.
- **Ability to Pay**
  This method suggests that a large share of service department's overhead costs should be assigned to those producing departments whose product contributes the most to the income of the business firm. However the practical difficulty in this method is that, it is difficult to decide the most paying department and hence difficult to operate.
- **Survey or Analysis Method**
  This method is used where a suitable base is difficult to find or it would be too costly to select a method which is considered suitable. For example, the postage cost could be apportioned on a survey of postage used during a year.
- **Efficiency Method**
  Under this method, the apportionment of expenses is made on the basis of production targets. If the target is exceeded, the unit cost reduces indicating a more than average efficiency. If the target is not achieved, the unit cost goes up, disclosing there by, the inefficiency of the department.

Question.18

(a) A Coal mine has the following expenditure during the month of January 2014:

Underground	**₹90,000**	
Surface	**11,000**	**1,01,000**
Working Expenses:		
Stores	**6,600**	
Repairs and Renewals	**4,000**	
Tram Wages	**2,400**	
Timber	**5,500**	
Rent Charges	**4,400**	
Depreciation on Machinery	**6,000**	**28,900**
Administration Expenses		**26,000**
Selling Distribution Expenses		**14,000**
Output for the month (tonnes)		**20,000**

The working hour for the month were 50,000 and the usual administrative cost was applied at 50 paise per labour hour and selling expenses were applied at 60 paise per tone.
You are required to prepare a monthly cost sheet and show the variations of actual costs per tonne from estimated costs as applied by the management.

Answer:

Statement of cost for the month of January, 2014

		Actual Costs	Estimated Costs	Variations in Costs
Wages:				
Underground	99,000			
Surface	11,000	1,01,000	1,01,000	
Working Expenses:				
Stores	6,600			
Repairs and renewals	4,000			
Tram wages	2,400			
Timber	5,500			
Rent Charges	4,400			
Depreciation on machinery	6,000	28,900	28,900	
Factory Cost		1,29,900	1,29,900	
Add: Administration overheads: (estimated (estimated @50 paise for 50,000 hrs)		26,000	25,000	(1,000)
Office Cost				
Add: Selling and distribution expenses (estimated 60 paise per tonne for 20,000 tonnes)		14,000	12,000	(2,000)
Total Cost		1,69,900	1,66,900	(3,000)

*****Under absorption of overhead by ₹3,000**.**

(b) List out the factors on which selection of Overhead Recovery Rates depends.

Answer:

Selection of Overhead Recovery Rates depends on the following factors:-

- Nature of the product and process of manufacture.
- Nature of overhead expenses.
- Organizational set-up of the undertaking into departments and or cost centers.
- Individual requirements with regard to the circumstances prevailing.
- Policy of the management.

- Accuracy vis-a-vis cost of operating the method. Some of the methods are comparatively more accurate and provide equitable bases for overhead absorption.

(c) The following are the costing records for the year 2014 of a manufacturing Company. Production 1,00,000 units; Cost of raw materials ₹20,00,000; Labour cost ₹12,00,000; Factory overheads ₹8,00,000; Office overheads ₹4,00,000; Selling Expenses ₹1,00,000, Rate of Profit 25% on the selling price. The manufacturing Company decided to produce 1,50,000 units in 2015. It is estimated that the cost of materials will increase by 20%, the labour cost will increase by 10%, 50% of the overhead charges are fixed and the other 50% are variable. The selling expenses per unit will be reduced by 20%. The rate of profit will remain the same. Prepare a cost statement for the year 2015 showing the total profit and selling price per unit.

Answer:

Statement of Cost & Profit (Cost Sheet)
(Output 1,00,000 units)

Particulars	Cost per unit (in ₹)	Total Cost (in ₹)
Raw Materials	20	20,00,000
Labour	12	12,00,000
Prime Cost	32	32,00,000
Add: Factory overhead	8	8,00,000
Work Cost	40	40,00,000
Add: Office Overhead	4	4,00,000
Cost of production	44	44,00,000
Add: Selling Expenses	1	1,00,000
Cost of sales	45	45,00,000
Add: Profit (25% on selling price or 33.33% on cost of sales)	15	15,00,000
Selling Price	60	60,00,000

Statement of Cost & Profit (Cost Sheet)
(Output 1,50,000 units)

Particulars	Cost per unit (in ₹)	Total cost (in ₹)
Raw Materials (₹20 x120% x 1,50,000)	24.00	36,00,000
Labour (₹12 x110% x 1,50,000)	13.20	19,80,000
Prime Cost	37.20	55,80,000
Add: Factory Overhead (₹8,00,000 x 50% + ₹4 x 1,50,000)	6.67	10,00,000
Work Cost	43.87	65,80,000
Add: Office Overhead (₹4,00,000 x 50% + ₹2 x 1,50,000)	3.33	5,00,000
Cost of Production	47.20	70,80,000
Add; Selling Expenses (₹1 x 80% x 1,50,000)	0.80	1,20,000
Cost of Sales	48.00	72,00,000
Add: Profit (25% on selling price or 33.33% on cost of sales)	16.00	24,00,000
Selling Price	64.00	96,00,000

Section B

Question.19
(a) Distinguish between Factoring and Bill Discounting.
Answer:

Factoring vs. Bill Discounting

Factoring differs from discounting in many respects. They are:

- Factoring is a broader term covering the entire trade debts of a client whereas discounting covers only those trade debts which are backed by Account Receivables.
- Under factoring, the factor purchases the trade debt and thus becomes a holder for value. But, under discounting the financier acts simply as an agent of his customer and he does not become the owner. In other words, discounting is a kind of advance against bills whereas factoring is an outright purchase of trade debts.
- The factors may extend credit without any recourse to the client in the event of non-payment by customers. But, discounting is always made with recourse to the client.
- Account Receivables under discount are subject to rediscounting whereas it is not possible under factoring.
- Factoring involves purchase and collection of debts, management of sales ledger, assumption of credit risk, provision of finance and rendering of consultancy services. But, discounting involves simply the provision of finance alone.
- Bill discounting finance is a specific one in the sense that it is based on an individual bill arising out of an individual transaction only. On the other hand, factoring is based on the 'whole turnover' i.e., a bulk finance is provided against a number of unpaid invoices.
- Under discounting, the drawee is always aware of the bank's charge on receivables. But, under undisclosed factoring everything is kept highly confidential.
- Bill financing through discounting requires registration of charges with the Registrar of Companies. Infact, factoring does not require such registration.
- Discounting is always a kind of "in-balance sheet financing". That is, both the amount of receivables and bank credit are shown in the balance sheet itself due to its 'with recourse' nature. But, factoring is always "off-balance sheet financing".

(b) List out the main features of SEBI.

Answer:

The main features of SEBI are as follows:

- SEBI is an autonomous body created by the Government of India in 1988 and given statutory form in 1992 with the SEBI Act 1992.
- Its Head office is in Mumbai and has regional offices in Chennai, Kolkata, and Delhi.
- SEBI is the regulator of Securities markets in India.
- SEBI has to be responsive to the needs of three groups, which constitute the market:
  - the issuers of securities.
  - the investors.
  - the market intermediaries.
- SEBI has three functions rolled into one body quasi-legislative, quasi-judicial and quasi-executive.
- It drafts regulations in its legislative capacity, it conducts investigation and enforcement action in its executive function and it passes rulings and orders in its judicial capacity.
- Though this makes it very powerful, there is an appeal process to create accountability. There is a Securities Appellate Tribunal which is a three member body.
- A second appeal lies directly to the Supreme Court.

Question.20

(a) Write the limitation of Funds Flow Statement.

Answer:

The following are the important limitations of Funds Flow Statement

- Funds Flow Statement is not a substitute of Income Statement or a Balance Sheet. It furnished only some additional information as regards changes in Working Capital.

- This statement lacks originality. It is simply rearrangement of data appearing in account books.
- It indicates only the past changes. It can not reveal continuous changes.
- When both the aspects of the transaction are current, they are not considered.
- When both the aspects of the transaction are non-current, even then they are not included in funds flow statement.
- Some Management Accountants are of the opinion that this statement is not ideal tool for financial analysis.
- Funds Flow Statement is historic in nature. Hence this projected funds flow statement cannot be prepared with much accuracy.

(b) Mistral Limited has collected the following information for the preparation of cash flow statement for the year ended 31.03.2014:

	₹ in Lakhs
Net Profit	**25,000**
Dividend (including dividend tax) paid	**8,535**
Provision for Income tax	**5,000**
Income-tax paid during the year	**4,248**
Loss on sale of assets (net)	**40**
Book value of the assets sold	**185**
Depreciation charged to Profit & Loss Account	**20,000**
Amortization of Capital grant	**6**
Profit on sale of Investments	**100**
Carrying amount of Investment sold	**27,765**
Interest income on investments	**2,506**
Interest expenses	**10,000**
Interest paid during the year	**10,520**
Increase in Working Capital (excluding Cash & Bank balance)	**56,075**
Purchase of fixed assets	**14,560**
Investment in joint venture	**3,850**
Expenditure on construction work in progress	**34,740**
Proceeds from calls in arrear	**2**
Receipt of grant for capital projects	**12**
Proceeds from long-term borrowings	**25,980**
Proceeds from short-term borrowings	**20,575**
Opening cash and Bank balance	**4,000**
Closing cash and Bank balance	**5,985**

You are required to prepare the Cash Flow Statement for the year ended 31.03.2014.

Answer:

Cash Flow Statement of Mistral Ltd. for the year ended 31st March, 2014

(₹ in lakhs)

Cash Flow from Operating Activities	
Net profit before taxation (25,000 + 5,000)	30,000
Adjustments for:	
Depreciation	20,000
Loss on sale of assets (Net)	40
Amortization of capital grant	(6)
Profit on sale of Investments	(100)
Interest income on Investments	(2,506)
Interest expenses	10,000

Operating profit before working capital changes	57,428
Changes in working capital (excluding cash and bank balance)	(56,075)
Cash generated from operations	1,353
Income tax paid	(4,248)
Net cash used in Operating Activities (A)	(2,895)
Cash Flow from Investing Activities	
Sale of assets [W. Note # 1]	145
Sale of Investments (27,765 + 100)	27,865
Interest income on Investments	2,506
Purchase of Fixed assets	(14,560)
Investment in Joint venture	(3,850)
Expenditure on construction work-in-progress	(34,740)
Net cash used in Investing Activities (B)	(22,634)
Cash Flow from Financing Activities	
Proceeds from calls in arrear	2
Receipts of grant for capital projects	12
Proceeds from long term borrowings	25,980
Proceeds from short term borrowings	20,575
Interest paid	(10,520)
Dividend (including dividend tax) paid	(8,535)
Net cash used in Financing Activities (C)	27,514
Net increase in cash and cash equivalents (A + B + C)	1,985
Cash and cash equivalents at the beginning of the period	4,000
Cash and cash equivalents at the end of the period	5,985

Assumption: Interest income on investments ₹ 2,506 has been received during the year.

Working Note:

Sale proceeds of assets = Book value of the assets sold - Loss on sale of assets
= ₹ 185 lakhs - ₹ 40 lakhs
= ₹ 145 lakhs.

Question.21

(a) Write a note on Window Dressing.

Answer:

The term window dressing means manipulation of accounts in a way so as to conceal vital facts and present the financial statements in a way to show a better position than what it actually is. On account of such a situation, presence of a particular ratio may not be a definite indicator of good or bad management. For example, a high stock turnover ratio is generally considered to be an indication of operational efficiency of the business. But this might have been achieved by unwarranted price reductions or failure to maintain proper stock of goods.

Similarly, the current ratio may be improved just before the Balance Sheet date by postponing replenishment of inventory. For example, if a company has got current assets of ₹4,000 and current liabilities of ₹2,000 the current ratio is 2, which is quite satisfactory. In case the company purchases goods of ₹2,000 on credit, the current assets would go up to ₹6,000 and current liabilities to ₹4,000. Thus reducing the current ratio to 1.5. The company may, therefore. Postpone the purchases for the early next year so that its current ratio continues to remain at 2 on the Balance Sheet date. Similarly, in order to improve the current ratio, the company may pay off certain pressing current liabilities before the Balance Sheet date. For example, if in the above case the company pays current liabilities of ₹1,000, the current liabilities would stand reduced to ₹1,000, current assets would stand reduced to ₹3,000 but the current ratio would go up to 3.

(b) Using the following data, complete the Balance sheet given below:

Gross Profit	**₹54,000**
Shareholders' Funds	**₹6,00,000**
Gross Profit margin	**20%**
Credit sales to Total sales	**80%**
Total Assets turnover	**0.3 times**
Inventory turnover	**4 times**
Average collection period (a 360 days year)	**20 days**
Current ratio	**2.00**
Long-term Debt of Equity	**40%**

Balance sheet

Creditors	**……**	**Cash**	**…….**
Long-term debt	**……**	**Debtors**	**…….**
Shareholders' funds	**……**	**Inventory**	**……..**
		Fixed assets	**……..**

Answer:

Working Notes:

(i) Sales

Gross profit = 20% of Sales

$\Rightarrow$ ₹54,000 = 20% of Sales

$\Rightarrow$ Sales $= \frac{₹54,000}{20\%}$ = ₹2,70,000

$\Rightarrow$ Credit sales = 80% of Total Sales = ₹2,16,000

(ii) Closing stock

Cost of sales to inventory = 4

$\Rightarrow \frac{\text{Cost of Sales}}{\text{Inventory}}$ = 4

$\Rightarrow \frac{\text{Sales} - \text{Gross Profit}}{\text{Inventory}}$ = 4

$\Rightarrow \frac{₹2,70,000 - ₹54,000}{\text{Inventory}}$ = 4

$\Rightarrow$Inventory $\Rightarrow \frac{₹2,16,000}{4}$ = ₹54,000

(iii) Total Assets

Total Assets Turnover ratio = 0.3

$\Rightarrow \frac{\text{Sales}}{\text{Total Assets}}$ = 0.3

$\Rightarrow \frac{₹2,70,000}{\text{Total Assets}}$ = 0.3

$\Rightarrow$Total Assets $= \frac{₹2,70,000}{0.3}$ = ₹9,00,000

(iv) Long term debt

Long term debt to Equity = 40%

$\Rightarrow \frac{\text{Long term Debt}}{\text{Equity}}$ = 40%

$\Rightarrow \frac{\text{Long term Debt}}{₹6,00,000}$ = 40%

$\Rightarrow$ Long term Debt = 40% of ₹6,00,000 = ₹2,40,000

(v) Debtors

Average collection period = 20 days

$\Rightarrow \frac{\text{Debtors}}{\text{Credit Sales}} \times 360$ = 20 days

$\Rightarrow \frac{\text{Debtors}}{₹2,16,000} \times 360$ = 5 days

$\Rightarrow$Debtors = $\Rightarrow \frac{₹2,16,000 \times 5}{360} = ₹3,000$

(vi) Creditors

Total Liabilities	= Total Assets
$\Rightarrow$ Total Liabilities	= ₹9,00,000
$\Rightarrow$ Creditors + Long term debt + Equity	= ₹9,00,000
$\Rightarrow$ Creditors + ₹2,40,000 + ₹6,00,000	= ₹9,00,000
$\Rightarrow$ Creditors	= ₹60,000

(vii)Cash

Current Ratio = 2.00

$\Rightarrow \frac{\text{Current Assets}}{\text{Current Liabilities}}$ = 2.00

$\Rightarrow \frac{\text{Current Assets}}{₹60,000}$ = 2.00

$\Rightarrow$ Current Assets = ₹60,000 × 2.00 = ₹1,20,000

$\Rightarrow$ Cash + Debtors + Inventory = ₹1,20,000

$\Rightarrow$ Cash + ₹3,000 + ₹54,000= ₹1,20,000

$\Rightarrow$ Cash = ₹63,000

Balance Sheet of X Limited as at…….

Liabilities	₹	Assets	₹
Creditors	60,000	Cash	63,000
Long-term Debt	2,40,000	Sundry Debtors	3,000
Shareholders' funds	6,00,000	Inventory	54,000
		Fixed Assets [Bal. fig]	7,80,000
	9,00,000		9,00,000

Question.22

(a) The Trading and Profit and Loss Account of HN Ltd. for the year ended 31st March, 2014 is given below:

Particulars		Amount (₹)	Particulars		Amount (₹)
To Opening Stock :			**By Sales (Credit)**		**20,00,000**
Raw materials	**1,80,000**		**By Closing Stock :**		
Work-in-progress	**60,000**		**Raw material**	**2,00,000**	
Finished Goods	**2,60,000**	**5,00,000**	**Work-in-Progress**	**1,00,000**	
To Purchases (credit)		**11,00,000**	**Finished Goods**	**3,00,000**	**6,00,000**
To Wages		**3,00,000**			
To Production Expenses		**2,00,000**			
To Gross Profit C/d		**5,00,000**			
		26,00,000			**26,00,000**
To Administration Expenses		**1,75,000**	**By Gross Profit b/d**		**5,00,000**
To Selling Expenses		**75,000**			
To Net Profit		**2,50,000**			
		5,00,000			**5,00,000**

The opening and closing balances of debtors were ₹ 1,80,000 and ₹ 1,70,000 respectively whereas opening and closing creditors were ₹ 2,10,000 and ₹ 2,30,000 respectively. You are required to ascertain the working capital requirement by operating cycle method.

Answer:

Step 1: Computation of duration of Operating Cycle

		Days
Raw Material Storage Period	$\left[\frac{\text{Average Raw Materials Inventory}}{\text{Raw Material Consumed}} \times 365\right] = \left[\frac{1,90,000}{10,80,000} \times 365\right]$	64.2
Conversion Period	$\left[\frac{\text{Average stock of WIP}}{\text{ProductionCost}} \times 365\right] = \left[\frac{80,000}{15,40,000} \times 365\right]$	19.0
Finished Goods Storage Period	$\left[\frac{\text{Average Stock of Finished Goods}}{\text{Cost of Goods Sold}} \times 365\right] = \left[\frac{2,80,000}{15,00,000} \times 365\right]$	68.1
Debtors Collection Period	$\left[\frac{\text{Average Debtors}}{\text{Sales}} \times 365\right] = \left[\frac{1,75,000}{20,00,000} \times 365\right]$	31.9
		183.2
Less: Creditors Payment Period	$\left[\frac{\text{Average Creditors}}{\text{Purchases}} \times 365\right] = \left[\frac{2,20,000}{11,00,000} \times 365\right]$	73.0
Operating Cycle		110.2

Step 2: Number of operating cycles per year = 365/110.2 = 3.31

Step 3: Total Operating Expenses =Production cost+ Administration Expenses+ Selling Expenses
= ₹ 15,00,000 + ₹ 1,75,000 + ₹ 75,000 = ₹ 17,50,000

Step 4: Working Capital Required $= \frac{\text{Total Operating Expenses}}{\text{Number of operating expenses}} = \frac{₹17,50,000}{3.31}$
= ₹ 5,28,701

Working Notes:

- Average Raw Material Stock = (Opening Stock + Closing Stock) / 2
= (₹ 1,80,000 + ₹ 2,00,000)/2 = ₹ 1,90,000

- Raw Material Consumed = Opening Stock + Purchases - Closing Stock
  = ₹ 1,80,000 + ₹ 11,00,000 – ₹ 2,00,000 = ₹ 10,80,000

- Average Stock of WIP = (Opening Stock + Closing Stock) / 2
  = (₹ 60,000 + ₹ 1,00,000) / 2 = ₹ 80,000

- Production Cost = Opening Stock of WIP + Raw Materials Consumed + Wages + Production Expenses - Closing Stock of WIP
  = ₹ 60,000 + ₹ 10,80,000 + ₹ 3,00,000 + ₹ 2,00,000 – ₹ 1,00,000
  = ₹ 15,40,000

- Average Stock of Goods = (Opening Stock + Closing Stock) / 2
  = (₹ 2,60,000 + ₹ 3,00,000) /2 = ₹ 2,80,000

- Cost of Goods Sold = Opening Stock of Goods + Production Cost - Closing Stock of Goods
  = ₹ 2,60,000 + ₹ 15,40,000 – ₹ 3,00,000
  = ₹ 15,00,000

- Average Debtors = (Opening Balance + Closing Balance) / 2
  = (₹ 1,80,000 + ₹ ,70,000) / 2 = ₹ 1,75,000

- Average Creditors = (Opening Balance + Closing Balance) 12
  = (₹ 2,10,000 + ₹ 2,30,000) / 2 = ₹ 2,20,000

(b) Write a note on Chore Committee Report.

Answer:

Chore Committee Report

Having implemented the recommendations of the Tandon Committee, the Reserve Bank of India in March, 1979, appointed another committee under the chairmanship of Shri K.B.Chore, Chief Officer, Department of Banking Operation and Development, Reserve Bank of India. The important points in the findings of the committee are as follows:

- Continuance of the existing three lending systems of Tandon Committee.
- No bifurcation of cash credit accounts.
- Fixation of separate limits for peak level, non-peak level requirements.
- Submission of quarterly statements by even small borrowers.
- Borrowers should be discouraged from approaching banks frequently for adhoc or temporary limits in excess of sanctioned limits to meet unforeseen contingencies.
- The overdependence on bank credit by medium/large borrowers is sought to be reduced by requiring them to enhance their contribution towards Working Capital.

Question.23

(a) List out the objectives of Receivables Management.

Answer:

The objectives of Receivables Management are as follows:

- To obtain optimum (non-maximum) value of sales;
- To control the cost of receivables, cost of collection, administrative expenses, bad debts and opportunity cost of funds blocked in the receivables.
- To maintain the debtors at minimum according to the credit policy offered to customers.
- To offer cash discounts suitably depending on the cost of receivables, bank rate of interest and opportunity cost of funds blocked in the receivables.

(b) What are the optimum credit policies of receivables management?

Answer:

A firm should establish receivables policies after carefully considering both benefits and costs of different policies. These policies relate to:

(i) Credit Standards, (ii) Credit Terms, and (iii) Collection Procedures.

Each of these have been explained below:

(i) Credit Standards

The term credit standards represent the basic criteria for extension of credit to customers. The levels of sales and receivables are likely to be high if the credit standards are relatively loose, as compared to a situation when they are relatively tight. The firm's credit standards are generally determined by the five "C's". Character, Capacity, Capital, Collateral and Conditions. Character denotes the integrity of the customer, i.e. his willingness to pay for the goods purchased. Capacity denotes his ability to manage the business. Capital denotes his financial soundness. Collateral refers to the assets which the customer can offer by way of security. Conditions refer to the impact of general economic trends on the firm or to special developments in certain areas of economy that may affect the customer's ability to meet his obligations.

Information about the five C's can be collected both from internal as well as external sources. Internal sources include the firm's previous experience with the customer supplemented by its own well developed information system. External resources include customer's references, trade associations and credit rating organizations.

(ii) Credit terms

It refers to the terms under which a firm sells goods on credit to its customers. As stated earlier, the two components of the credit terms are (a) Credit Period and (b) Cash Discount. The approach to be adopted by the firm in respect of each of these components is discussed below:

(iii) Collection procedures

A stringent collection procedure is expensive for the firm because of high out-of-pocket costs and loss of goodwill of the firm among its customers. However, it minimises the loss on account of bad debts as well as increases savings in terms of lower capital costs on account of reduction in the size of receivables. A balance has therefore to be stuck between the costs and benefits of different collection procedures or policies.

(c) PROGRESSIVE LTD. sells its products to wholesale distributors. The management is worried over the liquidity and is exploring methods of improving the cash flow, by speeding up collection from debtors. The following table summarises its turnover and profits for the last two years and comparable debtors level as at the end of last two years.

The alternatives before the management are:

(i) Offer a 2% discount to customers who settle within 10 days of invoicing. It is estimated that 50% of customers would take advantage of this offer.

(ii) Seek the services of a factor, which will operate on a "service only" basis, administering and collecting payments from customers. Savings are expected to be ₹ 5,00,000 annually; also debtor days will come down to 45 days. Charges payable to the factor would be 1.5% of turnover. Progressive Ltd. can borrow from bank at 15% per annum.

Amount in ₹'000

	Year 0	Year 1
Turnover	60,000	80,000
Profits	11,500	15,000
Debtors	8,000	13,000

Required:

Analyse the costs and benefits of both alternatives and state the preferred course of action.

[Note: Take 365 days in a year]

Answer:

	Amount in ₹'000
Turnover in Year 1	80,000
Debtors at the end of year 1	13,000
Average collection period (13/80) x 365	59 days

If 2% discount is given it will bring down the collection period for 50% of debtors

Average collection period after discount (59/2 + 10/2) = 34.5 days

Revised value of debtors: 80,000 – 800 = 79,200

Average level of debtors 79,200 x 34.5/365 = 827

Cost of discount 2% of 50% of 80,000 = 800

Saving = 27

Option 2: Availing factoring services

Reduction in collection period : (59-45)	14 days	
Value of sales for reduction in days (14x80,000/365)	3,068	
Saving in interest (3,068x15%)	460	
Saving in administration cost	500	960
Service charge (1.5% of 80,000)		1,200
Net cost of factoring (1,200 - 960)		240

Recommendation: Factoring is not attractive. Discount policy is recommended.

Question.24

(a) List out the significance of Cash Management.

Answer:

Significance of Cash Management

- Cash planning: Cash is the most important as well as the least unproductive of all current assets. Though, it is necessary to meet the firm's obligations, yet idle cash earns nothing. Therefore, it is essential to have a sound cash planning neither excess nor inadequate.
- Management of cash flows: This is another important aspect of cash management. Synchronisation between cash inflows and cash outflows rarely happens. Sometimes, the cash inflows will be more than outflows because of receipts from debtors, and cash sales in huge amounts. At other times, cash outflows exceed inflows due to payment of taxes, interest and dividends etc. Hence, the cash flows should be managed for better cash management.
- Maintaining optimum cash balance: Every firm should maintain optimum cash balance. The management should also consider the factors determining and influencing the cash balances at various point of time. The cost of excess cash and danger of inadequate cash should be matched to determine the optimum level of cash balances.
- Investment of excess cash: The firm has to invest the excess or idle funds in short term securities or investments to earn profits as idle funds earn nothing. This is one of the important aspects of management of cash.

(b) Write the assumptions of Probability Model of cash holding.

Answer:

Assumptions:

- Cash is invested in marketable securities at the end of the planning period say a week or a month.
- Cash inflows take place continuously throughout the planning period.

- Cash inflows are of different sizes.
- Cash inflows are not fully controllable by the management of firm.
- Sale of marketable securities and other short term investments will be affected at the end of the planning period.

Question.25

(a) The following figures are available for Success & Co.:

Net sales ₹ 15 crores

EBIT as percentage of Net Sales — 12%

Capital employed

- **Equity ₹ 5 crores**
- **Preference Shares of ₹ 1 crore bearing 13% Rate of Dividend**
- **Debt @ 15% ₹ 3 crores.**

The applicable Income Tax to be taken as 40%.

You are required to calculate

(i) the Return on Equity of the company; and

(ii) the Operating Leverage of the company. Given that it's Combined Leverage is 3.

Answer:

(i)Computation of Return on Equity (figures in ₹lacs)

Net sales	1,500
EBIT @ 12% of net sales	180
Less: Interest on debt (15% of ₹ 300 lacs)	45
EBT	135
Tax @ 40%	54
Earning after tax	81
Less: Preference dividend at 13% on ₹ 100 lacs	13
Earnings for equity shareholder or Return on equity or ROE	68

ROE as % (68/500) = 13.6%.

(ii) Second part is formula based:

Financial leverage = EBIT/[EBT - {Pref.Div./(1 - T)}]

Financial leverage = 180/[135 - (13)/(1 - 0.40)] = 1.6

We have Combined leverage = Financial Leverage x Operating leverage

CL is given as 3. So operating leverage = 3/1.6 = 1.9

(b) How do you interpret indifference point?

Answer:

Interpretation of the Indifference Point

Situation	Option	Reason
EBIT below Indifference Point	Option with lower debt (Interest Burden)	When rate of earnings and operating profits (EBIT) are low, more interest and debt burden is not advisable. A high DOL should be properly managed by low Financial Leverage.
EBIT equal to Indifference Point	Any alternative can be chosen.	Same EPS due to Indifference Point.
EBIT above Indifference Point	Option with higher debt (Interest Burden)	When EBIT is high, Financial Leverage works till the EPS is maximised. Low DOL should be

		coupled with high DFL, to maximize gain of Equity Shareholders.

Question.26

(a) List out the importance of Cost of Capital.

Answer:

Importance of Cost of Capital

The Cost of Capital is very important in Financial Management and plays a crucial role in the following areas:

- **Capital budgeting decisions:** The cost of capital is used for discounting cash flows under Net Present Value method for investment proposals. So, it is very useful in capital budgeting decisions.
- **Capital structure decisions:** An optimal capital is that structure at which the value of the firm is maximum and cost of capital is the lowest. So, cost of capital is crucial in designing optimal capital structure.
- **Evaluation of final Performance:** Cost of capital is used to evaluate the financial performance of top management. The actual profitabily is compared with the actual cost of capital of funds and if profit is greater than the cost of capital the performance nay be said to be satisfactory.
- **Other financial decisions:** Cost of capital is also useful in making such other financial decisions as dividend policy, capitalization of profits, making the rights issue, etc.

(b) What are the features of Appropriate Capital Structure?

Answer:

Features of an Appropriate Capital Structure:

A capital structure will be considered to be appropriate if it possesses following features:

- **Profitability:** The capital structure of the company should be most profitable. The most profitable capital structure is one that tends to minimize cost of financing and maximize earnings per equity share.
- **Solvency:** The pattern of capital structure should be so devised as to ensure that the firm does not run the risk of becoming insolvent. Excess use of debt threatens the solvency of the company. The debt content should not, therefore, be such that which increases risk beyond manageable limits.
- **Flexibility:** The capital structure should be flexible to meet the requirements of changing conditions. Moreover, it should also be possible for the company to provide funds whenever needed to finance its profitable activities.
- **Conservatism:** The capital structure should be conservative in the sense that the debt content in the total capital structure does not exceed the limit which the company can bear. In other words, it should be such as is commensurate with the company's ability to generate future cash flows.
- **Control:** The capital structure should be so devised that it involves minimum risk of loss of control of the company.

(c) Assuming no taxes and given the earnings before interest and taxes (EBIT), interest (I) at 10% and equity capitalisation rate (Ke) below, calculate the total market value of each firm under Net Income Approach:

Firms	EBIT	I	Ke
	₹		₹
X	2,00,000	20,000	12.0%
Y	3,00,000	60,000	16.0%
Z	5,00,000	2,00,000	15.0%

W	**7,40,000**	**2,00,000**	**18.0%**

Also determine the weightage average cost of capital for each firm.

Answer:

Calculation of valuation of each firm under Net Income Approach

Value of firm = Value of equity + Value of debt

FIRM	X (₹)	Y (₹)	Z (₹)	W (₹)
EBIT	2,00,000	3,00,000	5,00,000	7,40,000
Less: Interest	20,000	60,000	2,00,000	2,00,000
Equity Earnings	1,80,000	2,40,000	3,00,000	5,40,000
Cost of Equity (Ke)	12%	16%	15%	18%
Capitalised value of equity	15,00,000	15,00,000	20,00,000	30,00,000
Add: MV of Debt	2,00,000	6,00,000	20,00,000	20,00,000
Value of firm	17,00,000	21,00,000	40,00,000	50,00,000
WACC (KO)	11.76%	14.29%	12.50%	14.80%

Note 1: Value of debt = Interest/ K_d

Note 2: Ko = EBIT/ Value of firm

Question.27

(a) Explain the criticism on MM hypothesis Model.

Answer:

Criticism on MM Hypothesis

- Rates of interest are not the same for the individuals and firms. The firms generally have a higher credit standing because of which they can borrow funds at a lower rate of interest as compared to individuals.
- Home – Made leverage is not a perfect substitute for corporate leverage. If the firm borrows, the risk to the shareholder is limited to his shareholding in that company. But if he borrows personally, the liability will be extended to his personal property also. Hence, the assumption that personal or home – made leverage is a perfect substitute for corporate leverage is not valid.
- The assumption that transaction costs do not exist is not valid because these costs are necessarily involved in buying and selling securities.
- The working of arbitrage is affected by institutional restrictions, because the institutional investors are not allowed to practice home – made leverage.
- The major limitation of M – M hypothesis is the existence of corporate taxes. Since the interest charges are tax deductible, a levered firm will have a lower cost of debt due to tax advantage when taxes exist.

(b) ABC Co. has a capital structure of 30% debt and 70% equity. The company is considering various investment proposals costing less than ₹ 30 Lakhs. The company does not want to disturb its present capital structure. The cost of raising the debt and equity are as follows:

Project Cost	Cost of Debt	Cost of Equity
Above ₹ 5 Lakhs	**9%**	**13%**
Above ₹ 5 Lakhs and upto ₹ 20 Lakhs	**10%**	**14%**
Above ₹ 20 Lakhs and upto ₹ 40 Lakhs	**11%**	**15%**
Above ₹ 40 Lakhs and upto ₹ 1 Crore	**12%**	**16%**

Assuming the tax rate is 50%, compute the cost of two projects P and Q, whose fund requirements are ₹. 8 Lakhs and ₹. 22 Lakhs respectively. If the project are expected to yield after tax return of 11%, determine under what conditions if would be acceptable.

Answer:

Capital Structure: (given) = 30% Debt and 70% Equity

Calculation of overall cost of capital at different investment outlays

Project Cost	Kd (1-t)	Ke	Ko = Wd Kd+ Ke We
Upto ₹ 5 lakhs	9% (1-0.5)=4.5%	13%	(0.3 x 4.5) + (0.7 x 13) = 10.450%
₹ 5 lakhs to 20 lakhs	10% (1-0.5)= 5%	14%	(0.3 x 5) + (0.7 x 14) = 11.300%
₹ 20 lakhs to 40 lakhs	11% (1-0.5)= 5.5%	15%	(0.3 x 5.5) + (0.7 x 15) = 12.150%
₹ 40 lakhs to 1 crore	12% (1-0.5)= 6%	16%	(0.3 x 6) + (0.7 x 16) = 13.000%

Evaluation of given projects:

Project	Investment	Ko	Project Return	Result
P	8 lakhs	11.3%	11%	Return < Ko
Q	22 lakhs	12.15%	11%	Return < Ko

Comment: Both the projects, P and Q, are not acceptable as the Cost of Capital is more than the Expected yield of the project. In order to accept the project the Expected return should always greater than the cost of capital.

Question.28

(a) What is dividend? What are the various types of dividend?

Answer:

The term dividend usually refers to a cash distribution of earnings. If it comes from other sources, it is called a liquidating dividing.

It mainly has the following types:

- Regular dividends are those the company expects to maintain, paid half-yearly (sometimes monthly, quarterly or annually).
- Extra dividends are those that may not be repeated.
- Special dividends are those that are unlikely to be repeated.
- Stock dividends are sometimes paid in shares of stocks. Similar to stock splits, both increase the number of shares outstanding and reduce the stock price.

(b) List out the advantages and disadvantages of Bonus Shares.

Answer:

Advantages:

- It preserves the company's liquidity as no cash is used.
- The shareholders can liquidate these shares whenever they require.
- It is excellent way to bring the paid capital of the company in line with actual capital employed by the company in the business.
- If broadens the capital base and improves the image of the company.
- It is inexpensive method of raising the capital by which the cash resources of the company are conserved.
- It reduces the market price of the shares, rendering the shares more marketable.
- It is perceived as an indication by the market that the company financial position is sound.

Disadvantages:

- Since the reserves have been used to issue bonus shares, it indicates that future dividend would decline.
- Issues of bonus shares involve lengthy legal procedures and approvals.

(c) The following information relates to nana Ltd.

Earnings of the Company	**₹10,00,000**
Dividend payout ratio	**60%**
No. of shares outstanding	**2,00,000**

Rate of Return on Investment 15%
Equity Capitalization Rate 12%

(i) What would be the Market Value per Share as per Walter's Model?

(ii) What is the optimum Dividend Payout Ratio according to Walter's Model, and the Market Value of Company's Share at that payout ratio?

Answer:

$$\text{Value per share} = \frac{DPS}{K_e} + \frac{(EPS - DPS) \times \frac{R}{K_e}}{K_e}$$

Computation of Factors:

Earnings Per Share (EPS)	₹10 lakhs÷ 2 lakhs = ₹5	Cost of Equity (K_e)	**12%**
Dividend Per Share (DPS)	EPS₹5×payout60% =₹3	Return on Investment (R)	**15%**

(i) Value per Share $= \frac{₹3}{0.12} + \frac{(₹5 - ₹3) \times \frac{0.15}{0.12}}{0.12} = ₹25 + ₹20.83 = ₹45.83$

(ii) Optimum payout Ratio: since the company's earning capacity i.e. ROI (of 15%) is greater than Shareholder's Expectation (of 12%), the shareholder's Wealth would be maximized at "Zero" payout, i.e. Nil Dividend.

Value per Share at Optimum Payout $= \frac{₹0}{0.12} + \frac{(₹5 - ₹0) \times \frac{0.15}{0.12}}{0.12} = ₹0 + 52.08 = ₹52.08$

Question.29

(a) Explain the needs of Capital Budgeting Decision.

Answer:

Capital budgeting decisions may be generally needed for the following purposes:

(i) Expansion; (ii) Replacement; (iii) Diversification; (iv) Buy or lease and (v) Research and Development.

(i) Expansion: The firm requires additional funds to invest in fixed assets when it intends to expand the production facilities in view of the increase in demand for their product in near future. Accordingly the current assets will increase. In case of expansion the existing infrastructure – like plant, machinery and other fixed assets is inadequate, to carry out the increased production volume. Thus the firm needs funds for such project. This will include not only expenditure on fixed assets (infrastructure) but also an increase in working capital (current assets).

(ii) Replacement: The machines and equipment used in production may either wear out or may be rendered obsolet due to new technology. The productive capacity and competitive ability of the firm may be adversely affected. The firm needs funds or modernisation of a certain machines or for renovation of the entire plant etc., to make them more efficient and productive. Modernization and renovation will be a substitute for total replacement, where renovation or modernization is not desirable or feasible, funds will be needed for replacement.

(iii) Diversification: If the management of the firm decided to diversify its production into other lines by adding a new line to its original line, the process of diversification would require large funds for long-term investment. For example ITC and Philips company for their diversification.

(iv) Buy or Lease: This is a most important decision area in Financial Management whether the firm acquires the desired equipment and building on lease or buy it". If the asset is acquired on lease, there have to be made a series of annual or monthly rental

payments. If the asset is purchased, there will be a large initial commitment of funds, but not further payments. The decision – making area is which course of action will be better to follow? The costs and benefits of the two alternative methods should be matched and compared to arrive at a conclusion.

(v) Research and Development: The existing production and operations can be improved by the application of new and more sophisticated production and operations management techniques. New technology can be borrowed or developed in the laboratories. There is a greater need of funds for continuous research and development of new technology for future benefits or returns from such investments.

(b) A company has to make a choice between two projects namely A and B. The initial capital outlay of two Projects are ₹ 1,35,000 and ₹ 2,40,000 respectively for A and B. There will be no scrap value at the end of the life of both the projects. The opportunity Cost of Capital of the company is 16%. The annual incomes are as under:

Year	Project A	Project B	Discounting factor @ 16%
1	-----	60,000	0.862
2	30,000	84,000	0.743
3	1,32,000	96,000	0.641
4	84,000	1,02,000	0.552
5	86,000	90,000	0.476

You are required to calculate for each project:

(i) Discounted payback period

(ii) Profitability index

(iii) Net present value

Answer:

Computation of cumulative present values of project cash inflows

Year	Project A	Project B	Discounting factor @ 16%	Project A		Project B	
				PV of cash Inflows	Cumulative PV	PV of cash Inflows	Cumulative PV
	(a)	(b)	(c)	(d)=(a)x(c)	(e)=Σ(d)	(f)=(b)x(c)	(g)=Σ(f)
1	---	60,000	0.862	-		51,720	51,720
2	30,000	84,000	0.743	22,290	22,290	62,412	1,14,132
3	1,32,000	96,000	0.641	84,612	1,06,902	61,536	1,75,668
4	84,000	1,02,000	0.552	46,368	1,53,270	56,304	2,31,972
5	86,000	90,000	0.476	40,936	1,94,206	42,840	2,74,812

(i) Discounted payback period

Project A

Cost of Project A = ₹ 1,35,000

Amount recovered by year 3 = ₹ 1,06,902

Amount recovered by year 4 = ₹ 1,53,270

∴ Discounted payback period lies between 3 and 4 years.

Exact amount to be recovered in year 4 = ₹ 1,35,000 - ₹ 1,06,902 = ₹ 28,098

Actual amount recovered in year 4 = ₹ 46,368

$$\therefore \text{Actual discounted payback period} = 3 + \frac{₹28,098}{₹46,368} = 3.606 \text{ years}$$

Project B

Cost of Project B = ₹ 2,40,000

Amount recovered by year 4 = ₹ 2,31,972

Amount recovered by year 5 = ₹ 2,74,812

∴ Discounted payback period lies between 4 and 5 years.
Exact amount to be recovered in year 5 = ₹ 2,40,000 - ₹ 2,31,972 = ₹ 8,028
Actual amount recovered in year 4 = ₹ 42,840

$$\therefore \text{Actual discounted payback period} = 4 + \frac{₹8,028}{₹42,840} = 4.187 \text{ years}$$

(ii) Profitability Index

$$\text{Profitability index} = \frac{\text{Present value of cash inflows}}{\text{Initial investment}}$$

$$\therefore \text{ Profitability Index for project A} = \frac{₹1,94,206}{₹1,35,000} = 1.4385$$

$$\therefore \text{ Profitability Index for project B} = \frac{₹2,74,812}{₹2,40,000} = 1.1451$$

(iii) Net Present Value
Net Present Value = Present value of cash inflows – initial investment
∴ Net Present Value for Project A = ₹ 1,94,206 – ₹ 1,35,000 = ₹ 59,206
∴ Net Present Value for Project B = ₹ 2,74,812 – ₹ 2,40,000 = ₹ 34,812

Question.30
(a) Explain the merits and demerits of payback period method.
Answer:

Merits: The following are the merits of the payback period method:

- **Easy to calculate:** It is one of the easiest methods of evaluating the investment projects. It is simple to understand and easy to compute.
- **Knowledge:** The knowledge of payback period is useful in decision-making, the shorter the period better the project.
- **Protection from loss due to obsolescence:** This method is very suitable to such industries where mechanical and technical changes are routine practice and hence, shorter payback period practice avoids such losses.
- **Easily availability of information:** It can be computed on the basis of accounting information, what is available from the books.

Demerits: However, the payback period method has certain demerits:

- **Failure in taking cash flows after payback period:** This methods is not taking into account the cash flows received by the company after the payback period.
- **Not considering the time value of money:** It does not take into account the time value of money.
- **Non-considering of interest factor:** It does not take into account the interest factor involved in the capital outlay.
- **Maximization of market value not possible:** It is not consistent with the objective of maximizing the market value of share.
- **Failure in taking magnitude and timing of cash inflows:** It fails to consider the pattern of cash inflows i.e. the magnitude and timing of cash inflows.

(b) Company MTL is forced to choose between two machines A and B. The two machines are designed differently, but have identical and do exactly the same job. Machine A costs ₹2,50,000 and will last for 3 years. It costs ₹40,000 per year to run. Machine B is an 'economy' model Costing only ₹2, 00,000, but will last only for 2 years, and costs ₹60,000 per year to run.

These are real Cash Flows. The Costs are forecasted in rupees of constant purchasing power. Ignore tax. Opportunity cost of capital is 10 percent. Which machine Company X should Buy?

Answer:

Working Notes:

Compound present value of 3 years @ 10% = 2.486

P.V. of Running cost of Machine A for 3 years = ₹40,000×2.486 = ₹99,440

Compound present value of 2 years @10% =1.735

P.V. of Running cost of Machine B for 2 years =₹60,000 ×1.735

=₹1, 04,100

Statement showing evaluation of Machine A and B

Particulars	**Machine A**	**Machine B**
Cost of purchase Add: PV. Of running cost for 3 years	2,50,000 99,440	2,00,000 1,04,100
P.V. of Cash Outflow	349440	3,04,100
	2.486	1.735
Equivalent Present Value of annual Cash outflows	1,40,563	1,75,274

Analysis: Since the annual Cash outflow of Machine B is highest, Machine A can be purchased.