

# FUNDAMENTALS OF ECONOMICS AND MANAGEMENT (FEM)

FOUNDATION



**The Institute of Cost Accountants of India**  
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# FUNDAMENTALS OF ECONOMICS AND MANAGEMENT

FOUNDATION

## STUDY NOTES



**The Institute of Cost Accountants of India**

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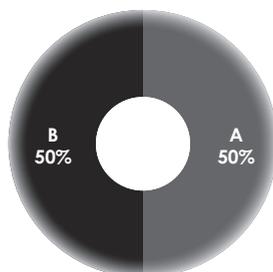
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# Syllabus

## PAPER1: FUNDAMENTALS OF ECONOMICS AND MANAGEMENT (FEM)

Syllabus Structure

A	Fundamentals of Economics	50%
B	Fundamentals of Management	50%



### ASSESSMENT STRATEGY

There will be written examination paper of three hours

### OBJECTIVES

To gain basic knowledge in Economics and understand the concept of management at the macro and micro level

### Learning Aims

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

- Understand the basic concepts of economics at the macro and micro level
- Conceptualize the basic principles of management

### Skill sets required

Level A: Requiring the skill levels of knowledge and comprehension

CONTENTS	Weightage
<b>Section A : Fundamentals of Economics</b>	50%
1. Basic concepts of Economics	
2. Forms of Market	
3. National Income	
4. Money	
5. Banking	
6. (a) Indian Economy – an Overview	
(b) Infrastructure of the Indian Economy	
<b>Section B: Fundamentals of Management</b>	50%
7. (a) Management Process	
(b) Evolution of Management thought	
8. (a) Concept of Power	
(b) Leadership & Motivation	
9. (a) Group Dynamics	
(b) Management of Organizational Conflicts	
10. Decision-making – types and process	

### SECTION A: FUNDAMENTALS OF ECONOMICS

[50 MARKS]

#### 1. Basic Concepts of Economics

- (a) The Fundamentals of Economics & Economic Organizations
- (b) Utility, Wealth, Production, Capital
- (c) Central Problems of an Economy
- (d) Production Possibility Curve ( or Transformation Curve)
- (e) Theory of Demand ( meaning, determinants of demand, law of demand, elasticity of demand- price, income and cross elasticity) and Supply ( meaning , determinants, law of supply and elasticity of supply)

- (f) Equilibrium
- (g) Theory of Production ( meaning , factors, laws of production- law of variable proportion, laws of returns to scale)
- (h) Cost of Production ( concept of costs, short-run and long-run costs, average and marginal costs, total, fixed and variable costs)

**2. Forms of Market**

- (a) Various forms of market- monopoly, perfect competition, monopolistic competition, oligopoly, duopoly
- (b) Pricing strategies in various markets

**3. National Income**

- (a) Gross National Product
- (b) Net National Product
- (c) Measurement of National Income
- (d) Economic growth and fluctuations
- (e) Consumptions, Savings and Investment

**4. Money**

- (a) Definition and functions of money
- (b) Quantity theory of money
- (c) Inflation and effect of inflation on production and distribution of wealth
- (d) Control of Inflation
- (e) Money Supply
- (f) Liquidity preference and marginal efficiency
- (g) Rate of Interest and Investment

**5. Banking**

- (a) Definition
- (b) Functions and utility of Banking
- (c) Principles of Commercial Banking
- (d) Essentials of sound Banking system
- (e) Multiple credit creation
- (f) Functions of Central Bank
- (g) Measures of credit control and Money Market
- (h) National & International Financial Institutions

**6.(a) Indian Economy – An overview**

**Nature, key sectors and their contribution to the economy**

- (a) Meaning of an Underdeveloped Economy
- (b) Basic Characteristics of the Indian Economy
- (c) Major Issues of Development
- (d) Natural resources in the process of Economic Development
- (e) Resources - land; forest; water, fisheries, minerals
- (f) Economic development and Environmental Degradation
- (g) Global Climate Change and India
- (h) The role of Industrialization, pattern of Ownership of Industries  
Role and Contribution of Industries in Economic development (with special reference to the following industries): Iron and Steel, Cotton and Synthetic Textile, Jute, Sugar, Cement, Paper, Petrochemical, Automobile, IT & ITES, Banking and Insurance

**(b) Infrastructure of the Indian Economy**

- (i) Infrastructure and Economic Development, Private Investment in Infrastructure, Public Private Partnership (PPP) Model in Infrastructure Energy
- (ii) Power Sector
- (iii) Transport System in India's Economic Development – Railways, Roads, Water, Civil Aviation
- (iv) Information Technology (IT) and ITES (Information Technology Enabled Services) including the Communication System in India
- (v) Urban Infrastructure
- (vi) Science and Technology

**SECTION B – FUNDAMENTALS OF MANAGEMENT**

**[50 MARKS]**

- 7.** (a) Management Process – introduction, planning, organizing, staffing, leading, control, communication, co-ordination.  
(b) Evolution of Management thought – Classical, Neo-classical, Modern
- 8.** (a) Concept of Power, Authority, Responsibility, Accountability, Delegation of Authority, Centralization & Decentralization  
(b) Leadership & Motivation – Concept & Theories
- 9.** (a) Group Dynamics- concept of group and team, group formation, group cohesiveness  
(b) Management of organizational conflicts- reasons, strategies
- 10.** Decision-making- types of decisions, decision-making process.

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**Section - A**  
**ECONOMICS**

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# Study Note - 1

## BASIC CONCEPTS OF ECONOMICS



### This Study Note includes

- 1.1 Definition & Scope of Economics
- 1.2 Few Fundamental Concepts.
- 1.3 Demand
- 1.4 Supply
- 1.5 Equilibrium
- 1.6 Theory of Production
- 1.7 Theory of Cost

### 1.1 DEFINITION & SCOPE OF ECONOMICS

#### 1.1.1 Definition of Economics

The analysis of economic environment requires the knowledge of economic decision making and hence the study of "Economics" is significant.

There are 4 definitions of Economics.

##### (i) **Wealth Definition:**

Adam Smith defined "Economics as a science which inquired into the nature and cause of wealth of Nations".

##### **According to this definition —**

- Economics is a science of study of wealth only;
- It deals with production, distribution and consumption;
- This wealth centered definition deals with the causes behind the creation of wealth, and
- It only considers material wealth.

##### **Criticisms of this definition:**

- (a) Wealth is of no use unless it satisfies human wants.
- (b) This definition is not of much importance to man and welfare.

##### (ii) **Welfare definition:**

According to Alfred Marshall "Economics is the study of man in the ordinary business of life". It examines how a person gets his income and how he invests it. Thus on one side it is a study of wealth and on the other most important side, it is a study of well being.

##### **Features:**

- (a) Economics is a study of those activities that are concerned with material welfare of man.
- (b) Economics deals with the study of man in ordinary business of life. The study enquires how an individual gets his income and how he uses it.

- (c) Economics is the study of personal and social activities concerned with material aspects of well being.
- (d) Marshall emphasized on definition of material welfare. Herein lies the distinction with Adam Smith's definition, which is wealth centric.

**(iii) Scarcity definition**

This definition was put forward by Robbins. According to him "Economics is a science which studies human behavior as a relationship between ends and scarce means which have alternative uses.

**Features:**

- (a) human wants are unlimited
- (b) alternative use of scarce resources
- (c) efficient use of scarce resources
- (d) need for optimisation

**(iv) Growth Oriented definition**

This definition was introduced by Paul. A. Samuelson. According to the definition "Economics is the study of how man and society choose with or without the use of money to employ the scarce productive resources, which have alternative uses, to produce various commodities over time and distributing them for consumption, how or in the future among various person or groups in society." It analyses costs and benefits of improving patters of resource allocation.

**1.1.2 Scope of Economics**

<b>Traditional Approach</b>	<ul style="list-style-type: none"> <li>• Economics is a social science.</li> <li>• It studies man's behaviour as a rational social being.</li> <li>• It considered as a science of wealth in relation to human welfare.</li> <li>• Earning and spending of income was considered to be end of all economic activities.</li> <li>• Wealth was considered as a means to an end – the end being human welfare.</li> </ul>
<b>Modern Approach</b>	<ul style="list-style-type: none"> <li>• An individual, either as a consumer or as a producer, can optimize his goal is an economic decision.</li> <li>• The scope of Economics lies in analyzing economic problems and suggesting policy measures.</li> <li>• Social problems can thus be explained by abstract theoretical tools or by empirical methods.</li> <li>• In classical discussion, Economics is a positive science.</li> <li>• It seeks to explain what the problem is and how it tends to be solved.</li> <li>• In modern time it is both a positive and a normative science.</li> <li>• Economists of today deal economic issues not merely as they are but also as they should be.</li> <li>• Welfare economics and growth economics are more normative than positive.</li> </ul>

**1.1.3 Subject Matter of Economics**

The subject matter of economics is presently divided into two major branches. Micro Economic and Macro Economics. These two terms have now become of general use in economics.



## Micro Economics

- Micro economics studies the economic behaviour of individual economic units.
- The study of economic behaviour of the households, firms and industries form the subject-matter of micro economics.
- It examines whether resources are efficiently allocated and spells out the conditions for the optimal allocation of resources so as to maximize the output and social welfare.
- For example, micro economics is concerned with how the individual consumer distributes his income among various products and services so as to maximize utility.
- Thus, micro-economics is concerned with the theories of product pricing, factor pricing and economic welfare.

## Macro Economics

- Macro economics deals with the functioning of the economy as a whole.
- For example, macro economics seeks to explain how the economy's total output of goods and services and total employment of resources are determined and what explains the fluctuation in the level of output and employment.
- It deals with the broad economic issues, such as full employment or unemployment, capacity or under capacity production, a low or high rate of growth, inflation or deflation.
- It is the theory of national income, employment, aggregate consumption, savings and investment, general price level and economic growth.

## Interdependence between Micro Economics and Macro Economics

- Micro Economic analysis and Macro Economic analysis are complementary to each other;
- They do not complement but supplement each other.
- The basic goal of both the theories is same: the maximization of the material welfare of the nation.
- From the micro economic point of view, the nation's material welfare will be maximized by achieving optimal allocation of resources.
- From the macro economic point of view, the nation's material welfare will be maximized by achieving full utilisation of productive resources of the economy.
- The study of both is equally vital so as to have full knowledge of the subject-matter of economics.
- The contemporary economists are concerned with both micro economics and macro economics.

### 1.1.4 Nature of Economics

Nature of economics refers to whether economics is a science or art or both, and if it is a science, whether it is positive science or normative science or both.

#### Economics as a Science —

- We have often stated that economics is a social science.
- Economics as a social science studies economic activities of the people.
- Economics is a systematic body of knowledge as it explains cause and effect relationship between various variables such as price, demand, supply, money supply, production, national income, employment, etc.
- Economic laws, like other scientific laws, state what takes place when certain conditions (assumptions) are fulfilled.

- This is the traditional Deduction Method where economic theories are deduced by logical reasoning.
- The law of demand in economics states that a fall in the price of commodity leads to a large quantity being demanded 'given other things', such as income of the consumer, prices of other commodities, etc., remaining the same.
- In economics we collect data, classify and analyse these facts and formulate theories or economic laws.
- The truth and applicability of economic theories can be supported or challenged by confronting them to the observations of the real world.
- If the predictions of the theory are refuted by the real-world observations, the theory stands rejected.
- If the predictions of the theory are supported by the real-world events, then the theory is formulated.
- The laws of economics or economic theories are conditional subject to the condition that other things are equal.
- Economic theories are seldom precise and are never final; they are not as exact and definite as laws of physical and natural sciences.
- The laws of physical and natural sciences have universal applicability, but economic laws are not of universally applicable.
- The laws of physical and natural sciences are exact, but economic laws are not that exact and definite.

### **Economics as an Art —**

- Various branches of economics, like consumption, production, distribution, money and banking, public finance, etc., provide us basic rules and guidelines which can be used to solve various economic problems of the society.
- The theory of demand guides the consumer to obtain maximum satisfaction with given income.
- Theory of production guides the producer to equate marginal cost with marginal revenue while using resources for production.
- The knowledge of economic laws helps us in solving practical economic problems in everyday life.

### **Economics as a Positive Science —**

- A positive science is that science in which analysis is confined to cause and effect relationship.
- Positive economics is concerned with the facts about the economy.
- It studies the economic phenomena as they exist.
- It finds out the common characteristics of economic events.
- It specifies cause and effect relationship between them.
- It generalizes their relationship by formulating economic theories and makes predictions about future course of these economic events.

### **Economics as a Normative Science —**

- The objective of Economics is to examine real economic events from moral and ethical angles and to judge whether certain economic events are desirable or undesirable.
- Normative economics involves value judgment.
- It deals primarily with economic goals of a society and policies to achieve these goals.
- It also prescribes the methods to correct undesirable economic happenings.



### **Economics as a Science and an Art —**

- Being a systematized body of knowledge and establishing the cause and effect relationship of a phenomenon, Economics is a scientific study.
- The laws of economics are conditional.
- Economics cannot predict with so much certainty and accuracy as the subject deals with the behaviour of human beings as such controlled experiment is not possible.
- Some economists prefer to treat economics as an art.
- Every science has an art or a practical side.
- Every art has a scientific side which is theoretical.
- Economics deals with both theoretical aspects as well as practical side of many economic problems we face in our daily life.
- Thus, Economics is both science as well as an art.

#### **1.1.5 Central Problem of all Economies**

- In case of any economy, whatever the economy required cannot be satisfied fully.
- Economic resources or means of production are limited and they can be put to alternative uses.
- Every economy faces some common problems.

<b>What to produce?</b>	<ul style="list-style-type: none"><li>• A country cannot produce all goods because it has limited resources.</li><li>• It has to make a choice between different goods and services.</li><li>• Every economy has to decide what goods and services should be produced.</li></ul>
<b>How to produce?</b>	<ul style="list-style-type: none"><li>• As an economy decides to produce certain goods, it faces the problem to decide how these goods will be produced.</li><li>• The problem arises because of unavailability of some resources.</li><li>• It also involves the choice of technique of production.</li><li>• A country may produce by labour intensive methods or by capital intensive methods of production, depending upon its stock or man power.</li></ul>
<b>For whom to produce?</b>	<ul style="list-style-type: none"><li>• Goods and services are produced for people who have the means to pay for them.</li><li>• A country may produce mass consumption goods at a large scale or goods for upper classes.</li><li>• All it depends upon the policies of the government as well as private producing units.</li></ul>

#### **1.1.6 Economic Organizations**

It refers to the arrangements of a country's economy in terms of production, distribution and consumption of goods and services.

## 1.2 FEW FUNDAMENTAL CONCEPTS

### 1.2.1 Wealth

By wealth we mean the stock of goods under the ownership of a person or a nation.

<b>(i) Personal wealth</b>	<ul style="list-style-type: none"> <li>• It means the stock of all goods like houses and buildings, furniture, land, money in cash, money kept in banks, clothes, company shares, stocks of other commodities, etc. owned by a person.</li> <li>• Health, goodwill, etc., can also be considered to be parts of an individual's wealth.</li> <li>• In Economics, they are transferable goods (whose ownership can be transferred to another person).</li> <li>• These are considered to be components of wealth.</li> </ul>
<b>(ii) National wealth</b>	<ul style="list-style-type: none"> <li>• It includes the wealth of all the citizens of the country.</li> <li>• There are public properties whose benefits are enjoyed by the citizens of the country but no citizen personally owns these goods.</li> <li>• Natural resources (mineral resources, forest resources, etc), roads, bridges, parks, hospitals, public educational institutions and public sector projects of various types (public sector industries, public irrigation projects, etc.) are example of public properties.</li> <li>• There is some personal wealth which is to be deducted from national wealth.</li> <li>• Example, if a citizen of the country holds a Government bond, it is personal wealth. But from the point of view of the Government, it is a liability and, hence, it should not be considered as a part of the nation's wealth.</li> </ul>

### 1.2.2 Wealth and Welfare

- Welfare means the satisfaction or the well-being enjoyed by society.
- Social welfare depends on the wealth of the nation.
- In general, wealth gives rise to welfare, although they are not same.
- If wealth of society increases, but the distribution among the citizens of the country is very unequal, this inequality may create social jealousy and tension.
- Economists, however, assume that when wealth increases, welfare increases too.
- Similarly, when wealth decreases, welfare is assumed to decrease.

### 1.2.3 Money

- Anything which is widely accepted in exchange for goods, or in settling debts.
- In Barter System, goods were used as medium of exchange.
- When general acceptability of any medium of exchange is enforced by law, that medium of exchange is called the legal tender, (example, the rupee notes and coins).
- When some commodity is used as a medium of exchange by custom, it is called customary money, (example, the rupee notes and coins).

#### Constituents of money supply

In any economy, the constituents of money supply are as follows:

- (a) Rupee notes and coins with the public,



- (b) Credit cards,
- (c) Traveller's cheques, etc.

#### 1.2.4 Markets

- A system by which the buyers and sellers of a commodity can come into touch with each other (directly or indirectly).
- In Economics, a market for a commodity is a system.
- Here, the buyers and the sellers establish contact with each other directly or indirectly.
- They have a view to purchasing and selling the commodity.

#### Functions of a market

The major functions of a market for a commodity are : (i) to determine the price for the commodity, and (ii) to determine the quantity of the commodity that will be bought and sold. Both the price and the quantity are determined by the interactions between the buyers and the sellers of the commodity.

#### The market mechanism

When economists talk of the market mechanism, they mean the totality of all markets (i.e., the markets for all the goods and services in the economy). The market mechanism determines the prices and the quantities bought and sold of all the goods and services.

#### 1.2.5 Investment

Investment means an increase in the capital stock. For a country, as a whole, investment is the increase in the total capital stock of the country. For an individual, investment is the increase in the capital stock owned by him.

#### Real investment and portfolio investment

Economists talk of two types of investment : real investment and portfolio investment.

- (a) Real investment :** Real investment means an increase in the real capital stock, i.e., an addition to the stock of machines, buildings, materials or other types of capital goods.
- (b) Portfolio investment :** Portfolio investment essentially means the purchase of shares of companies. However, it is only the purchase of new shares issued by a company that can properly be termed as investment (because the company will use the money for expanding its productive capacity, i.e., the company's real capital stock will increase). Purchase of an existing share from another shareholder is not an investment because in this case the company's real capital stock does not increase.

#### Gross investment and net investment

In any economy, the aggregate investment made during any year is called gross investment. The gross investment includes (a) inventory investment and (b) fixed investment. Investment in raw materials, semi-finished goods and finished goods is referred to as inventory investment. On the other hand, investment made in fixed assets like machineries, factory sheds etc. is called fixed investment.

By deducting depreciation cost, of capital from the gross investment, we get new investment.

So, Net investment = Gross investment – depreciation cost.

#### 1.2.6 Production

- Production means "creation of utility".
- It also refers to creation of goods (or performance of services) for the purpose of selling them in the market.

- There was a time when production meant the fabrication of material goods only.
- A tailor's activity was considered to be production but the activity of the trader who sold clothes to the purchasers was not considered as production.
- At present, both material goods and services are considered as production.
- Production must be for the purpose of selling the produced goods (or, services) in the market.

### Factors of production

The goods and services with the help of which the process of production is carried out, are called factors of production. Economists talk about four main factors of production: land, labour, capital and entrepreneurship (or organization). They are also called as the inputs of production. On the other hand, the goods produced with the help of these inputs, are called as the output.

### 1.2.7 Consumption

By consumption, we mean satisfaction of wants. It is because we have wants that we consume various goods and services. Moreover, it is assumed that, if we have wants, these can be satisfied only through the consumption of goods and services. Thus, consumption is defined as the satisfaction of human wants through the use of goods and services.

### Other determinants of consumption

<b>Present income</b>	It is the main determinant of consumption
<b>Expected future income</b>	<ul style="list-style-type: none"> <li>• Most people try to save for the future.</li> <li>• People display a low average propensity to consume when they are young.</li> <li>• A low propensity to save when they are old.</li> </ul>
<b>Wealth</b>	<ul style="list-style-type: none"> <li>• A person may have a low income, but he may be wealthy</li> <li>• He may have a great amount of accumulated wealth,</li> <li>• In this case, he may have high consumption expenditure.</li> </ul>

### 1.2.8 Saving

- Saving is defined as income minus consumption.
- Whatever is left in the hands of an individual after meeting consumption expenditure is the individual's saving.
- The sum-total of funds in the hands of an individual is obtained by accumulating the saving of the past years.
- Saving is generated out of current income of an individual.
- Savings are created out of past income of an individual.

### 1.2.9 Income

The income of a person means the net inflow of money (or purchasing power) of this person over a certain period. For instance, an industrial worker's annual income is his salary income over the year. A businessman's annual income is his profit over the year.

### Wealth and income

The difference between wealth and income must be clearly understood. A person (or a nation) consumes a part of the income and saves the rest. These savings are accumulated in the form of wealth. Wealth is a stock. It is stock of goods owned at a point of time. Income is a flow; it is the inflow of money (or purchasing power) over a period of time.



### 1.2.10 Consumer Surplus

- The concept was introduced by Prof. Marshall in Economics.
- The excess satisfaction or utility that a consumer can enjoy from the purchase of a thing when the price that he actually pays is less than the price he was willing to pay for it.
- It is the difference between individual demand price and market price.
- The price that a man is willing to pay is determined by the marginal utility of the thing to him.
- The concept is derived from the Law of Diminishing Marginal Utility.
- As a man consumes successive units of a commodity, the Marginal Utility from each unit goes on falling.
- It is often argued that the surplus satisfaction cannot be measured precisely.
- It is difficult to measure the marginal utilities of different units of a commodity consumed by person.

### 1.2.11 Capital

- In a fundamental sense, capital consists of any produced thing that can enhance a person's power to perform economically useful work.
- Example, a stone or an arrow is capital for a caveman who can use it as a hunting instrument.
- Capital is an input in the production process.
- It refers to financial resources available for use.
- Capital is different from money.
- Money is used simply to purchase goods and services for consumption. Capital is more durable and is used to generate wealth through investment.
- Capital is something owned which provides ongoing services.
- Economic capital is used for measuring and reporting market and operational risks across a financial organization.

### 1.2.12 Utility

- Utility, or usefulness, is the ability of something to satisfy needs or wants.
- Utility is an important concept in economics because it represents satisfaction experienced by the consumer of a good.
- Utility is a representation of preferences over some set of goods and services.
- One cannot directly measure benefit, satisfaction or happiness from a good or service, so instead economists have devised ways of representing and measuring utility in terms of economic choices that can be counted.
- Economists consider utility to be revealed in people's willingness to pay different amounts for different goods.
- Total utility is the aggregate sum of satisfaction or benefit that an individual gains from consuming a given amount of goods or services in an economy.
- The amount of a person's total utility corresponds to the person's level of consumption.
- Usually, the more the person consumes, the larger his or her total utility will be.
- Marginal utility is the additional satisfaction, or amount of utility, gained from each extra unit of consumption.

- Total utility usually increases as more of a good is consumed.
- Marginal utility usually decreases with each additional increase in the consumption of a good.
- This decrease demonstrates the law of diminishing marginal utility.

**1.2.13 Law of Diminishing Marginal Utility**

- This Law is a fundamental law of Economics.
- It relates to a man's behaviour as a consumer.
- The Law states that as a man gets more and more units of a commodity, marginal utility from each successive unit will go on falling till it becomes zero or negative.
- Marginal utility means the additional utility obtained from one particular unit of a commodity.
- It is expressed in terms of the price that a man is willing to pay for a commodity.
- The basis of the Law is satiability of a particular want.
- Although human wants are unlimited in number yet a particular one can be fulfilled.

The Law can be explained in the following illustration:

Units of goods	Total utility (TU)	Marginal utility (MU)
1	4	–
2	5	1
3	6	1
4	6	0
5	5	-1

The above table can be shown by the following graph —

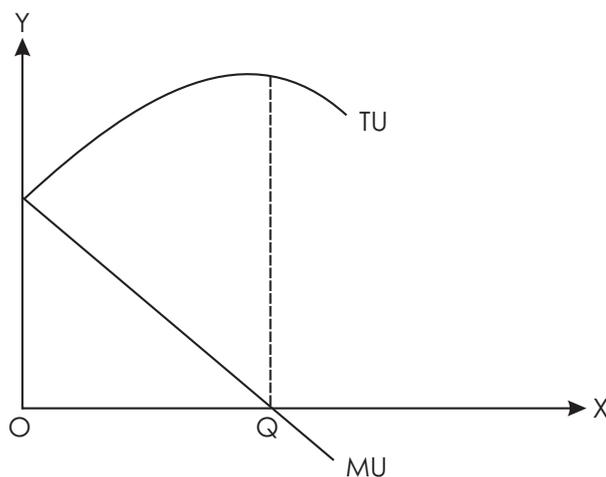


Fig 1.1 : Marginal Utility and Total Utility Curve

In this graph the curve MU is Marginal Utility curve. It has a negative slope denoting the fact that as the quantity of a commodity increases, marginal utility goes on following. At Q it is zero and after it, it becomes negative.



The Law is based upon certain assumptions —

- It is assumed that the different unit consumed should be identical in all respects.
- Further it is assumed that consumer's habit taste, preference remain unchanged.
- Thirdly, there should be no time gap or interval between the consumption of one unit and another unit.
- Lastly, the different units consumed should consist of standard units which are not too small or large in size.

### Notion of the Law

The Law of Diminishing utility is not applicable in some cases. The Law may not apply to articles like gold, money where more quantity may increase the lust for them. Further the Law does not apply to music, hobbies. Thirdly, Marginal utility of a commodity may be affected by the presence or absence of articles which are substitutes or complements.

#### 1.2.14 Demand Forecasting

In modern business, production is carried out in anticipation of future demand. There is thus a time-gap between production and marketing. So production is done on the basis of demand forecasting. The success of a business firm depends to a large extent upon its successful forecasting.

The following methods are commonly used in forecasting demand.

- (a) Expert opinion method** – experts or specialists in the fields are consulted for their opinion regarding future demand for a particular commodity.
- (b) Survey of buyers' intentions** – generally a limited number of buyers' choice and preference are surveyed and on the basis of that the business man forms an idea about future demand for the product it is going to produce.
- (c) Collective opinion method** – the firm seeks opinion of retailers and wholesalers in their respective territories with a view to estimate expected sales.
- (d) Controlled experiments** – the firm takes into account certain factors that effect demand like price, advertisement, packaging. On the basis of these determinants of demand the firm makes an estimate about future demand.
- (e) Statistical methods** – More often firms make statistical calculations about the trend of future demand. Statistical methods comprising trend projection method, least squares method progression analysis etc. are used depending upon the availability of statistical data.

#### 1.2.15 Production Possibility Curve (PPC)

In economics, a **production-possibility curve (PPC)**, is also called a **production-possibility frontier (PPF)**, **production-possibility boundary** or **product transformation curve**, is a graph that compares the production rates of two commodities that use the same fixed total of the factors of production. Graphically bounding the production set, the PPF curve shows the maximum specified production level of one commodity that results given the production level of the other. By doing so, it defines productive efficiency in the context of that production set.

Let us consider the shape and use of the production possibility curve. In our discussion we make the following assumptions:

- (1) Only two goods, X and Y, are being produced.
- (2) Only one factor of production is used in the production. That factor of production is labour. Supply of labour in the economy is fixed and total amount of labour is fully employed.
- (3) The two goods can be produced in various ratios. This means that the country can produce more of X and less of Y or less X and more of Y.

- (4) In the production of both goods, law of increasing cost operates. This means that if the production of one good rises, its marginal cost will rise.
- (5) There is no change in production process or production technology.

With the help of these assumptions we can explain how the production possibility curve can be obtained.

- Suppose the country can produce different alternative combinations of X and Y with its given amount of labour.
- Those combinations are shown with the help of the following hypothetical schedule:

**Production Possibility Schedule**

Good X	Good Y
0	10
1	9
2	7
3	4
4	0

- From this schedule we see that if the country produces only Y and no amount of good X, then it can produce a maximum of 10 units of Y. So, we get a combination (0, 10) on the production possibility curve.
- Again, if the country does not produce good Y and devote its entire resources in the production of X, then it can produce a maximum of 4 units of X. Hence, point (4, 0) will be a combination of two goods on the production possibility curve.
- In this way, employing the entire resource (labour), the country can produce 1 unit of good X and 9 units of good Y, or 2 units of good X and 7 units of good Y, etc.

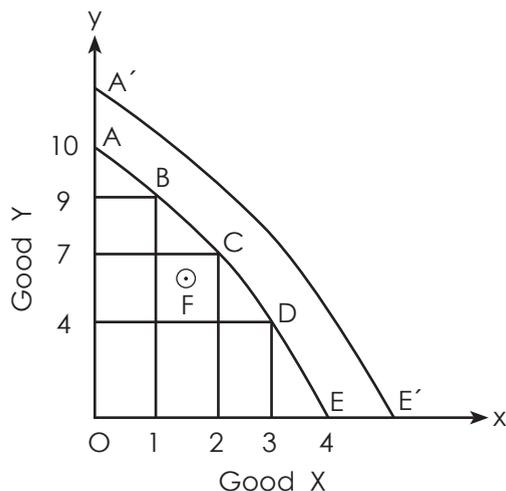


Fig. 1.2

- In our figure, we plot the amount of good X (say, x) on the horizontal axis and the amount of good Y (say, y) on the vertical axis.
- In this figure, AE is the production possibility curve.



- At A on this curve,  $x = 0$  and  $y = 10$  i.e., point A expresses the combination (0, 10). Similarly, point B represents the combination (1, 9), point C represents the combination (2, 7), point D represents the combination (3, 4) and point E expresses the combination (4, 0).
- With the given amount of labour, the country can produce any product combination on the production possibility curve AE. This curve is downward sloping.
- It implies that, given the amount of labour, if the country increases the production of one good, it must reduce the production of the other.
- The country can produce any combination below AE but it cannot produce any combination lying to the right of AE.
- Let F be a point to the left of AE. At this point, some amount of labour will remain unutilised. By full employment of labour, the country can move from F to any point on AE where the production of at least one commodity will increase.
- Again, if it is found that there is full employment of labour but output is obtained as represented by F, then it should be understood that production has not been done efficiently.
- In that case, it is possible to increase the production of both goods by efficient utilisation of labour.
- If the given amount of labour is fully utilised, the country can produce any combination of X and Y on AE.
- Hence, to determine the production levels of two goods means to determine the point on the production possibility curve at which the country will stay.

### 1.3 DEMAND

- In the ordinary sense, demand means desires.
- Demand in Economics means both the willingness as well as the ability to purchase a commodity by paying a price and also its actual purchase.
- A man may be willing to get a thing but he is not able to pay the price. It is not demand in the economic sense.
- Demand is related to price.
- Generally demand for a commodity depends upon the price of the commodity.
- Generally the relation between price and demand is inverse.
- When price of a particular commodity goes up, its demand falls and vice-versa.
- But in exceptional cases the two variables may move in the same direction.
- There are other factors that may influence the quantity demanded for a quantity.
- One such factor is the income of the consumer.
- If a man's income increases, obviously he will be able to demand more of the goods at a given price.
- Except that, demand for a commodity depends upon the taste and preference of the consumers, the price of substitute goods etc.

#### 1.3.1 Law of Demand

The law of demand expresses the functional relationship between the price of commodity and its quantity demanded. It states that the demand for a commodity tends to vary inversely with its price this implies that the law of demand states- Other things remaining constant, a fall in price of a commodity will lead to a rise in demand of that commodity and a rise in price will lead to fall in demand.

**Assumption:**

- (i) Income of the people remaining unchanged.
- (ii) Taste, preference and habits of consumers unchanged.
- (iii) Prices of related goods i.e., substitute and complementary goods remaining unchanged
- (iv) There is no expectation of future change in price of the commodity.
- (v) The commodity in question is not consumed for its prestige value.

**Importance of Law of Demand**

1. **Basis of the Law of Demand :** The law of Demand is based on the consumers that they are prepared to buy a large quantity of a certain commodity only at a lower price. This results from the fact that consumption of additional units of a commodity reduces the marginal utility to him.
2. **Basis of consumption Expenditure :** The law of Demand and the law of equi-marginal utility both provide the basis for how the consumer should spend his income on the purchase of various commodities.
3. **Basis of Progressive Taxation :** Progressive Taxation is the system of Taxation under which the rate of tax increase with the increase in income. This implies that the burden of tax is more on the rich than on the poor. The basis of this is the law of Demand. Since it implies that the marginal utility of Money to a rich man is lower than that to a poor man.
4. **Diamond-water paradox :** This means that through water is more useful than diamond. Still the price of diamond is more than that of water. The explanation lies in law of diminishing marginal utility. The price of commodity is determined by its marginal utility. Since the supply of water is abundant the marginal utility of water is very low and so its price. On the contrary, supply of diamond is limited so the marginal utility of diamond is very high, therefore the price of diamond is very high.

**1.3.2 Demand Schedule**

It is a numerical tabulation, showing the quantity that is demanded at selected prices. A demand schedule can be of 2 types; Individual Demand Schedule, Market Demand Schedule

**1.3.2.1 Individual Demand Schedule :** It shows the quantity of a commodity that one consumer or a particular household will buy at selected prices, at a given time period.

Price of x (₹)	Quantity demanded of x (units)
100	4
50	2
20	10
10	15
5	20

**1.3.3.2 Market Demand Schedule :** When we add the individual demand schedule of various household, we get the market demand schedule. For example, there are four households in the market and their demand schedule at different prices are given below :

Price	Quantity Demanded				Market Demand
	A	B	C	D	
100	1	2	1	2	6
50	2	5	2	4	13
20	10	10	5	10	35
10	15	15	10	15	55
5	20	20	15	20	75

**1.3.3 Demand Curve :** Demand curve is a diagrammatic representation of the demand schedule when we plot individual demand schedule on a graph, we get individual demand curve and when we plot market schedule, we get market curve. Both individual and market demand curves slope downward from left to right indicating an inverse relationship between price and quantity demanded of goods.

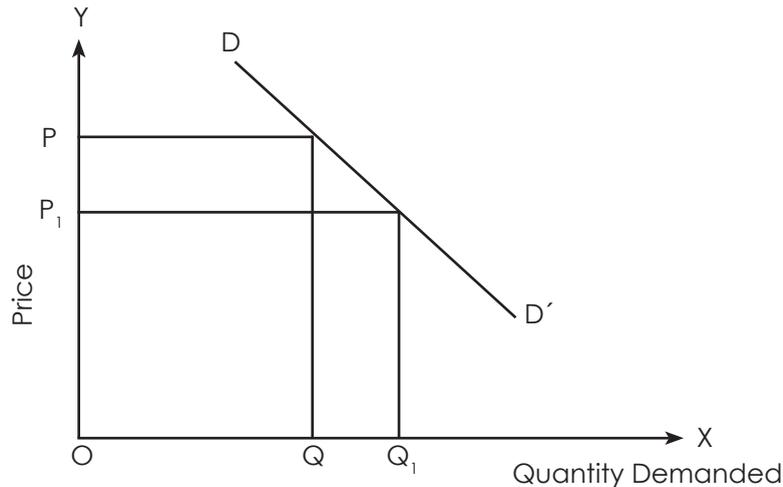


Fig.1.3 : Demand Curve

The demand curve is downward sloping because of the following reasons.

- 1) Some buyer may simply not be able to afford the high price.
- 2) As we consume more units of a product, the utility of that product becomes less and less. This is called the principle of diminishing Marginal Utility.

The quantity demanded rises with a fall in price because of the substitution effect. A low price of x encourages buyer to substitute x for other product.

**1.3.4 Substitution effect** - As the relative price of the commodity decreases, the consumer purchases more of the cheaper commodity and less of the dearer ones. Hence, with the fall in relative prices, the demand for the commodity rises. Due to inverse relation, the substitution effect is negative.

**1.3.5 Determinants of demand** - There are many factors other than price that can affect the level of quantity demanded. This defines demand function.

- (i) **Price of the Commodity :** There is an inverse relationship between the price of the commodity and the quantity demanded. It implies that lower the price of commodity, larger is the quantity demanded and vice-versa.
- (ii) **Income of the consumers :** Usually there is a direct relationship between the income of the consumer and his demand. i.e. as income rises his demand rises and vice-a-versa. The income demand relationship varies with the following three types of commodities :
  - (a) Normal Goods : In such goods, demand increases with increase in income of the consumer. For eg. demands for television sets, refrigerators etc. Thus income effect is positive.
  - (b) Inferior Goods : Inferior Goods are those goods whose demand decrease with an increase in consumes income. For e.g. food grains like Malze , etc. If the income rises demand for such goods to the consumers will fall. Thus income effect is negative.
  - (c) Giffen goods : In case of Giffen goods the demand increases with an increase in price but it decreases with the rise in income. Thus income effect is negative.
- (iii) **Consumer's Taste and Preference :** Taste and Preferences which depend on social customs, habit of the people, fashion, etc. largely influence the demand of a commodity.

- (iv) **Price of Related Goods** : Related Goods can be classified as substitute and complementary goods.
- (v) **Substitute Goods** : In case of such goods, if the price of any substitute of commodity rises, then the commodity concern will become relatively cheaper and its demand will rise. The demand for the commodity will fall if the price of the substitute falls. eg. If the price of coffee rises, the demand for tea will rise.
- (vi) **Complementary Goods** : In case of such goods like pen and ink with a fall in the price of one there will be a rise in demand for another and therefore the price of one commodity and demand for its complementary are inversely related.
- (vii) **Consumer's Expectation** : If a consumer expect a rise in the price of a commodity in a near future, they will demand it more at present in anticipation of a further rise in price.
- (viii) **Size and Composition of Population** : Larger the population, larger is likely to be the no. of consumers. Besides the composition of population which refers to the children, adults, males, females, etc. in the population. The demographic profile will also influence the consumer demand.

### 1.3.6 Movement and Shift of Demand

- (a) Movement of Demand curve or Extension and Constriction of Demand or change in quantity demanded.

In the quantity demanded of a commodity increases or decreases due to a fall or rise in the price of a commodity alone, *ceteris paribus*. It is called movement along the demand curve which occurs only due to change in price of that commodity, *ceteris paribus*, Extension of Demand or movement along the demand curve to the right.

When the quantity demanded rises due to fall in price of that commodity, and other parameters remaining constant it is called extension of demand which is shown in the following diagram.

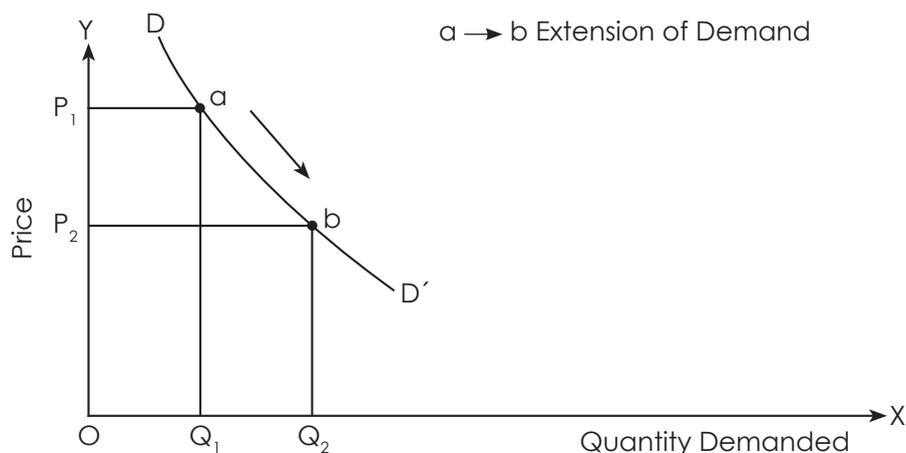


Fig.1.4 : (a) Movement along Demand Curve (Decreasing)

In the diagram, we find that the quantity demanded has increased from  $Q_1$  to  $Q_2$  due to a fall in price from  $P_1$  to  $P_2$ , *Ceteris Paribus*. This is shown by a movement along a demand curve toward the right from point a to b.

Contraction or Movement towards left of demand curve : When the quantity demanded of a commodity falls due to rise in the price of that commodity it is called contraction of demand and is shown in the following diagram.

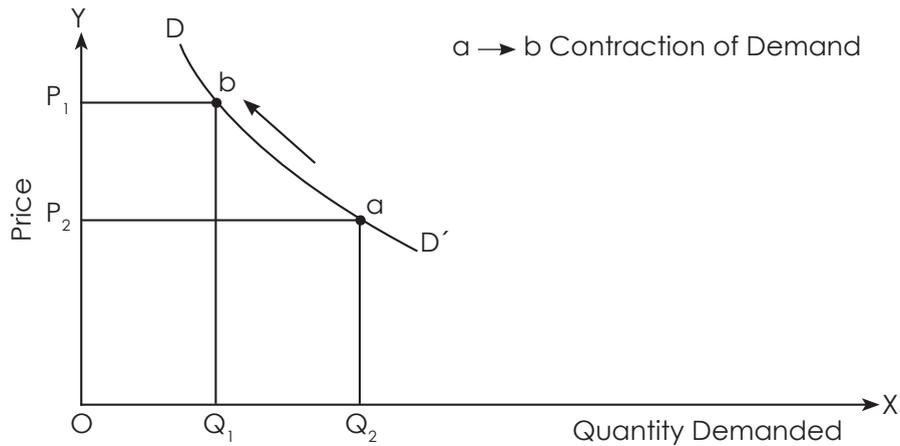


Fig.1.4 : (b) Movement along Demand Curve (Increasing)

In the diagram, when the price was  $P_2$ , quantity demanded was  $Q_2$ . As the price rises to  $P_1$  the quantity demanded falls to  $Q_1$ . Such a fall in demand is shown by a movement along the same demand curve towards the left from point a to b.

Both the situation of extension and contraction can be shown in a single diagram as below :

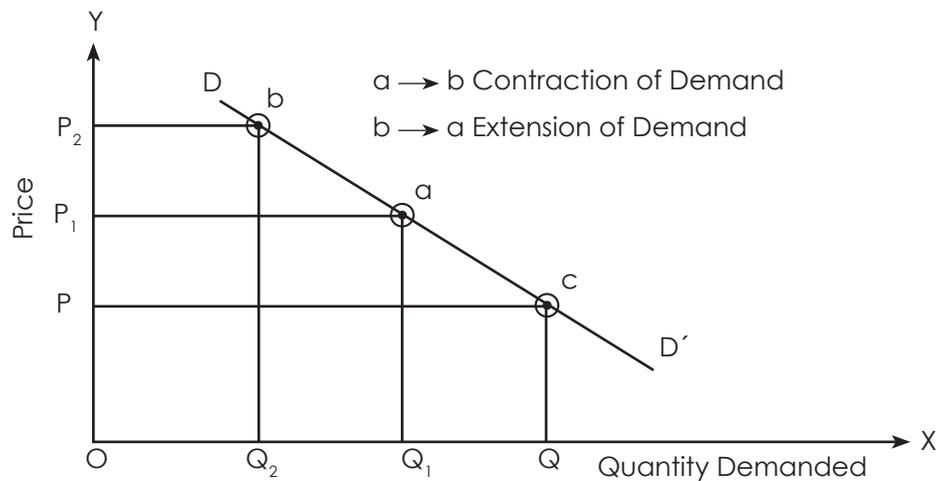


Fig.1.4 : (c) Movement along Demand Curve

(b) Change in Demand or shift of demand or Increase and Decrease in demand : When the quantity demanded of a commodity rises or falls due to change in factors like income of the consumer, price of related goods, etc. and keeping the price of the commodity to be constant, it is called shift in Demand.

(i) Increase in Demand or Shift of Demand Curve towards the Right : When the quantity demanded of a commodity rises due to change in factors like income of the consumable etc. price of the commodity remaining unchanged it is called increase in demand.

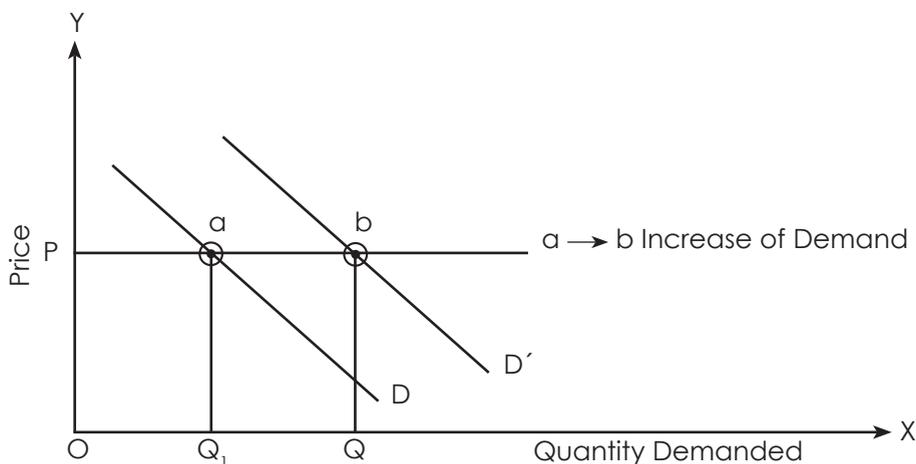


Fig.1.5 : Shift of Demand Curve (Rightward)

In the above diagrams, we see that quantity demanded has increased from  $Q_1$  to  $Q$ , the price remaining unchanged to  $OP$ .

$D_1$  Increase in Demand or Shift of Demand Curve towards right.

- (ii) Decrease in Demand or shift of Demand Curve towards the left : When the demand for a commodity falls due to other factors, the price remaining constant, it is termed as decrease in demand or shift of demand curve towards the left.

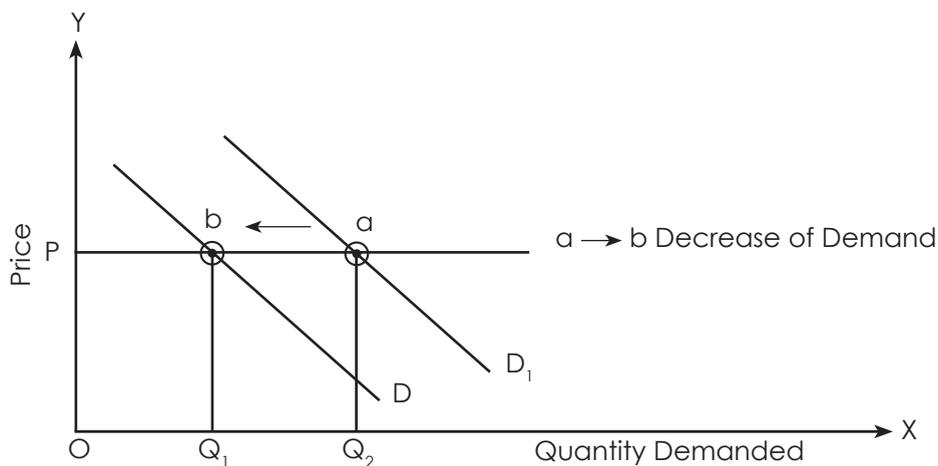


Fig.1.6 : Shift of Demand Curve (Leftward)

### 1.3.7 Causes of downward slope of demand curve :

- (i) **Law of Diminishing Marginal Utility** : This law states that when a consumer buys more units of same commodity, the marginal utility of that commodity continues to decline. This means that the consumer will buy more of that commodity when price falls and when less units are available, utility will be high and consumer will prefer to pay more for that commodity. This proves that the demand would be more at lower prices and less at a higher price and so the demand curve is downward sloping.



- (ii) **Income effect** : As the price of the commodity falls, the consumer can increase his consumption since his real income is increased. Hence he will spend less to buy the same quantity of goods. On the other hand, with a rise in price of the commodities the real income of the consumer will fall and will induce them to buy less of that good.
- (iii) **Substitution effect** : When the price of a commodity falls, the price of its substitutes remaining the same, the consumer will buy more of that commodity and this is called the substitution effect. The consumer will like to substitute cheaper one for the relatively expensive one on the other hand, with a rise in price the demand fall due to unfavorable substitution effect. It is because the commodity has now become relatively expensive which forces the consumer's to buy less.
- (iv) **Goods having multipurpose use** : Goods which can be put to a number of uses like coal, aluminum, electricity, etc. are eg. of such commodities. When the price of such commodity is higher, it will not used for a variety of purpose but for use purposes only. On the other hand, when price falls of the commodity will be used for a variety of purpose leading to a rise in demand. For eg : if the price of electricity is high, it will be mainly used for lighting purposes, and when its price falls, it will be needed for cooking.
- (v) **Change in number of buyers** : Lower the price, will attract new buyers and raising of price will reduce the number of buyers. These buyers are known as marginal buyers. Owing to such reason the demand falls when price rises and so the demand curve is downward sloping.

#### 1.3.8 Exceptions to the law of demand:

- (i) **Conspicuous goods** : These are certain goods which are purchases to project the status and prestige of the consumer. For e.g. expensive cars, diamond jewellery, etc. such goods will be purchased more at a higher price and less at a lower price.
- (ii) **Giffen goods** : These are special category of inferior goods whose demand increases even if with a rise in price. For eg. coarse grain, clothes, etc.
- (iii) **Share's speculative market** : It is found that people buy shares of those company whose price is rising on the anticipation that the price will rise further. On the other hand, they buy less shares in case the prices are falling as they expect a further fall in price of such shares. Here the law of demand fails to apply.
- (iv) **Bandwagon effect** : Here the consumer demand of a commodity is affected by the taste and preference of the social class to which he belongs to. If playing golf is fashionable among corporate executive, then as the price of golf accessories rises, the business man may increase the demand for such goods to project his position in the society.
- (v) **Veblen effect** : Sometimes the consumer judge the quality of a product by its price. People may have the expression that a higher price means better quality and lower price means poor quality. So the demand goes up with the rise in price for eg. : Branded consumer goods.

#### 1.3.9 Elasticity of Demand

Whenever a policy maker wishes to examine the sensitivity of change in quantity demanded due to the change in price, income or price of the related goods, he wishes to study the magnitude of this response with the help of "elasticity" concept. Thereby, the concept is crucial for business decision-making and also for forecasting future demand policies.

#### Determinants of Elasticity of demand:

- (i) **Nature, necessity of a commodity** : The demand for necessary commodity like rice, wheat, salt, etc is highly inelastic as their demand does not rise or fall much with a change in price.

On the other demand for luxuries changes considerably with a change in price and than demand is relatively elastic.

- (ii) **Availability of substitutes** : The Demand for commodities having a large number of close substitute is more elastic than the commodities having less or no substitutes. If a commodity has a large no. of substitutes its elasticity is high because when there is a rise in its prices, consumers easily switch over to other substitutes.
- (iii) **Variety of uses** : The Product which have a variety of uses like steel, rubber etc. have a elastic demand and if it has only limited uses, then it has inelastic demand. For eg. if the unit price of electricity falls then electricity consumption will increase, more than proportionately as it can be put to use like washing, cooking, as the price will go up, people will use it for important purposes only.
- (iv) **Possibility of postponement of consumption** : The commodities whose consumption can easily be postponed has more elastic demand and the commodities whose consumption cannot be easily postponed has less elastic demand for eg. for expensive jewellery, perfume it is possible to postpone consumption in case the price is high and so such goods are elastic on the other hand, the necessities of life cannot be postponed and so they are inelastic in demand.
- (v) **Durable commodities** : Durable goods like furniture's, etc, which will last for a longer time have valuably inelastic demand. This is because in such case, a fall in price will not lead to a large increase in demand and a rise in price again will not lead to a huge fall in demand. But in case of perishable goods, the demand is elastic in nature.

#### 1.3.9.1 Price Elasticity of Demand

It is defined as the degree of responsiveness of quantity demanded of a commodity due to change in its price when other factor remaining constant. Price elasticity of Demand is usually measured by the following formula :

Price elasticity of demand = % Change in Quantity Demand / % Change in Price

$$e_d = (dq/q) \times 100 / (dp/p) \times 100$$

$$= dq/dp \times p/q$$

Where dq = change in quantity demanded

dp = change in price,

p = Original price,

q = Original quantity

If  $e_d > 1$ , we call it relatively elastic demand.

If  $e_d = 1$ , we call it unitary elastic demand.

If  $e_d < 1$ , we call it relatively inelastic demand.

If  $e_d = \infty$ , we call it perfectly elastic demand.

If  $e_d = 0$ , we call it perfectly inelastic demand.

## Types of Price Elasticity

- (a) **Perfectly Elastic Demand** : That is [ $e_d = \infty$ ]. When the quantity demanded of a commodity changes infinitely due to a slight or no decrease in price, such goods are said to have perfectly elastic demand.

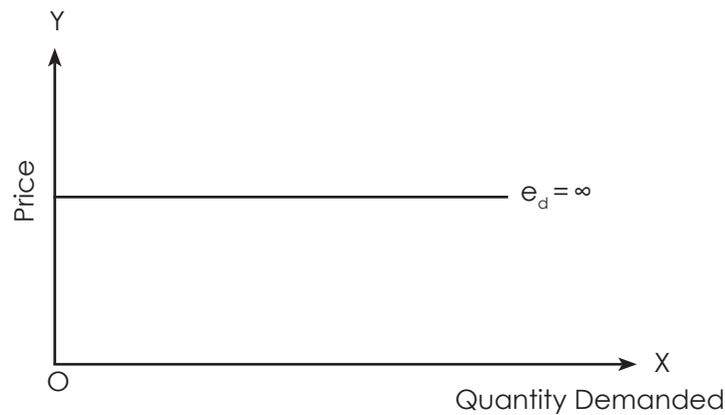


Fig.1.7 : Perfectly Elastic Demand Curve

A perfectly Elastic Demand Curve is a straight line parallel to X –axis.

- (b) **Relatively Elastic Demand** : In such type of goods the percentage change in quantity demanded of a commodity is more than proportionate to the percentage change in price, eg. luxury car.

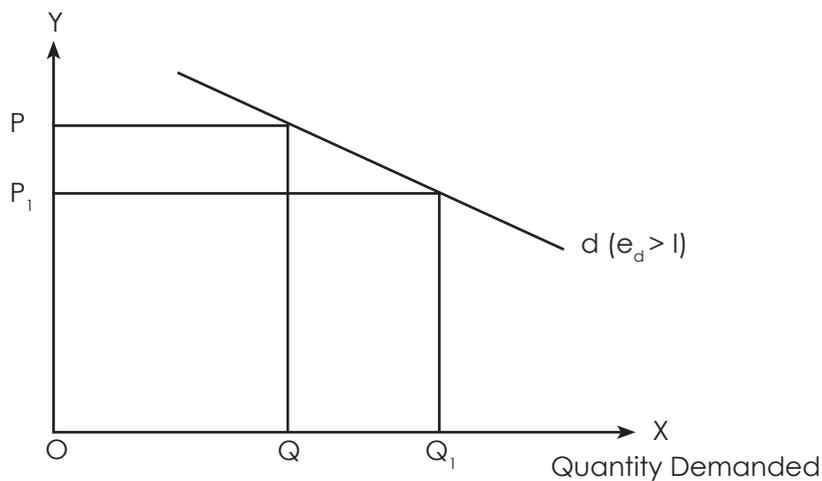


Fig.1.8 : Relative Elasticity of Demand Curve

In the diagram we see that change in quantity demanded  $QQ_1$  is more than proportionate to the change in price  $PP_1$ .

**(c) Unit Elastic Demand ( $e_d = 1$ )**

Here the rate of change in demand is exactly equal to the rate of change in price. Therefore the products or service with unit elasticity are neither elastic nor inelastic.

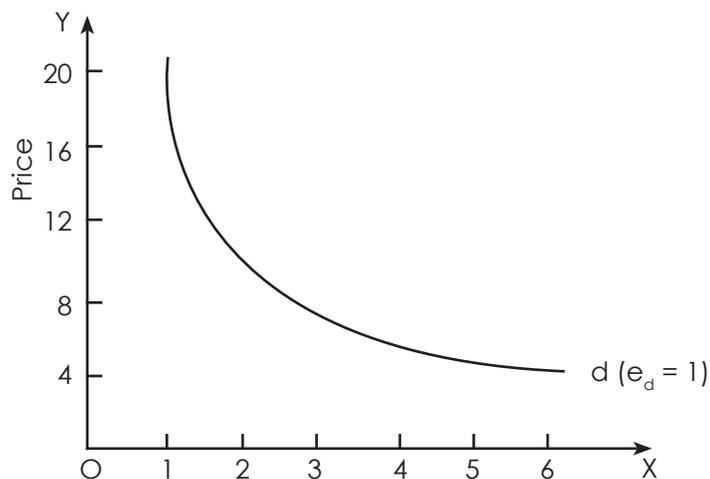


Fig. 1.9 : Unit Elasticity of Demand Curve

A Unit elastic Demand curve is a rectangular - hyperbola as shown above

**(d) Relatively Inelastic Demand ( $e_d < 1$ )**

In this type of goods and services the proportionate change in quantity demand is less than the change in price. These are mostly essential goods of daily use like rice, wheat etc.

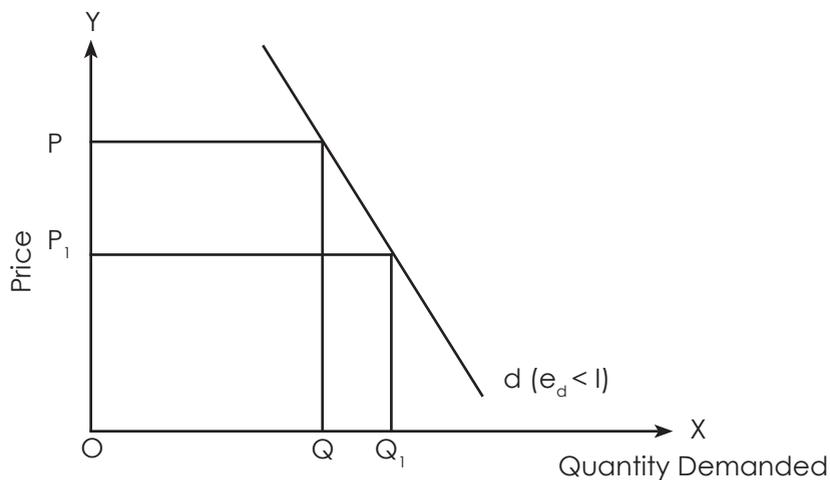


Fig.1.10 : Relatively Inelastic Demand Curve

In the diagram change in quantity QQ<sub>1</sub> is less than proportionate to the change in price PP<sub>1</sub>.

- (e) **Perfectly Inelastic Demand** : These are certain goods like salt, match box etc. whose demand neither increase nor decrease with a change in price.



Fig.1.11 : Perfectly Inelastic Demand Curve

A perfectly inelastic demand curve is a vertical straight line parallel to Y –axis which shows that whatever may be the change in price the demand will remain constant at OQ.

#### Importance of Price Elasticity of Demand:

- (i) **Business decisions** : The concept of price elasticity of demand helps the firm to decide whether or not to increase the price of their product. Only if the product is inelastic in nature, then raising of price will be beneficial. On other hand, if the product is elastic in nature, then a rise in price might lead to considerable fall in demand. Therefore the price of different commodities are determined on the basis of relative elasticity.
- (ii) **To monopolist** : A monopolist often practices price discrimination. Price discrimination is a process in which a single seller sells the same commodity in two different markets at two different prices at the same time. The knowledge of price elasticity of the product to the monopolist is important because he would charge higher price from those consumers who have inelastic demand and lower price from those consumers who have elastic demand.
- (iii) **Determination of Factor Price** : The concept of elasticity of demand also helps in determining the price of various factors of production. Factor having inelastic demand gets higher price and factors having elastic demand gets lower price.
- (iv) **Route for International Trade** : If demand for exports of a country is inelastic, that country will enjoy a favorable terms of trade while if the exports are more elastic than imports, then the country will lose in the terms of trade.
- (v) **The Govt** : Elasticity of demand is useful in formulation Govt. Policy particularly taxation policy and the policy of subsidies if the Govt. wants to impose excise duty, or sales tax, the Govt. should have an idea about the elasticity of the product. If the product is elastic in nature, then the burden of the tax is shifted to the consumer and the demand might fall remarkably; on the other hand, if the demand is inelastic in nature, then any extra burden of indirect tax will not affect the demand to that extent.

#### Application of Price Elasticity of Demand:

- An individual spends all his income to two goods X and Y. If with the rise in the price of good X, quantity demanded of good Y remain unchanged, what is price elasticity of demand for X?

**Hint:** Quantity purchased of good Y will remain the same even when the price of good X rises. This implies that the expenditure on good X remain constant. This concludes that the price elasticity of demand for good X equals one.

- The price elasticity of demand for colour TV is estimated to be -2.0. If the price of the colour TV is reduced by 20% then what the rise in quantity sold do you expect?

**Hint:** The price elasticity of demand being equal to -2.0 means that one percent change in price causes 2.0% change in quantity demanded or sold. Thus 20% reduction in price will cause  $2.0 \times 20 = 40$  percent rise in quantity demanded or sold.

- The initial price and quantity for a commodity X are ₹ 50 and 500 units respectively. If the price reduces to ₹ 40, The quantity demanded rises to 1,000 units Compute the price elasticity of demand.

**Solution:**

Given,  $P_0 = ₹ 50$   
 $Q_0 = 500$  units  
 $P_1 = ₹ 40/-$   
 $Q_1 = 1,000$  units

Hence, for price elasticity,

$$|e_p| = \left| \frac{(Q_1 - Q_0) / Q_0}{(P_1 - P_0) / P_0} \right|$$

$$= \left| \frac{(Q_1 - Q_0)}{P_1 - P_0} \times \frac{P_0}{Q_0} \right|$$

$$= \left| \frac{(1000 - 500)}{(40 - 50)} \times \frac{50}{500} \right|$$

$$= \left| \frac{500}{10} \times \frac{50}{500} \right| = 5 > 1$$

Hence, the demand is highly price elastic.

**Measurement of Price Elasticity**

Elasticity of demand can be measured using three methods namely, arc elasticity, point elasticity and total outlay method.

- (i) Arc elasticity :** This is the average measure of the elasticity on the arc of the demand curve. Here within the entire demand curve, two points A & B are considered. Joining them, we get an arc, and on average, the elasticity is measured.

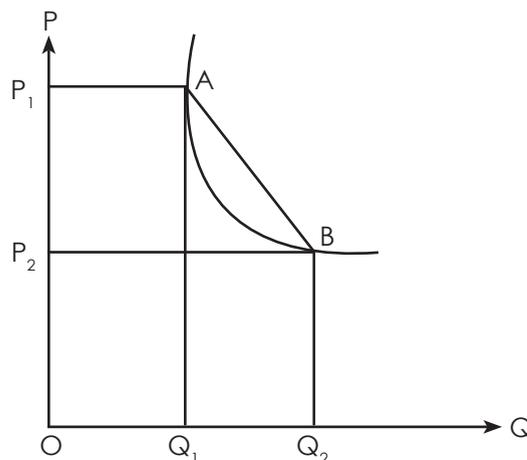


Fig.1.12 : Arc Elasticity Demand Curve

$$\begin{aligned} \text{i.e. initial price} &= \frac{P_1 + P_2}{2} \\ \text{initial quantity} &= \frac{Q_1 + Q_2}{2} \\ \therefore \text{Price elasticity} &= \frac{dQ}{dP} \cdot \frac{P}{Q} \\ &= \frac{dQ}{dP} \cdot \frac{(P_1 + P_2) / 2}{(Q_1 + Q_2) / 2} \end{aligned}$$

**(ii) Point Elasticity Method :** This method is more acceptable and prime than the previous one. In case of arc elasticity, initial price and quantity are not appr calculated since, they do not have single points. But in case of point elasticity, a single price – quantity combination exist. Here the price elasticity varies along various points on the linear demand curve. It may be considered as the approximation of extreme case of an arc of the demand curve.

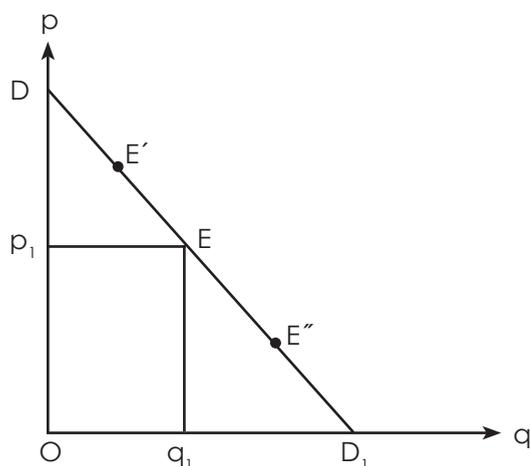


Fig. 1.13 : Point Elasticity of Demand Curve

It is measured by the formula =  $\frac{\text{Lower Segment}}{\text{Upper Segment}}$

$$\begin{aligned} \text{Elasticity at E} &= \frac{\text{Lower Segment}}{\text{Upper Segment}} \\ &= \frac{ED_1}{ED} \end{aligned}$$

**Cases:**

1. If E is the midpoint,  $e_p$  at E = 1 ( $\because ED_1 = ED$ )
2. At E',  $e_p > 1$  ( $E'D_1 > DE'$ )
3. At D,  $e_p = \alpha$  ( $DD_1 / O = \alpha$ )
4. At E'',  $e_p = \frac{D_1 E''}{DE''} < 1$
5. At D<sub>1</sub>,  $e_p = \frac{O}{DD_1} = 0$

Hence the upward movement along the demand curve (linear) generates higher values of price elasticity and downward movement reduces the value of price elasticity.

**(iii) Total Outlay method:**

The relation between the price elasticity of demand and the total revenue explains the total outlay method.

The three possible cases may be considered:

1. With the fall in price, quantity demanded will increase in such a way that total expenditure remain constant.
2. With the fall in price, total expenditure rises or demand is relatively elastic.
3. With the fall in price, total expenditure falls or the demand is relatively inelastic.

Eg. inelastic commodities, the producer seldom goes for price cut – This is because, a larger reduction in price will not stimulate higher increase in quantity demanded and hence total expenditure will not rise. So, or prices cut more obtain is not a rational decision.

• **If the total expenditure falls with the fall in price elasticity?**

Hint: A fall in price is not conducive to the rise in total expenditure and hence the price elasticity is less than unity.

• **If the price elasticity is |0.4|, what can you comment?**

Hint: The demand is inelastic in nature eg. necessities.

**Problems on Elasticity**

**Problem 1 :** Yesterday, the price of envelopes was ₹ 3 a box, and Julie was willing to buy 10 boxes. Today, the price has gone up to ₹ 3.75 a box, and Julie is now willing to buy 8 boxes. Is Julie's demand for envelopes elastic or inelastic? What is Julie's elasticity of demand?

**Solution:**

To find Julie's elasticity of demand, we need to divide the percent change in quantity by the percent change in price.

$$\% \text{ Change in Quantity} = (8 - 10)/(10) = -0.20 = -20\%$$

$$\% \text{ Change in Price} = (3.75 - 3.00)/(3.00) = 0.25 = 25\%$$

$$\text{Elasticity} = |(-20\%)/(25\%)| = |-0.8| = 0.8$$

Her elasticity of demand is the absolute value of -0.8, or 0.8. Julie's elasticity of demand is inelastic, since it is less than 1.

**Problem 2 :** If Neil's elasticity of demand for hot dogs is constantly 0.9, and he buys 4 hot dogs when the price is ₹ 1.50 per hot dog, how many will he buy when the price is ₹ 1.00 per hot dog?

**Solution:**

This time, we are using elasticity to find quantity, instead of the other way around. We will use the same formula, plug in what we know, and solve from there.

$$\text{Elasticity} = \text{in the case of John, } \% \text{ Change in Quantity} = (X - 4)/4$$

$$\text{Therefore : Elasticity} = 0.9 = |((X - 4)/4)(\% \text{ Change in Price})|$$

$$\% \text{ Change in Price} = (1.00 - 1.50)/(1.50) = -33\%$$

$$0.9 = |(X - 4)/4|(-33\%)|$$

$$|((X - 4)/4)| = 0.3$$

$$0.3 = (X - 4)/4$$

$$X = 5.2$$

Since Neil probably can't buy fractions of hot dogs, it looks like he will buy 5 hot dogs when the price drops to ₹ 1.00 per hot dog.

**Problem 3 :** Which of the following goods are likely to have elastic demand, and which are likely to have inelastic demand?

- Home heating oil
- Pepsi
- Chocolate
- Water
- Heart medication
- Oriental rugs

**Solution:**

The goods can be classified as under :

Elastic demand: Pepsi, chocolate, and Oriental rugs

Inelastic demand: Home heating oil, water, and heart medication

**Problem 4 :** If supply is unit elastic and demand is inelastic, a shift in which curve would affect quantity more? Price more?

**Solution:**

Shifting the demand curve would affect quantity more, and shifting the supply curve would affect price more.

**Problem 5 :** Katherine advertises to sell cookies for ₹ 4 a dozen. She sells 50 dozen, and decides that she can charge more. She raises the price to ₹ 6 a dozen and sells 40 dozen. What is the elasticity of demand? Assuming that the elasticity of demand is constant, how many would she sell if the price were ₹10 a box?

**Solution:**

To find the elasticity of demand, we need to divide the percent change in quantity by the percent change in price.

$$\% \text{ Change in Quantity} = (40 - 50)/(50) = -0.20 = -20\%$$

$$\% \text{ Change in Price} = (6.00 - 4.00)/(4.00) = 0.50 = 50\%$$

$$\text{Elasticity} = |(-20\%)/(50\%)| = |-0.4| = 0.4$$

The elasticity of demand is 0.4

To find the quantity when the price is ₹10 a box, we use the same formula:

$$\text{Elasticity} = 0.4 = |(\% \text{ Change in Quantity})/(\% \text{ Change in Price})|$$

$$\% \text{ Change in Price} = (10.00 - 4.00)/(4.00) = 1.5 = 150\%$$

Remember that before taking the absolute value, elasticity was -0.4, so use -0.4 to calculate the changes in quantity, or you will end up with a big increase in consumption, instead of a decrease!

$$-0.4 = |(\% \text{ Change in Quantity})/(150\%)|$$

$$|(\% \text{ Change in Quantity})| = -60\% = -0.6$$

$$-0.6 = (X - 50)/50$$

$$X = 20$$

The new demand at ₹ 10 a dozen will be 20 dozen cookies.

**Problem 6 :** Usually, when gas prices go up in the U.S., it is the result of some action by OPEC. How would you explain this, verbally and graphically, using elasticity as part of your argument?

**Solution:**

When OPEC decreases supply, moving the supply curve inwards, it results in an increase in price and a decrease in consumption. What makes this situation even worse is that in the short run, American demand for gasoline is relatively inelastic, so that when the supply curve shifts inwards, consumption doesn't decrease much, but the price increases by a lot, since the demand curve is so steep.

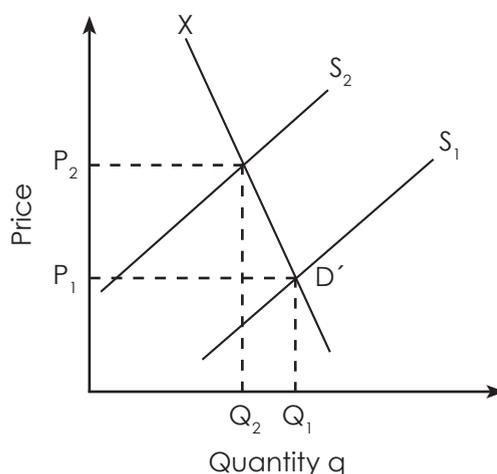


Figure 1.14 : The Effects of Tightened Oil Supply on the Market for Gasoline

**Problem 7 :** How is it possible for the elasticity of demand to change over time (in the long run)?

**Solution:**

In the short run, demand can often be inelastic, as people are not willing to immediately change their consumption habits with increases in price. If they see that prices are permanently higher, however, they may take steps to change their consumption patterns in order to save money. For instance, if John buys a cup of gourmet coffee every morning at the same coffee shop, and the prices go up, he may continue buying coffee there, making his demand inelastic: he still buys coffee at the same rate even at a higher price. After a few weeks, however, he notices that it's starting to cost him a lot more to buy coffee every morning. So he might go buy a coffee maker and make his coffee every morning. In the long run, his elasticity of demand is quite high, even though his demand was inelastic in the short run.

**Problem 8 :** Why would a government tax on cigarettes be an ineffective method to decrease consumption of cigarettes if demand for cigarettes is inelastic?

**Solution:**

Putting a tax on cigarettes would have the effect of increasing the price of cigarettes. If demand is inelastic, however, smokers will still buy the same amount of cigarettes, or show a very small decrease in consumption, regardless of the increase in price. The net result of the tax would be a large jump in price with a smaller-than-desired decrease in consumption.

**Problem 9 :** Anna owns the Sweet Alps Chocolate store. She charges ₹10 per pound for her hand made chocolate. You, being an economist, have calculated the elasticity of demand for chocolate in her town to be 2.5. If she wants to increase her total revenue, what advice will you give her and why? Explain your answer.

**Solution:**

Anna should lower her price. Her price elasticity of demand for chocolate is elastic (greater than one) and therefore, when she lowers her price she will sell a lot more chocolate. The greater quantity sold will make up for her lower price, increasing her total revenue. In other words, she is selling at a lower price but making up for it in volume of sales.

**Problem 10 :** A 10 percent increase in income brings about a 15 percent decrease in the demand for a good. What is the income elasticity of demand and is the good a normal good or an inferior good? Be able to explain your answer.

**Solution:**

$-15\%/10\% = -0.15/0.10 = -1.5$ . Remember the elasticity is always read as the absolute value or a positive number, so it is 1.5 (elastic, or greater than one). The good is an inferior good because the sign is negative, indicating that an increase in income will bring a decrease in the demand for the good.

**Problem 11 :** If the price of a good increases by 8% and the quantity demanded decreases by 12%, what is the price elasticity of demand? Is it elastic, inelastic or unitary elastic?

**Solution:**

$-12\%/8\% = -0.12/0.08 = -1.5$ . Again, drop the negative sign, so the elasticity is 1.5. This means it is elastic (greater than one).

**Problem 12 :** Discount stores sell relatively elastic goods. *Ceteris paribus*, explain why selling at a relatively low price is profitable for them?

**Solution:**

It is profitable because with elastic goods, dropping the price lower can bring them a lot more business. Therefore, at the low prices they can sell a large volume of goods, making up for the lower prices and bringing in more revenue ( $P \times Q$ ).

**Problem 13 :** For each of the following pairs of goods, state which good you expect to have the more elastic demand and explain why.

- (a) Required textbooks or mystery novels.
- (b) Beethoven recordings or classical music recordings in general.
- (c) Heating oil during the next six months or heating oil during the next five years.

**Solution:**

- (a) Mystery novels will have a more elastic demand because they are not necessities relative to required textbooks. Textbooks are required, regardless of price, creating a relatively inelastic demand.
- (b) Beethoven recordings will have a more elastic demand because it is a more narrowly defined market than that for classical music recordings. Markets that are more narrowly defined have more close substitutes, resulting in a relatively more price-sensitive demand.
- (c) Heating oil over the next five years has a more elastic demand because demand elasticity increases as time horizon increases. It will be possible to find more substitutes for heating oil over the next 5 years than over the next 6 months, creating greater price-sensitivity for heating oil over the longer time horizon.

**Problem 14 :** Suppose vacationers and business travelers have the following demand for airline tickets from New York to Boston:

Price (₹)	Quantity Demanded (Business Travelers)	Quantity Demanded (Vacationers)
150	2,100	1,000
200	2,000	800
250	1,900	600
300	1,800	400

- (a) As the price of tickets rises from ₹ 200 to ₹ 250, what is the price elasticity of demand for (i) business travelers and (ii) vacationers?
- (b) Why might vacationers have a different elasticity than business travelers?

**Solution:**

- (a)  $(\Delta_q/q) / (\Delta_q/p) = (100/2000) / (50/200) = 100/2000 \times 200/50 = 2/10 = 1/5 < 1$ , so inelastic for business travelers.  $(200/800) / (50/200) = (1/4) / (1/4) = 1$  for unitary elasticity for vacationers.
- (b) Vacation travelers face a more elastic demand for airline tickets because travel for them is less of a necessity compared to air travel for business travelers. Therefore, vacationers are more price-sensitive with respect to airline ticket prices. Vacationers might also have a longer time horizon over which to travel; business travelers face more severe deadlines and have shorter time horizons. Vacationers may also view cruise ship rides or car trips as suitable substitutes.

**Problem 15 :** Two drivers - Tom and Jerry - each drive up to a gas station. Before looking at the price, each places an order. Tom says, "I'd like 10 gallons of gas." Jerry says, "I'd like ₹10.00 of gas." What is each driver's price elasticity of demand?

**Solution:**

Tom has a perfectly inelastic demand - he is not price sensitive at all because he wants 10 gallons of gas regardless of price. Jerry has a perfectly elastic demand – he wants ₹ 10 dollars worth of gas, and he is completely price sensitive.

**1.3.9.2 Income and Cross Elasticity**

**(a) Income Elasticity :** It expresses the responsiveness of quantity demanded of any commodity due to a change in the income of the consumer. It is also defined as a percentage change in quantity demanded due to percentage change in money income of the consumers.

$$\begin{aligned}
 e_y &= \% \text{ change in quantity demanded} / \% \text{ change in Income} \\
 &= dq/q \div dy/y \\
 &= dq/dy \times y/q
 \end{aligned}$$

Where d = change

q = Original Quantity.

y = Original Income

The income elasticity of demand is positive for all normal goods because the consumer demand for a good changes in the same direction as change in his income. In case of inferior goods, the income elasticity is negative i.e. as the income rises the demand for inferior goods will fall. The different types of the income elasticity are shown in the following diagram.

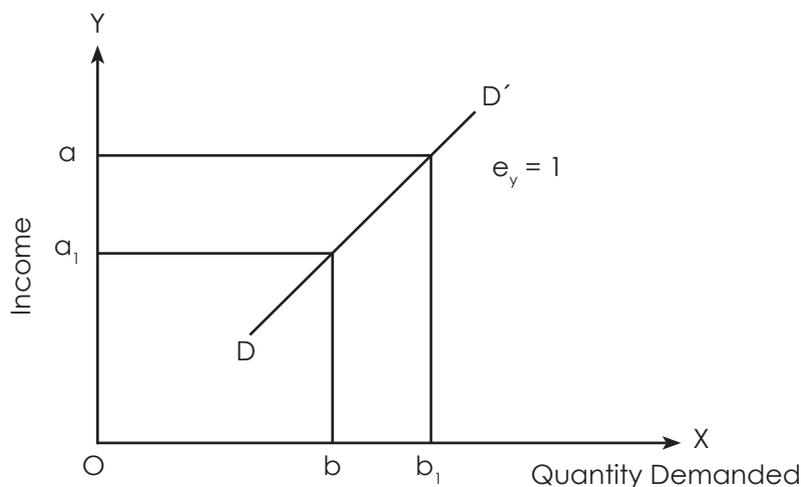


Fig.1.15 (a)

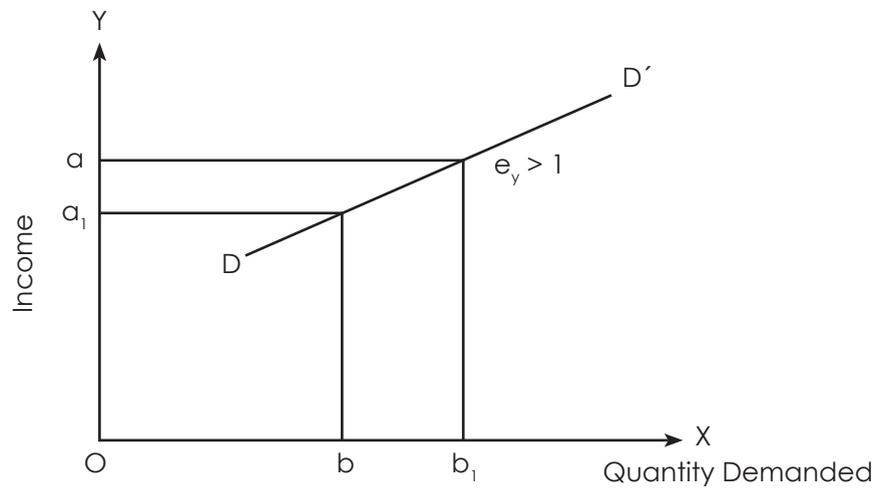


Fig.1.15(b)

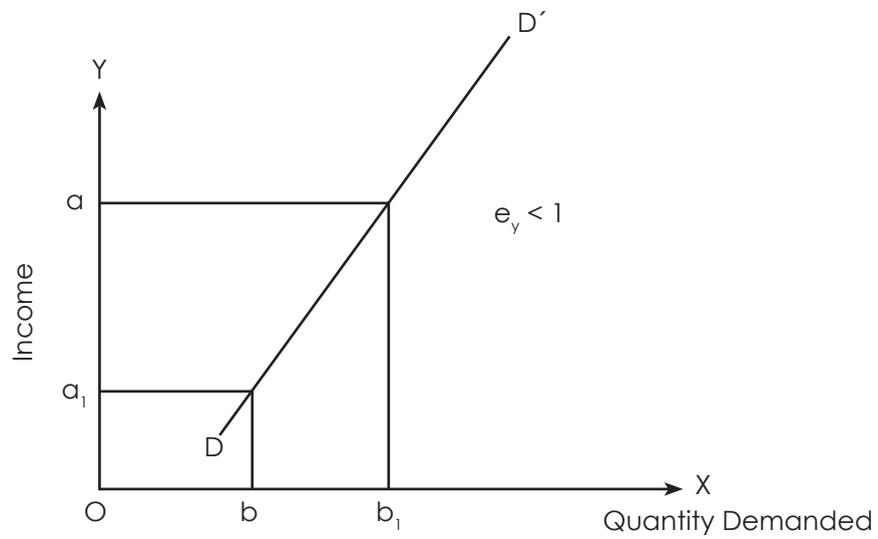


Fig.1.15(c)

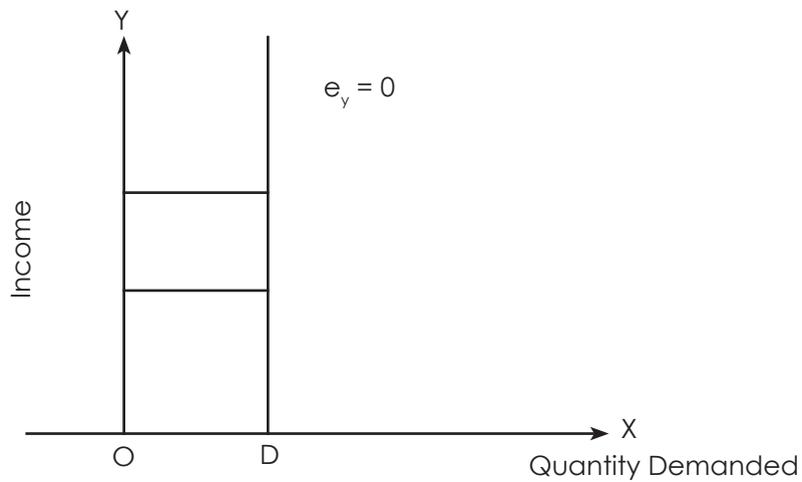


Fig.1.15(d)

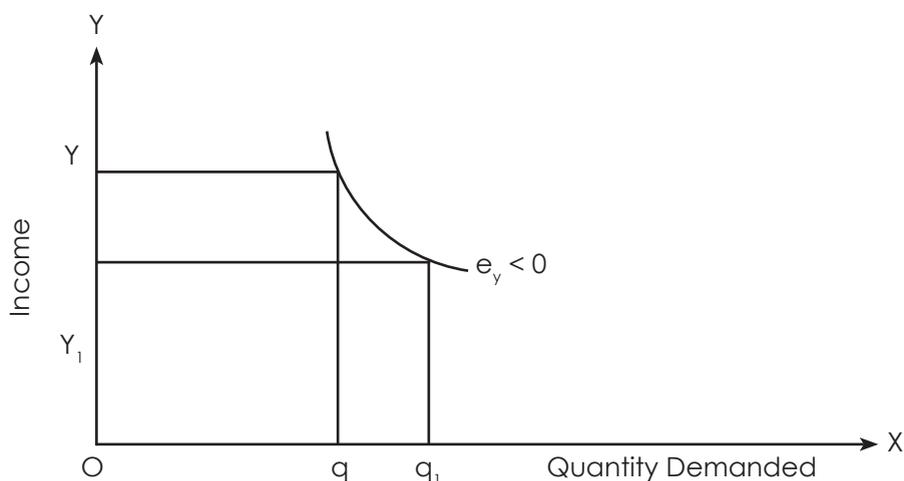


Fig.1.15(e)

In Fig (1.15a) we see that change in quantity demanded is exactly same in proportion to the change in income. Therefore, the income elasticity is unitary ( $e_y = 1$ )

In Fig (1.15b) the change in quantity demand is more than proportion to the change in income. This shows that the commodity is highly income elastic. ( $e_y > 1$ )

In fig (1.15c) the change in quantity demanded is less than proportionate to the change in income and it is called relatively income inelastic ( $e_y < 1$ )

In fig (1.15d), a rise in income does not lead to any change in demand such commodities are called perfectly income inelastic ( $e_y = 0$ )

In fig (1.15e), we see a negatively sloping income demand curve. In this case, the commodities concern are inferior goods here if the income increases, the demand falls which is indicated in the diagram.

**(b) Cross Price Elasticity :** Cross price elasticity of demand is defined as the ratio of proportionate change in quantity of a commodity say x due to change in price of another relative commodity say y.

$$\begin{aligned}
 e_{xy} &= \% \text{ change in quantity demanded for } x \div \% \text{ change in price of } y \\
 &= dq_x / q_x \div dp_y / p_y \\
 &= dq_x / dp_y \times p_y / q_x
 \end{aligned}$$

Where d = change

$q_x$  = Original quantity demanded of x.

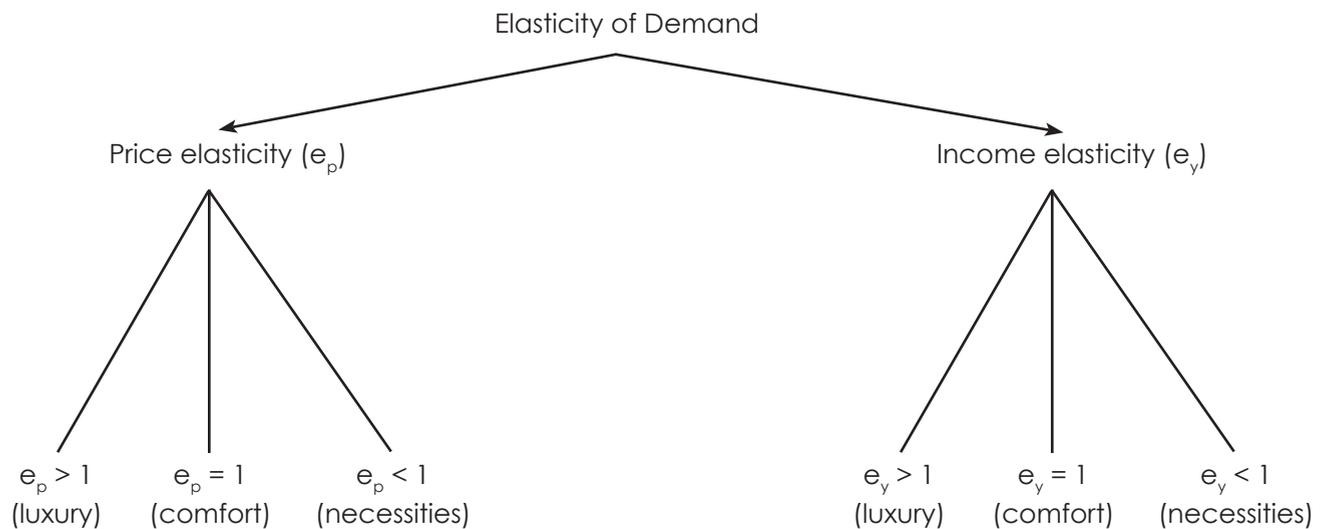
$p_y$  = Original Income of y.

In case of substitute goods, the cross elasticity of demand is positive i.e. if the price of one good changes, the demand for the other changes in the same direction. For eg. if the price of tea rises, the demand for coffee will also rise, since coffee has now become relatively cheaper.

The cross elasticity of demand is negative in case of complementary goods.

## At a glance :

### Analysis



### Application:

- The demand function for commodity x is stated as,

$$Q_x = 80 - 0.5P_x + 0.2P_y + 0.3M$$

Where,  $P_x \Rightarrow$  Price of Commodity x

$P_y \Rightarrow$  Price of related good y

$M \Rightarrow$  Money income

$Q_x \Rightarrow$  Quantity demanded for good x

- Interpret the demand function
- Comment on the demand curve.
- If money income rises, what would be the impact demand curve?
- Comment on the relation between x and y
- If income elasticity is 2.1, what can you comment about x ?

### Hint:

Gain,  $Q_x = 80 - 0.5 p_x + 0.2p_y + 0.3 M$

- Here 80 is autonomous quantity independent of prices and income which the consumer always enjoys.  
The relation between price and quantity demanded is increases (due to 0.5). The income rises,  $Q_x$  also rises.
- The demand curve is downward sloping due to  $(-0.5 < 0)$ .
- If money income rises, the demand curve shifts rightward at same price. This is because as income effect is positive, a rise in income increases the quantity demand.
- Here as  $p_y$  rises, the demand for  $Q_x$  rises because x & y are substitutes.
- The commodity x is a Luxury since income elasticity = 2.1 > 1.

**Problem 16 :** If the cross elasticity of demand between peanut butter and milk is  $-1.11$ , then are peanut butter and milk substitutes or complements? Be able to explain your answer.

**Solution:**

Peanut butter and milk are complements because a negative cross price elasticity of demand means that as the price of milk goes up, the demand for peanut butter goes down. This would indicate that when the price of milk goes up, we buy less milk and we are also buying less peanut butter (so we must buy these together — they are complements).

**1.4 SUPPLY**

Supply is defined as a quantity of a commodity offered by the producers to be supplied at a particular price and at a certain time.

**1.4.1 Individual Supply and Market Supply**

<b>Individual supply</b>	<ul style="list-style-type: none"> <li>• It refers to the quantity of a commodity which a firm is willing to produce and offer for sale.</li> <li>• An individual supply schedule shows the different quantities of a commodity that a producer of a firm would offer for sale at different prices.</li> </ul>
<b>Market Supply</b>	<ul style="list-style-type: none"> <li>• The quantity which all producers are willing to produce and sell is known as market supply.</li> <li>• A market supply schedule shows the various quantities of a commodity that all the firms are willing to supply at each market price during a specified time period.</li> </ul>

**1.4.2 Law of Supply**

If the price of commodity rises, the level of quantity supplied rises, after factors remaining constant.

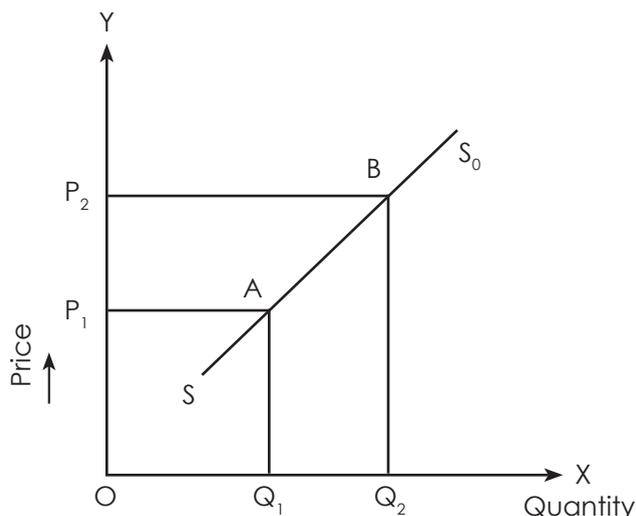


Fig.1.16 : Supply Curve

Supply Curve: in the graphical representation of supply schedule when other factors affecting supply remain constant.

- Movement from A to B: Extension in Supply
- Movement from B to A: Contraction in Supply

### 1.4.3 Factor Determining Supply or Supply Function:

- (i) **Price of the commodity:** When the price of a commodity in the market rises, seller increases the price. The cost of production remaining constant the higher will be the profit margin. This will encourage the producers to supply more at higher prices. The reverse will happen when the price fall.
- (ii) **Goals of the firm :** Firms may try to work on various goals for eg. Profit maximization, sales maximization, employment maximization. If the objective is to maximize profit, then higher the profit from the sale of a commodity, the higher will be the quantity supplied by the firm and vice-versa. Thus, the supply of goods will also depend upon the priority of the firm regarding these goals and the extent to which it is prepared to sacrifice one goal to the other.
- (iii) **Input Prices :** The supply of a commodity can be influenced by the raw materials, labour and other inputs. If the price of such inputs rise leading to a lower profit margin becomes less. This will ultimately lead to a lower supply. On the other hand, if there is a fall in input cost firm, will be ready to supply more than before at a given price level.
- (iv) **State of Technology :** If improved and advanced technology is used for the production of a commodity, it reduces its cost of production and increases the supply. On the other hand, the supply of those goods will be less whose production depend on unfair and old technology.
- (v) **Government policies :** The imposition of sales tax reduces supply and grant of subsidy on the other hand increases the supply.
- (vi) **Expectation about future prices :** If the producers expect an increase in the price of a commodity, then they will supply less at the present price and hoard the stock in order to sell it at a higher price in the near future. This will be opposite in case if they anticipate fall in future price (eg. fruit seller)
- (vii) **Prices of the other commodities :** Usually an increase in the prices of other commodities makes the production of that commodity whose price has not risen relatively less attractive we thus, expect that other things remaining the same, the supply of one commodities falls as the price of other goods rises. For eg. suppose a farmer produces wheat and pulses in his firm. If the price of pulses increases he grows less wheat. Hence the supply of wheat decrease.
- (viii) **Number of firms in the market :** Since the market supply is the sum of the suppliers made by individual firms, hence the supply varies with changes in the number of firm in the market and increases the supply. An decreases in the number of firm reduces the supply.
- (ix) **Natural factor :** In case of natural disorders flood, drought, etc. the supply of a commodity specially agricultural products is adversely affected.

### 1.4.4 Movement & Shift of Supply Curve

The quantity supplied of a commodity may change broadly due to two reasons :

When the quantity supplied changes due to change in the price of that commodity it is called change in quantity supplied or movement along the supply curve or extension and contraction of supply.

On the other hand when the supply changes due to change in other factors, price of the commodity remaining unchanged, such a change in supply curve, increase and decrease of supply or change in supply.

#### (a) Movement along the supply curve or extension or contraction of supply or change in quantity supplied:

- (i) **Extension of Supply :** When the quantity supplied of a commodity rises with a rise in price of that commodity other determinants of supply remaining unchanged. It is known as extension of supply or movement along the same supply curve towards the right.

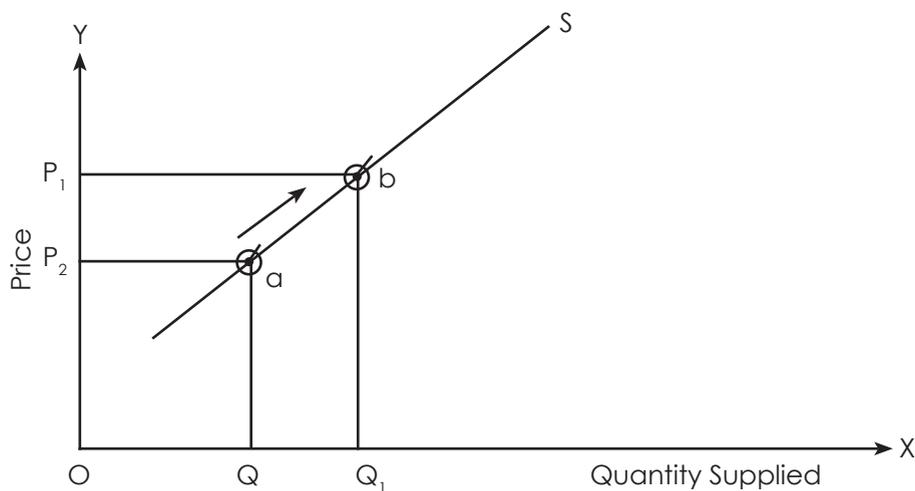


Fig.1.17:(a) Movement along Supply Curve (rising price)

In the diagram as the price rises from  $P_2$  to  $P_1$  the quantity supplied  $Q$  to  $Q_1$ . This is shown by a movement along the supply curve from point a to point b (towards the right). It is called extension of supply.

**(ii) Contraction of supply :** When the quantity supply of a commodity falls with a fall in its price, other factors remaining constant, it is known as contraction of supply.

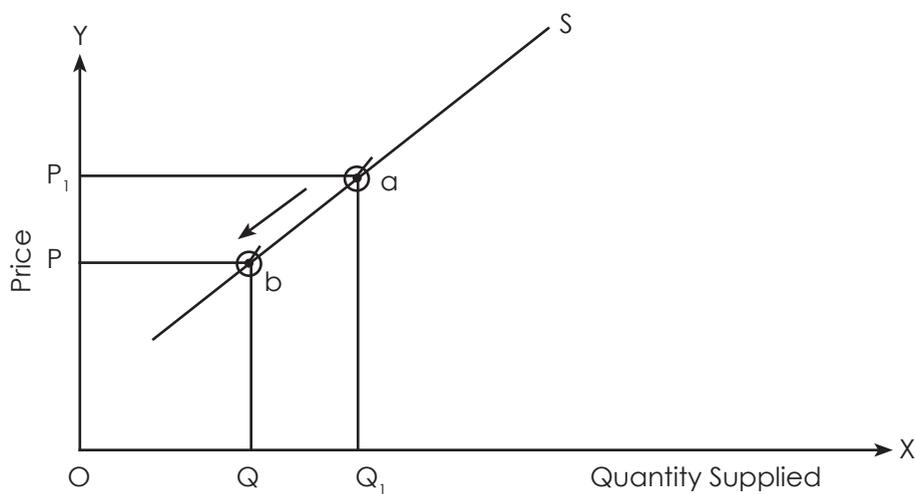


Fig. 1.17: (b) Movement along Supply Curve (falling price)

Here, the quantity supplied as fallen from  $Q_1$  to  $q$  due to a fall in price of the commodity from  $P_1$  to  $P$ . This is shown by a movement along the supply curve  $S$  from point a to point b (towards the left).

The extension and contraction of a supply can be shown together in a single diagram.

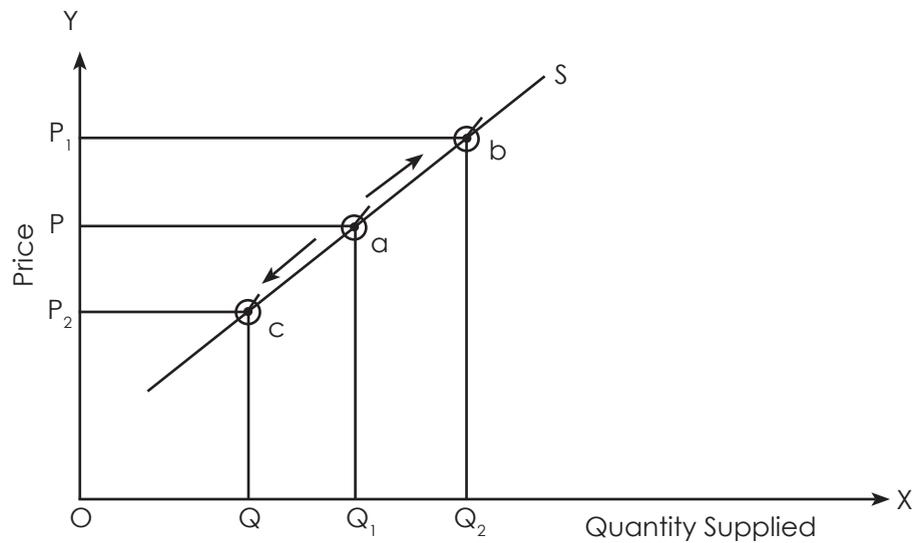


Fig.1.17: (c) Movement along Supply Curve

**(b) Shift of Supply Curve or Increase & Decrease of supply curve or change in supply :**

**(i) Increase in Supply :** When the quantity supplied increase due to other determinants of supply price remaining constant it is called increase in supply.

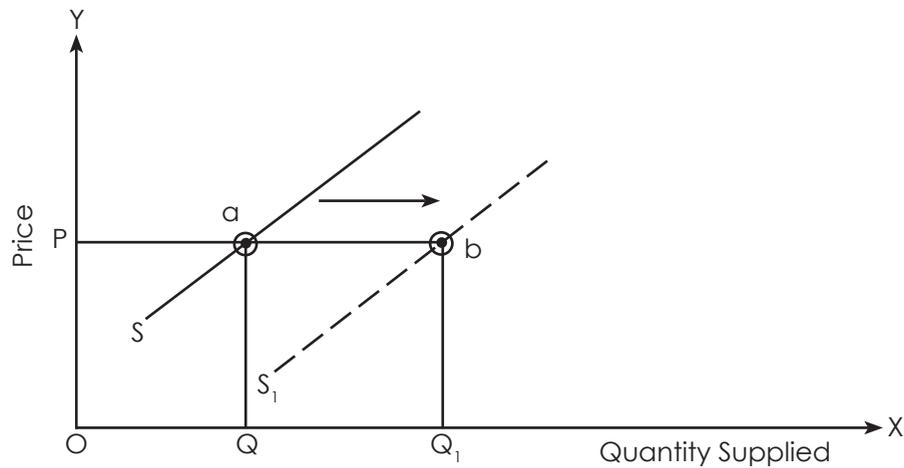


Fig.1.18 : Shift of Supply Curve (rightward)

In the diagram we see that quantity supplied has increased from  $Q$  to  $Q_1$ , the price of the commodity remaining constant at  $OP$ . This is shown by the shift of the original supply curve  $S$  to the right to from a new supply curve  $S_1$ .

**(ii) Decrease in Supply :** When quantity supplied of the commodity decrease due to change in factors determining supply but for price. It is termed as decrease in supply or shift of supply curve towards the left.

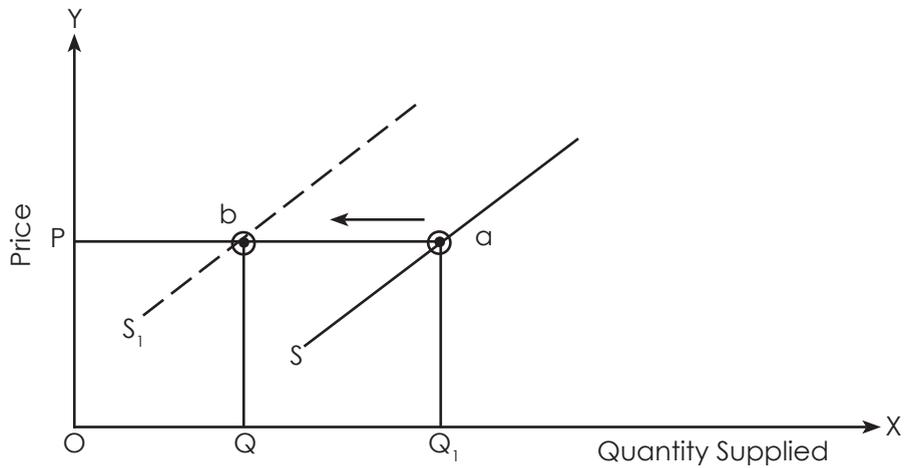


Fig.1.19: Shift of Supply Curve (leftward)

In the diagram we see that supply has fallen from  $Q_1$  to  $Q$ , the price remaining constant at  $P$ . this is shown by a shift of the original supply curve  $S$  to the left to form a new supply curve  $S_1$ .

Both the Increase and Decrease in supply can be shown in a single diagram.

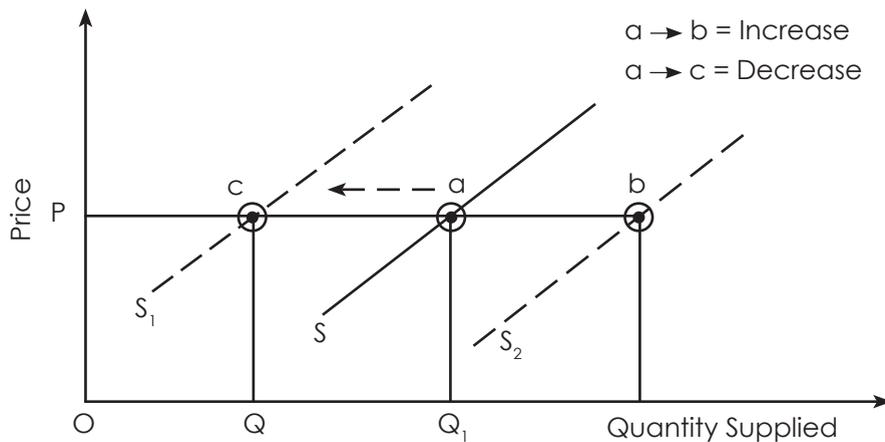


Fig.1.20: Shift of Supply Curve

**1.4.5 Exceptions to the Law of Supply:**

- (i) **Agricultural Goods :** In case of such goods the supply cannot be adjusted to market conditions. The production of agriculture goods is largely dependent on natural phenomenon and therefore its supply depends upon natural factors like rainfall, etc. Moreover the supply of such goods is mostly seasonal and therefore it cannot be increased with a rise in price.
- (ii) **Rare objects :** These are certain commodities like rare coins, classical paintings old manuscripts, etc. whose supply cannot be increased or decreased with the change in price. Therefore, such goods are said to have inelastic supply and the supply curve is a vertical straight line parallel to  $Y$  – axis.

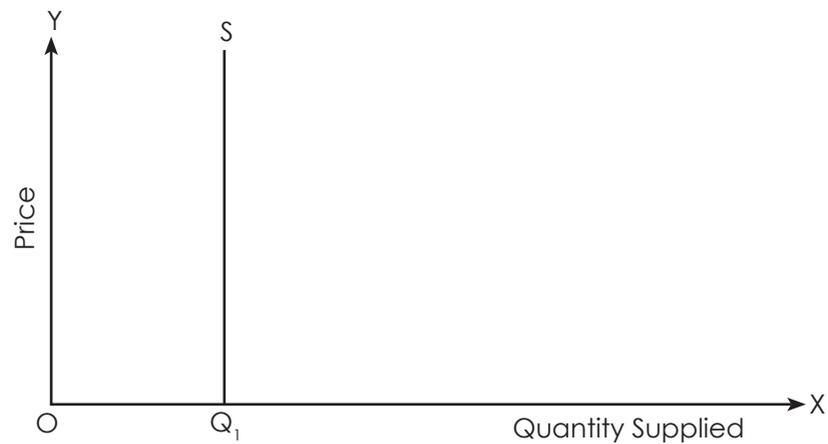


Fig.1.21: Inelastic Supply Curve

In the diagram, the supply remains constant at  $OQ_1$  with respect to any change in price.

**(iii) Labour Market :** In the labour market, the behavior of the supply of labour goes against the law of supply.

In case of such labourers, if the wages rise the workers will work for less hour, so as to enjoy more leisure. This is explained with the following diagram:

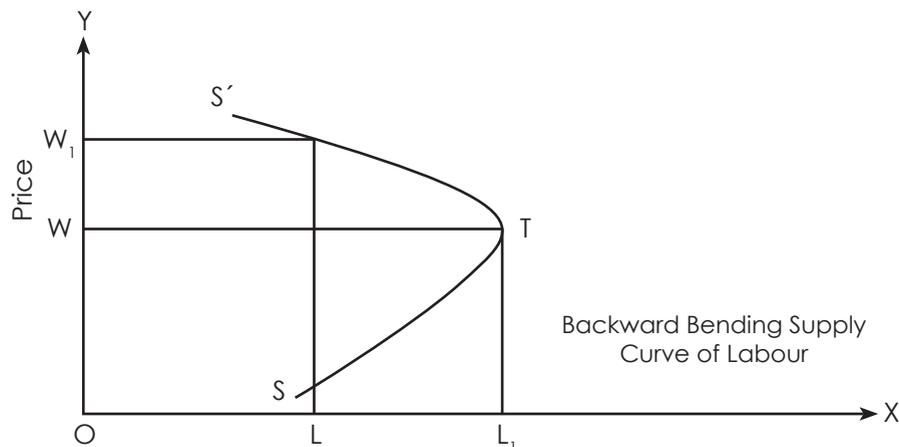


Fig.1.22: Supply Curve of Labour Market

In the diagram we measure labour supply along the X-axis and wages along the Y – axis. When wages was  $OW$  the labour supply was  $OL$ . Now, when the wages rise to  $OW_1$ , the labour supply instead of rising falls to  $OL_1$ . As a result, the supply curve  $S$  moves to the left instead of rising any further. Hence the labour market remains an exception to the law of supply.

#### 1.4.6 Elasticity of Supply

Elasticity of supply is defined as the degree of responsiveness of quantity supplied of a commodity due to change in its price. Elasticity of supply is expressed as :

$$\begin{aligned}
 e_s &= \% \text{ changes in qty. supplied} / \% \text{ changes in price} \\
 &= (dq/q \times 100) / (dp/p \times 100) \\
 &= (dq/dp \times p/q)
 \end{aligned}$$

Where  $d$  = change,  $q$  = original quantity supplied,  $p$  = original price.

### Determinants of Elasticity of Supply

- (i) **Nature of the commodity** : The supply of durable goods can be increased or decreased effectively in response to change in price and hence durable goods are relatively elastic.

On the other hand the perishable goods cannot be stored and thus supply cannot be altered significantly in response to change in their price. Hence the price of the perishable goods are relatively less elastic.

- (ii) **Time Factor** : A price change may have a small response on the quantity supplied because output may change by small quantity in the short period since the production capacity may have been limited. Therefore, in the short run supply tends to be relatively inelastic.

On the other hand in the long run production capacity may be increased or supply may also be raised therefore in the long run supply is elastic.

- (iii) **Availability of facility for expanding output** : If producers have sufficient production facilities such as availability of power, raw materials, etc, they would be able to increase their supply in response to rise in price.

On the other hand if there is a shortage of such facilities then expansion of supply will not be possible due to rise in price.

- (iv) **Change in cost of production** : Elasticity of supply depends upon the change in cost. If an increase of output by a firm in an industry causes only a slight increase in the cost then supply will remain fairly elastic.

On the other hand if an increase in output bring about a large increase in cost due to rise in price of inputs etc, then supply will be relatively inelastic.

- (v) **Nature of inputs** : Elasticity of supply depend upon the nature of inputs for the production of a commodity. If the production requires inputs that are easily available, then its supply will be relatively elastic.

On the other hand, if it uses specialized inputs then its supply will be relatively inelastic.

- (vi) **Risk Taking** : If entrepreneurs are willing to take risk, then supply will be more elastic and if they are reluctant to take risk then supply would be inelastic.

### Problems of Supply :

**Problem 17** : Tom's supply equation for selling handmade mugs is as follows:

$$Q = 5 + 1.5P$$

How many mugs will he sell if the price is ₹ 2 per mug? What if the price is ₹ 4 per mug?

#### Solution:

To find out how many mugs Tom is willing to supply, we simply plug in the price into Tom's supply equation. When the price is ₹ 2 per mug, we find that  $Q = [5 + 1.5(2)] = 8$  mugs

When the price is ₹ 4 per mug, Tom is willing to sell  $Q = [5 + 1.5(4)] = 11$  mugs

**Problem 18** : Tom's supply equation for his handmade mugs is now:

$$Q = -5 + 2P$$

At what price will he no longer be willing to sell mugs?

#### Solution:

Tom's supply equation is  $Q = -5 + 2P$

To find the price at which Tom will no longer sell any mugs, we set Q equal to 0 and solve for P.

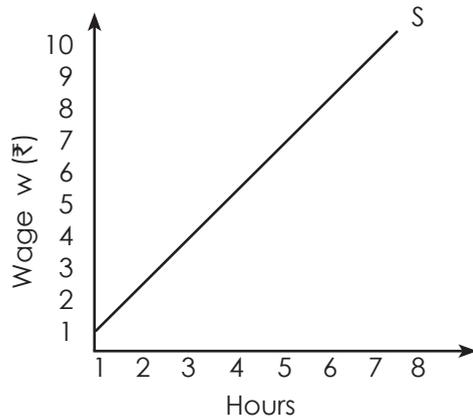
That is:

$$Q = -5 + 2P$$

$$P = 5/2 = ₹ 2.50$$

Tom will not sell any mugs if the price drops to ₹ 2.50 per mug.

**Problem 19 :** If Jean's supply curve for babysitting looks like this:



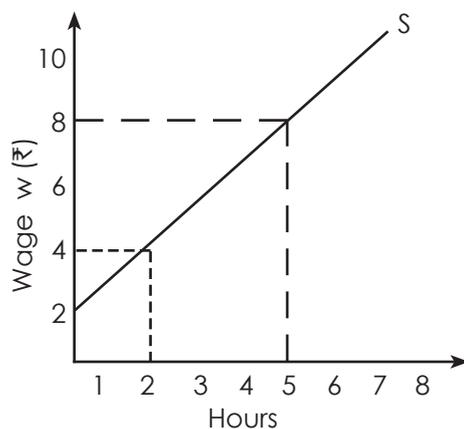
What is the minimum amount you would have to pay her if you wanted her to babysit for 2 hours? 5 hours? (Remember that wage is the hourly rate of pay).

**Solution:**

If we look for Jean's minimum wage at 2 hours on the graph, we find that it is ₹ 4. Since ₹ 4 is only the hourly pay, you have to multiply it by the number of hours worked to see how much you actually have to pay Jean. For 2 hours of babysitting, you will have to pay Jean at least

$$(2 \text{ hours}) \times (₹4/\text{hour}) = ₹8$$

Similarly, to get Jean to work for 5 hours, you have to pay her at least ₹ 8 an hour, giving a total pay of  $(5 \text{ hours}) \times (₹ 8/\text{hour}) = ₹ 40$



**Problem 20 :** Jeff and Luke both sell baseball cards. Jeff's supply function is

$$Q = 2P$$

Luke's supply function is

$$Q = -5 + 3P$$

If you wanted to buy 50 cards total, how much would you have to offer per card? At what price will Jeff no longer sell any cards? At what price will Luke no longer sell any cards?

**Solution:**

To find out how much you would need to pay to get 50 cards, you first need to combine Jeff and Luke's supply functions by adding them together :

$$\begin{array}{r}
 Q = 2P \\
 + Q = -5 + 3P \\
 \hline
 Q = -5 + 5P
 \end{array}$$

Now we set Q equal to 50, since we want to buy 50 cards, and we get:

$$50 = -5 + 5P$$

Solve for P, and get

$$P = 55/5 = ₹11 \text{ per card}$$

To find Jeff's no-sell price, we set Q equal to 0 in his supply function and solve for P.

$$0 = 2P$$

In this case, we find that Jeff's no-sell price is ₹ 0.

We do the same thing for Luke, plugging 0 in for the quantity in his supply equation:

$$0 = -5 + 3P$$

$$P = 5/3 = ₹ 1.67 \text{ per card}$$

**Problem 21 :** Jody owns a used CD store, where she buys and sells used CDs. Which of the following will cause a movement along her supply curve, and which will cause a shift in her supply curve?

- (a) Another CD store opens down the street that also buys used CDs, so she now has to pay more for the used CDs before she can sell them again.
- (b) The landlord now includes utilities in her rent payment, so she no longer has to pay for electricity.
- (c) There is an Elvis revival, and the market price of used Elvis CDs goes up.

**Solution:**

- (a) This will cause an inwards shift (a shift towards the y-axis) of Jody's supply curve. Because she has to pay more for each CD, she makes less profit on each sale. This means that for any given price, she will be willing to sell fewer CDs.
- (b) This will cause an outwards shift (a shift away from the y-axis) of Jody's supply curve. Because she no longer has to pay for electricity in her store, Jody's costs are lower, and so she will be willing to sell more CDs at any given price.
- (c) This causes a movement up the supply curve. Because the market price of used Elvis CDs has gone up, she will be willing to sell more CDs.

**1.5 EQUILIBRIUM**

The price at which the quantity demanded of a commodity equals the quantity supply is known as equilibrium price.

The determination of equilibrium price can be explained with the help of a following diagram:

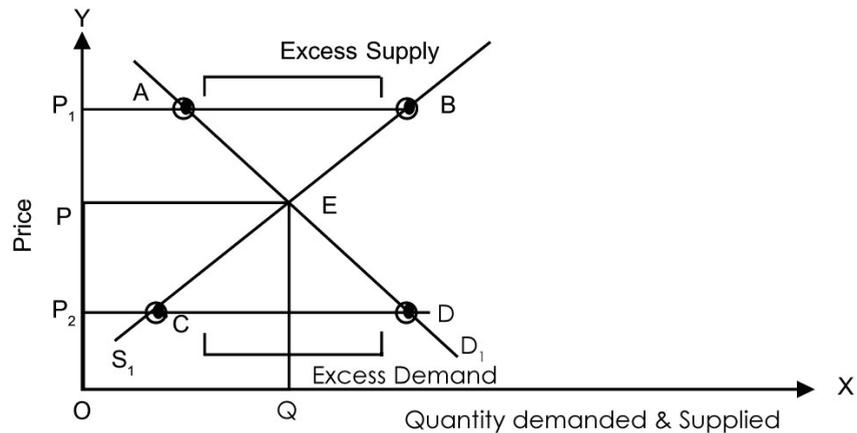


Fig.1.23: Equilibrium of Demand and Supply

In the diagram, along the X-axis we measure quantity demanded and supplied and along the Y-axis price per unit.  $D_1$  is the demand curve,  $S_1$  is the supply curve, both intersect at point E which is the equilibrium point. At the equilibrium point E, the quantity demanded equal to the quantity supplied of the commodity and therefore OQ is the equilibrium quantity and OP is the equilibrium price.

At the price  $OP_1$  the quantity demanded decreases from PE to  $P_1A$  and the quantity supplied increases from PE to  $P_1B$ . Due to the law of supply the quantity supplied has increase with a rise in price. Such increase in supply and decrease in demand will create a situation of excess supply AB. Such excess supply will induce the seller to reduce the price from  $OP_1$ . Now when price falls to  $OP_2$ , due to the law of demand the quantity demanded will rise to  $P_2D$  and due to law of supply the quantity supplied will fall to  $P_2C$  which will create a situation of Excess Demand. This will induce the sellers to increase the price from  $OP_2$  towards OP.

Finally the equilibrium price remains in the market.

### 1.5.1 Change in Equilibrium Price due to Shift in Demand, the Supply Remaining Constant:

Increase in Demand rises the price and decrease in demand lowers the price of a commodity, if supply remains unchanged.

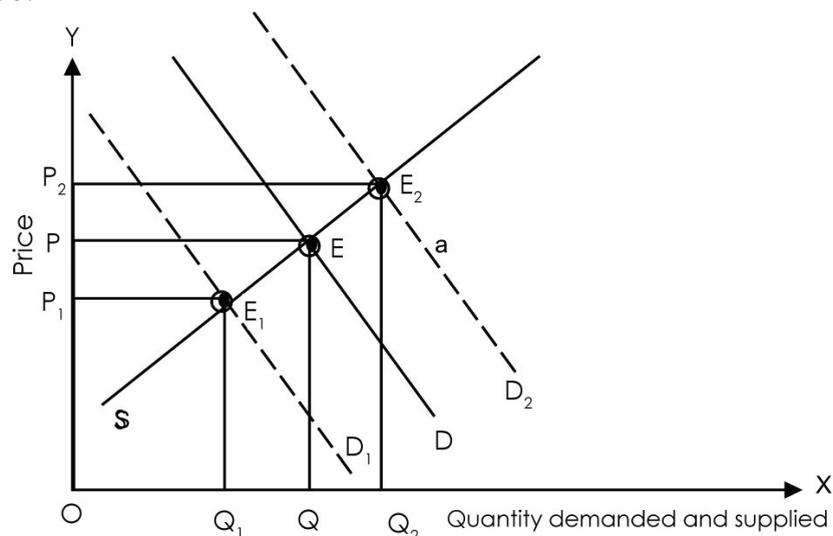


Fig.1.24: Change in Equilibrium due to shift in Demand

In the diagram D and S are original demand and Supply curve and E is the initial equilibrium point OP. The equilibrium price and OQ is the equilibrium quantity. The supply remaining constant, as the demand curve shifts to the right from D to  $D_2$ . It indicates an increase in demand. The new equilibrium point is  $E_2$  and the equilibrium price is raised at  $P_2$  and quantity to  $Q_2$ .

Now again, if supply is kept constant and the demand decreases from D to  $D_1$ , the new equilibrium will  $E_1$ , the new equilibrium price and quantity will be  $OP_1$  and  $OQ_1$  respectively.

**1.5.2 Change in Equilibrium Price due to Shift in Supply where the Demand Remains Constant:**

Increase in supply lower the price and Decrease in supply raises the supply if demand remains constant.

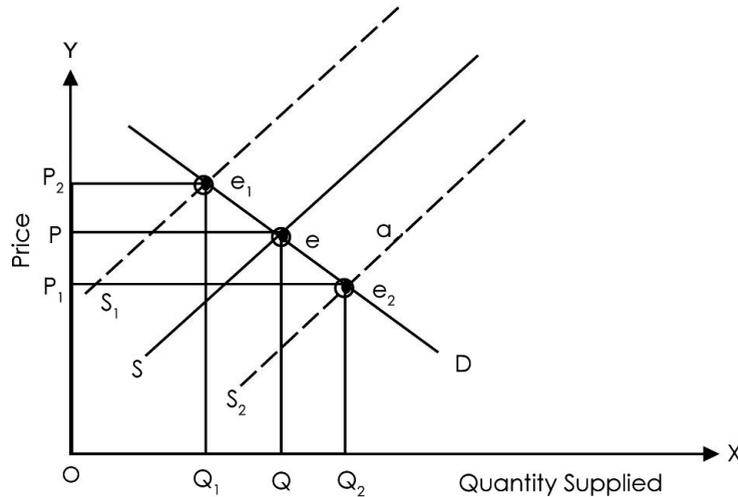


Fig.1.25: Change in Equilibrium due to shift in Supply

Here the original demand curve D, Original Supply Curve is S, initial equilibrium point e, equilibrium price OP and equilibrium quantity OQ.

In the supply curve shifts from S to  $S_2$  the new equilibrium point will be  $e_2$ , the quantity will rise to  $Q_2$  and the price will fall to  $P_1$ . Similarly, when supply falls from S to  $S_1$ , equilibrium price will be  $OP_2$ , and equilibrium quantity will be  $OQ_1$ .

**1.5.3 Change in Equilibrium Priced due to Shift in both Demand and Supply:**

**Situation 1 :** If demand and supply change by equal proportion, equilibrium price will remain unchanged.

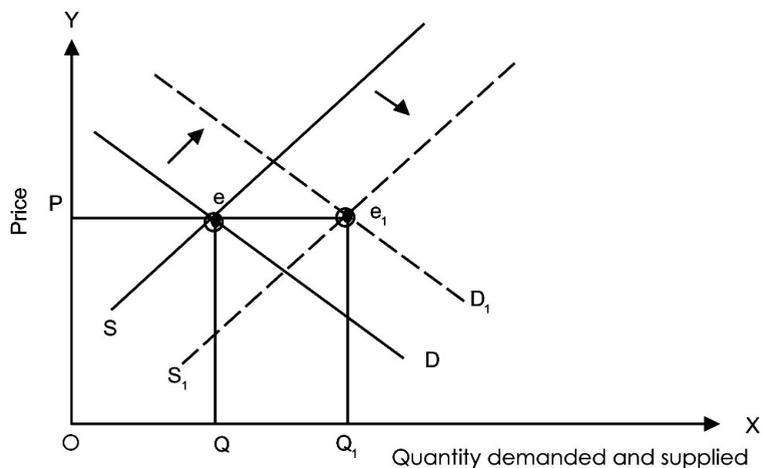


Fig.1.26: (a) Change in Equilibrium due to shift in both Demand and Supply

In the above diagram we see equal change in demand and supply i.e.  $D$  to  $D_1$  and  $S$  to  $S_1$  respectively. As a result equilibrium point  $e$  shifts to  $e_1$  and quantity rises from  $Q$  to  $Q_1$  which equilibrium price remains unchanged at  $OP$ .

**Situation 2 :** If the change in demand is greater than in proportion to the change in supply.

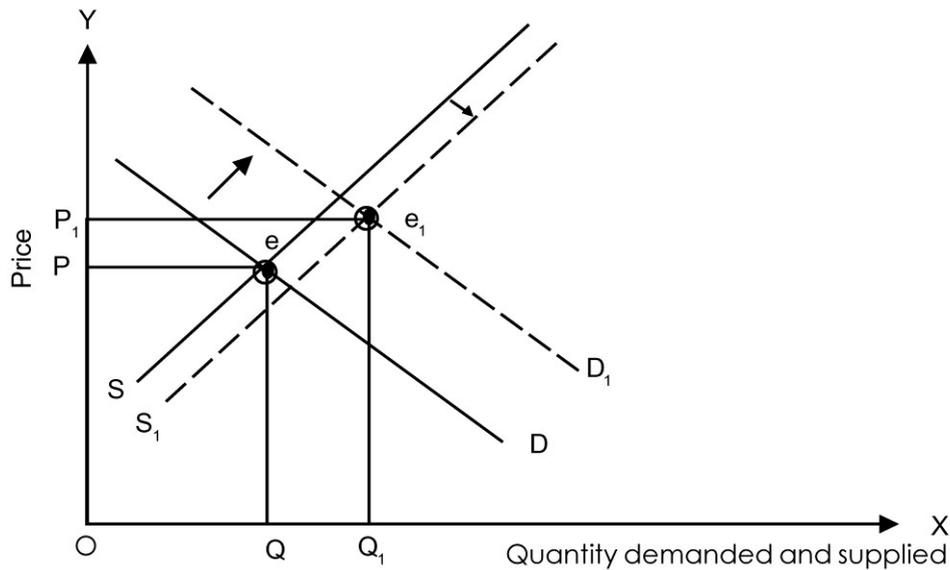


Fig.1.26 (b): Change in Equilibrium due to shift in both Demand and Supply

In the diagram when the demand increase then supply and price will rise. Here, the relative increase in demand i.e.  $DD_1$  is greater than relatively increase in supply  $SS_1$ . As a result equilibrium price rises from  $OP$  to  $OP_1$ , equilibrium quantity rises from  $OQ$  to  $OQ_1$ . The equilibrium point shifts from  $e$  to  $e_1$ .

**Situation 3 :** If the change in supply is greater than in proportion to change in demand

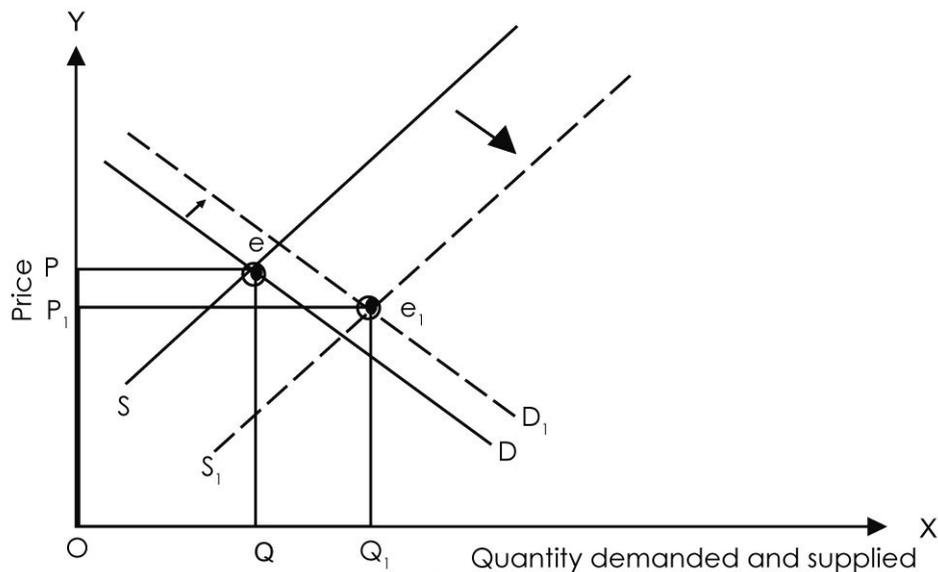


Fig.1.26: (c) Change in Equilibrium due to shift in both Demand and Supply

In the above diagram when the supply increase than demand i.e.  $SS_1 > DD_1$ , the equilibrium point will shift from  $e$  to  $e_1$ , the equilibrium price will fall from  $P$  to  $P_1$  and equilibrium quantity will rise from  $Q$  to  $Q_1$ .

## 1.6 THEORY OF PRODUCTION

### 1.6.1 Production-Function

- In economics, the technical law, relating inputs to outputs, has been given the name of production-function.
- In simple words, production - function expresses the relationship between the physical inputs and physical output of a firm for a given state of technology.
- The production-function is a purely technical relation that connects factor-inputs and outputs.
- The production-function can be written mathematically as follows:

$$q_x = f(F_1, F_2, F_3 \dots \dots \dots F_n)$$

Here,  $q_x$  = the quantity of x commodity

$F_1, F_2, F_3 \dots \dots \dots F_n$  = Different factor-inputs

- This equation tells that the output of x depends on the factors  $F_1, F_2, F_3 \dots \dots \dots F_n$ , etc.
- There is functional relationship between factor-inputs and the amount of goods x.
- For example, the output of cloth depends on cotton, thread, machine, labour, chemicals, etc. Hence the relationship between factor-inputs (e.g. thread, machine, labour, chemicals, etc.) and the output of cloth can be shown with the help of production-function.

### 1.6.2 Types of Production-Function

Before analyzing the types of production-function it will be useful to understand the meaning of following important terms :

#### A. Fixed Factors and Variable Factors

Factors of production are broadly classified into two categories i.e. fixed and variable factors:

- (i) **Fixed Factors** - The factor inputs which cannot be varied in the short-period, as and when required are called fixed factors.

Examples of Fixed Factors are : Plant, machinery, heavy equipments, factory building, land etc.

- (ii) **Variable Factors** - The factor inputs which can easily be varied, in the short-period as and when required, are called variable factors.

Examples of variable factors are : labour, raw material, power, fuel etc.

The distinction between fixed factors and variable factors appears only in the short-period. In the long-run, all the factors of production become variable factors.

#### B. Short period and Long period

The time-period during which a firm in order to make changes in its production can change only in its variable factors but not in its fixed factors, is termed as short-period. In the short-period, a firm cannot change its scale of plant.

The time period in which a firm can change all the factors of production and its scale of plant, is termed as long-period.

In economics, we study two types of production-functions. In other words, there are two kinds of input-output relations in production-functions. These are:

- (i) **Short-run Production-functions or the Law of Variable Proportions** - In the short period, some factors are fixed and some of them are variable. What happens when additional units of one



variable factor of production are combined with a fixed stock of some factors of production, is discussed under short-run production-functions. The law which tells about this relation is called the law of variable proportions or returns to a factor. Since it is related to a short-period, it is called short-run production-function.

- (ii) **Long-run Production-function or Returns to Scale** – In the long run, all factor-inputs can be varied. It means, that in the long-run, we can expand or reduce the scale of production as well. The way in which the output varies with the changes in the scale of production is discussed in the long-run production-functions. The law which states this relationship is also called returns to scale.

Since it is related to the long-period, it is called long-run production-function.

In this context we have to define three key terms :-

(1) **Total Product** - It refers to the total output of the firm per period of time

(2) **Average Product** - Average Product is total output per unit of the variable input. Thus Average Product is total product divided by the number of units of the variable factor.

$AP = Q/L$  where  $Q$  is Total Product,  $L$  is the quantity of labour.

(3) **Marginal Product** - Marginal Product is the change in total product resulting from using an additional unit of the variable factor.

$MP = dQ/dL$ , where  $d$  is the rate of change

### 1.6.3 Law of Variable Proportions or Returns to a Factor

#### • Meaning and Definition

- The law of variable proportions has an important place in economic theory.
- This law exhibits the short-run production-functions in which one factor is variable and others are fixed.
- The extra output obtained by applying extra unit of a variable factor can be greater than, equal to or less than the output obtained by its previous unit.
- If the number of units of a variable factor is increased, the way wherein the output changes is the concern of this law.
- Thus it refers to the effect of changing factor-ratio on the output.
- In short, the law which exhibits the relationship between the units of a variable factor (keeping all other factors as constant) and the amount of output in the short-run is known as returns to a variable factor.
- Thus the law of variable proportions is also named as (or returns to a factor) returns to a variable factor.
- The law states that with the increase in a variable factor, keeping other factors constant, total product increases at an increasing rate, then increases at diminishing rate and finally starts declining.

#### • Reason as to why it is called the Law of Variable Proportions:

- The factor- proportion (or factor-ratio) varies as one input varies and all others are constant.
- This can be understood with the help of an example.
- Suppose in the beginning 10 acres of land and 1 unit of labour are taken for production, hence land-labour are taken for production, hence land-labour ratio was 10: 1. Now if the land remains the same but the units of labour increases to 2, now the land-labour ratio would become 5: 1.

- Thus, this law analyses the effects of change in factor-proportions on the amount of output and is, therefore, called the law of variable proportions.
- **Explanation of the Law**

The law of variable proportions can be illustrated with the help of the following example and diagram:

**Example**

Fixed Factor : Land (Acres)	Variable Factor: Land (Units)	TPP (Total Physical Product) (Quantity)	MPP (Marginal Physical Product) (Quantity)	
1	0	0	-	Stage I
1	1	2	2	
1	2	6	4	
1	3	12	6	Stage II
1	4	16	4	
1	5	18	2	Stage III
1	6	18	0	
1	7	14	-4	
1	8	8	-6	

In this example, we assume that land is the fixed factor and labour is a variable factor. The table shows the different amounts of output obtained by applying different units of labour to one acre of land which continues to be fixed.

**Diagram**

The law of variable proportions can be explained with the help of diagram below. In order to make simple presentation we have drawn a TPP (Total Physical Product) curve and a MPP (Marginal Physical Product) curve as smooth curves in the diagram, against the variable input, labour.

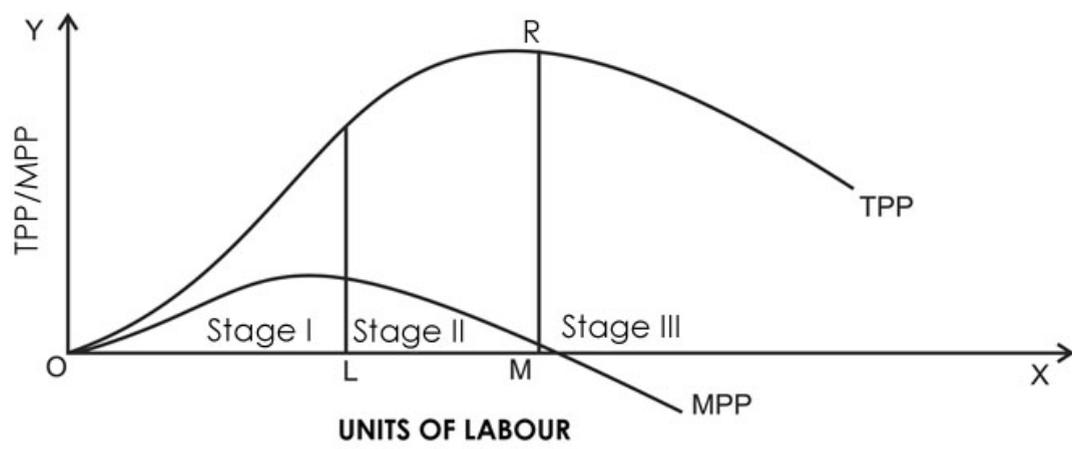


Fig.1.27: Production Functions

• **Three Stages of the Law**

<b>Stage I</b>	<ul style="list-style-type: none"> <li>• Here TPP increases at an increasing rate and MPP also increases.</li> <li>• Since MPP increases with the increase in the units of a variable factor, it is called the stage of increasing returns.</li> <li>• In the example, the stage I of the law runs upto 3 units of labour and in the diagram it is between O to L.</li> </ul>
<b>Stage II</b>	<ul style="list-style-type: none"> <li>• Here TPP continues to increase but at a diminishing rate and MPP diminishes but remains positive.</li> <li>• MPP decreases with the increase in the units of a variable factor, it is termed as the stage of diminishing returns.</li> <li>• In the example, stage II runs between 4 to 6 units of labour and in the diagram it is between L to M.</li> <li>• This stage goes to the point when TPP reaches the maximum (18 in the example and point R in the diagram) and MPP becomes zero.</li> </ul>
<b>Stage III</b>	<ul style="list-style-type: none"> <li>• In this TPP starts declining and MPP decreases and becomes negative.</li> <li>• Since in this stage MPP becomes negative, it is called the stage of negative returns.</li> <li>• In the example, stage III runs between 7 to 8 units of labour and in the diagram it starts from the point 'M' onwards.</li> </ul>

**1.6.3.1 Two ways to explain the Law of Variable Proportions**

The law of variable proportions can be explained in two separate ways :

(i) in terms of total physical product and (ii) in terms of marginal physical product. It is explained as under:

**(i) Law of Variable Proportions - in terms of TPP**

The law of variable proportions shows the relationship between units of a variable factor and total physical product. According to this law, keeping other factors constant, when we increase the units of a variable factor, the TPP first increases at an increasing rate, then at a diminishing rate, and in the last, it declines. Thus the law has following three stages :

Stage I : TPP increases at an increasing rate

Stage II : TPP increases at a diminishing rate

Stage III : TPP declines.

This is shown with the help of following example and diagram.

**Example**

Unit of Labour (Units)	TPP (Quantity)	
0	0	
1	2	] Stage I
2	6	
3	12	
4	16	] Stage II
5	18	
6	18	
7	14	] Stage III
8	8	

**Diagram**

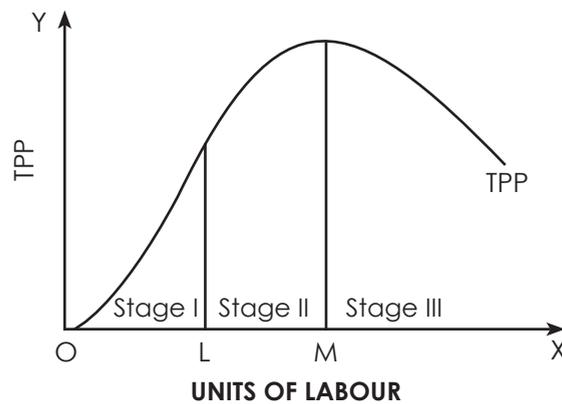


Fig.1.28

**(ii) Law of Variable Proportions in terms of MPP**

The law of variable proportions states that with the increase in the units of a variable factor, keeping all other factors constant, the marginal physical product increases, then decreases and finally becomes negative. Thus this law has three following stages :

Stage I : MPP increases

Stage II : MPP decreases but remains positive

Stage III : MPP continues to decrease and becomes negative.

The law is shown with the help of following example and diagram below :

**Example**

Unit of Labour (Units)	MPP (Quantity)	
1	2	Stage I
2	4	
3	6	
4	4	Stage II
5	2	
6	0	
7	-4	Stage III
8	-6	

## Diagram

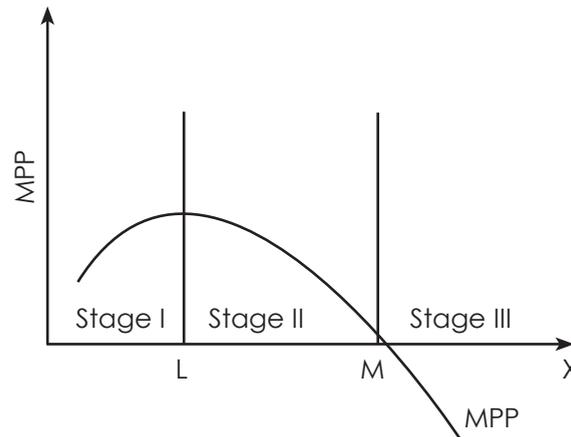


Fig.1.29

### 1.6.3.2 Significance of the Three Stages of the Law

With the knowledge of the three stages of the law, a producer can choose the appropriate stage of its operation.

<b>Stage III</b>	<ul style="list-style-type: none"> <li>• A rational producer would not like to operate in Stage III.</li> <li>• In this stage total product declines and marginal product becomes negative.</li> <li>• A producer can always increase his output by reducing the amount of variable factor.</li> <li>• If he operates in stage III, he incurs higher costs on the one hand, and gets less revenue on the other.</li> <li>• Thus, it reduces his profits.</li> </ul>
<b>Stage I</b>	<ul style="list-style-type: none"> <li>• A producer does not operate in stage I.</li> <li>• Here marginal product increase with the increase in a variable factor.</li> <li>• There is a scope for more efficient utilization of fixed factors by employing more units of a variable factor.</li> <li>• A rational producer would not therefore, like to stop in stage I but will expand further.</li> </ul>
<b>Stage II</b>	<ul style="list-style-type: none"> <li>• A rational producer never chooses first and third stages for production.</li> <li>• He, therefore, likes to operate in the stage II, the stage of diminishing returns.</li> <li>• In this way this stage of the law of variable proportions is the most relevant stage of operation for a producer.</li> </ul>

### 1.6.3.3 Reason for Operation of the Law

- In the short-period all factors of production cannot be varied.
- Here one is variable factor and others are fixed factors.
- There is an optimum combination of different factors that gives the maximum output.
- When there is increase in the units of a variable factor before the point of optimum combination, the factor proportion becomes more suitable and fixed factors are more efficiently utilized.
- Hence it increases the marginal physical product.
- In the initial stages the total product may rise at an increasing rate when we employ more units of a variable factor to the fixed factors.

- But later, when we employ more units of a variable factor beyond this optimum combination, the factor proportion becomes unsuitable and inefficient; hence the marginal product of that variable factor declines.
- The quantity of the fixed factor-input per unit of the variable input falls as more and more of the latter is put to use.
- Successive units of the variable input, therefore, must add decreasing amounts to the total output as they have less of the fixed input to work with.

#### 1.6.4 Returns to Scale

- In the long run, all factors are variable.
- The expansion of output may be achieved by varying all factor-inputs.
- When there are changes in all factor-inputs in the same proportion, the scale of production (or the scale of operation) also gets changed.
- Thus, the change in scale means that all factor inputs are changed in the same proportion.
- The term returns to scale refers to the changes in output as all factor-inputs change in the same proportion in the long run.
- The law expressing the relationship between varying scales of production (i.e. change of all factor-inputs in the same proportion) and quantities of output.
- The increase in output may be more than, equal to, or less than proportional to the increase in factor-inputs.
- Accordingly, returns to scale are also of three types - increasing returns to scale, constant returns to scale and diminishing returns to scale.

The law of returns to scale with its all the three stages (or types) is shown in the following example and diagram below:

#### Example

Combination	Scale of operation Machine + Labour	Total Product : Returns to scale (Units)
A	1 Machine + 2 Labour	100
B	2 Machine + 4 Labour	250
C	4 Machine + 8 Labour	600
D	8 Machine + 16 Labour	1200
E	16 Machine + 32 Labour	2400
F	32 Machine + 64 Labour	4000
G	64 Machine + 128 Labour	7000

Returns to scale	Analysis
<b>Increasing</b>	<ul style="list-style-type: none"> <li>• From A to C is the increasing returns to scale.</li> <li>• The combination of A with 1 Machine + 2 Labour produces 100 units of output.</li> <li>• When we double the factors-inputs in combination of B with 2 machines + 4 Labour, it produces 250 units of output which is more than double of the output of combination A.</li> <li>• Again from B to C, the factor-inputs are doubled and the output is more than doubled (from 250 to 600 units).</li> </ul>

<b>Constant</b>	<ul style="list-style-type: none"> <li>From C to E is the constant return to scale.</li> <li>When we move from combination C to D and D to E, each time the factor-inputs are doubled and the resultant outputs are also doubled (from 600 to 1200 units in the case of C to D; and from 1200 to 2400 units in the case of D to E).</li> </ul>
<b>Diminishing</b>	<ul style="list-style-type: none"> <li>The combinations from E to G in the table indicate diminishing return to scale.</li> <li>The movement from the combination E to F indicates that the factor-inputs are doubled but the output is less than doubled (from 2400 to 4000 Units).</li> <li>Similar is the case when we move from F to G.</li> </ul>

The law of returns to scale can also be shown with the help of a very simple diagram which is given below.

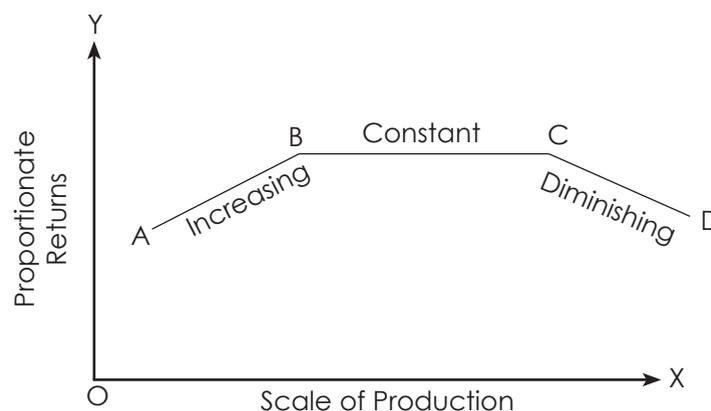


Fig.1.30: Returns to Scale

From A to B in the diagram is the stage of increasing returns; from B to C constant returns, and from C to D is the diminishing returns to scale.

#### 1.6.4.1 Causes for the Operation of Returns to Scale

**Returns to scale occur mainly because of two reasons :**

<b>(i) Division of Labour</b>	<ul style="list-style-type: none"> <li>When tasks are allocated according to the specialization of workers, it is termed division of labour.</li> <li>Thus division of labour and specialization are identical concepts.</li> <li>They are possible more in large-scale operations.</li> <li>Different types of workers can specialize and do the job for which they are more suited.</li> <li>This results in a sharp increase in output per man with the increase in scale in the initial stages.</li> <li>This brings increasing returns to scale.</li> <li>But after a certain level of output, top management becomes eventually overburdened and, hence, less efficient.</li> <li>It brings diminishing returns to scale.</li> </ul>
	<ul style="list-style-type: none"> <li>With the increase in the scale of operation certain advantages or economies of large volume or large size may occur.</li> <li>This results in increasing returns to scale.</li> <li>For instance when the scale of operation is increased a firm has to procure raw materials in a larger quantity.</li> </ul>

**(ii) Volume Discounts**

- In this situation the firm may bargain for more discounts on purchase of the large volume of raw materials.
- Similarly the per unit selling cost may also fall with the increase in output.
- In the initial stages a firm may receive technical economies, marketing economies and economies related to transport and storage costs etc.
- All these result into increasing returns to scale.
- But after a certain limit, diseconomies of volume crop up with the increase in output.
- This brings diminishing returns to scale.

Thus, the main reason for the operation of the different forms of returns to scale is found in economies and diseconomies.

- When economies exceed the diseconomies → the stage of increasing returns operate
- When economies equal diseconomies → the stage of constant returns to scale
- when diseconomies exceed the economies → stage of diminishing returns to scale

**1.6.5 Distinction between Returns to a Variable Factor (or Law of Variable Proportions) and Returns to Scale**

The main differences between returns to a variable factor and returns to scale are as indicated below:

Returns to a Variable Factor	Returns to Scale
1. Operates in the short run or it is related to short-run production-function.	1. Operates in the long-run or it is related to long-run production-function.
2. Only the quantities of a variable varied.	2. All factor-inputs are varied in the same factor are proportion.
3. There is change in the factor-proportion. Suppose on 1 acre land 1 labour is employed, then the land labour ratio is 1 : 1. Now if we add one more unit of labour on the 1 acre land, then land-labour ratio would become 1 : 2.	3. There is no change in factor-ratio. For instance, if a firm is employing 1 unit of labour and 2 units of capital, then the labour-capital ratio is 1 : 2. Now if the firm increases its scale of operation and employed 2 units of labour and 4 units of capital, the labour-capital ratio still remains the same as 1 : 2.
4. No change in the scale of production. Because here all the factor-inputs are not changed.	4. There is change in the scale of production because here all the factor-inputs are varied in the same proportion.

**1.7 THEORY OF COST**

**1.7.1 Various Concepts of Cost**

The term "Cost" is used in many sense and hence has many concepts. All these need to be properly and clearly understood.

**1. Real Costs**

- real cost included the following two basic elements:
  - exertions of all kinds of labour;
  - waiting and sacrifices required for saving the capital

- It is more a psychological concept and cannot be measured.
- Therefore, it is not applied in actual practice.

## 2. Economic Costs

The total expenses incurred by a firm in producing a commodity are generally termed as its economic costs. Economic costs are generally referred to as production costs as well.

**The total economic costs include:**

<p><b>(i) Explicit Costs</b></p>	<ul style="list-style-type: none"> <li>• Actual payments made by a firm for purchasing or hiring resources (or factor-services) from the factor-owners or other firms are called explicit costs.</li> <li>• These are actual money expenses directly incurred for purchasing the resources.</li> <li>• These are the costs which a Cost Accountant includes under the head expenses of the firm.</li> <li>• Accounting costs include all costs incurred by the firm in acquiring various inputs from outside suppliers.</li> <li>• Examples - payments for raw materials and power; wages to the hired workers; rent for the factory-building; interest on borrowed money; expenses on transport and publicity, etc.</li> </ul>
<p><b>(ii) Implicit Costs</b></p>	<ul style="list-style-type: none"> <li>• It refers to the imputed costs of the factors of production owned by the producer himself which are generally left out in the calculation of the expenses of the firm.</li> <li>• Besides purchasing resources from other firms, a producer uses his own factor-services also in the process of production.</li> <li>• He generally does not take into account the costs of his own factors while calculating the expenses of the firm.</li> <li>• But these costs should also be taken into account.</li> <li>• They are called implicit costs because producers do not make payment to others for them.</li> <li>• Example, rent of his own land, interest on his own capital, and salary for his own services as manager, etc.</li> </ul>
<p><b>(iii) Normal Profit</b></p>	<ul style="list-style-type: none"> <li>• Economists consider an entrepreneur as a separate and independent factor of production.</li> <li>• An entrepreneur is a factor of production.</li> <li>• An entrepreneur can engage himself in the work of production of a commodity only when he hopes to get a minimum amount of remuneration as profit.</li> <li>• The minimum amount which is required to keep an entrepreneur in the production is known as normal profit.</li> <li>• This normal profit is in a way reward or remuneration for an entrepreneur and, therefore, should be treated as costs.</li> </ul>

Thus,

Total economic costs = Explicit costs + Implicit costs + Normal profit.

**Generally economic costs include the following:**

Cost of the raw materials, wages, interest, rent, management costs, depreciation of capital equipment, expenditure on publicity and advertisements, transport costs, costs of the producer's own resources, normal profit, other expenses etc.

**3. Opportunity Cost**

- The concept of opportunity cost occupies a very important place in modern economic analysis.
- Factors of production are scarce in relation to wants.
- When a factor is used in the production of a particular commodity, the society has to forgo other goods which this factor could have produced.
- This gave birth to the notion of opportunity cost in economics.
- Suppose a particular kind of steel is used in manufacturing war-goods, it clearly implies that the society has to give up the amount of utensils that could have been produced with the help of this steel.
- Hence we can say that the opportunity cost of producing war-goods is the amount of utensils forgone.
- Opportunity cost is the cost of the next-best alternative that has been forgone.
- From the meaning of opportunity cost two important points emerge:
  - (i) The opportunity cost of anything is only the next-best alternative foregone and not any other alternative.
  - (ii) The opportunity cost of a good should be viewed as the next-best alternative good that could be produced with the same value of the factors which are more or less the same.

The concept of opportunity cost can better be explained with the help of an illustration. Suppose a piece of land can be used for growing wheat or rice. If the land is used for growing rice, it is not available for growing wheat. Therefore the opportunity cost for rice is the wheat crop foregone. This is illustrated with the help of the following diagram:

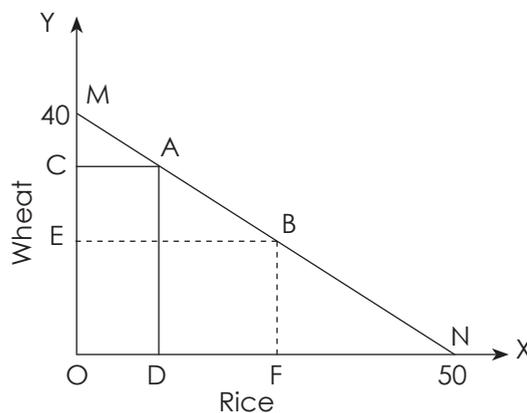


Fig.1.31

- Suppose the farmer, using a piece of land can produce either 50 quintals (ON) of rice or 40 quintals (OM) of wheat.



- If the farmer produces 50 quintals of rice (ON), he cannot produce wheat.
- Therefore the opportunity cost of 50 quintals (ON) of rice is 40 quintals (OM) of wheat.
- The farmer can also produce any combination of the two crops on the production possibility curve MN.
- Let us assume that the farmer is operating at point A on the production possibility curve where he produces OD amount of rice and OC amount of wheat.
- Now he decides to operate at point B on the production possibility curve.
- Here he has to reduce the production of wheat from OC to OE in order to increase the production of rice from OD to OF.
- It means the opportunity cost of DF amount of rice is the CE amount of wheat.

Thus, opportunity cost for a commodity is the amount of other next-best goods which have to be given up in order to produce additional amount of that commodity.

### Applications of Opportunity Cost

The concept of opportunity cost has been widely used by modern economists in various fields. The main applications of the concept of opportunity cost are as follows –

- (i) Determination of factor prices** - The factors of production need to be paid a price that is at least equal to what they command for alternative uses. If the factor price is less than factor's opportunity cost, the factor will quit and get employed in the better-paying alternative.
- (ii) Determination of economic rent** - The concept of opportunity cost is widely used by modern economists in the determination of economic rent. According to them economic rent is equal to the factor's actual earning minus its opportunity cost (or transfer earnings).
- (iii) Decisions regarding consumption pattern** - The concept of opportunity cost suggests that with given money income, if a consumer chooses to have more of one thing, he has to have less of the other. He cannot increase the consumption of all the goods simultaneously. Hence with the help of opportunity cost he decides the consumption pattern, that is, which goods should be consumed and in what quantities.
- (iv) Decisions regarding production plan** - With given resources and given technology if a producer decides to produce greater amount of one commodity, he has to sacrifice some amount of another commodity. Thus on the basis of opportunity costs a firm makes decisions regarding its production plan.
- (v) Decisions regarding national priorities** - With given resources at its command a country has to plan the production of various commodities. The decision will depend on national priorities based on opportunity costs. If a country decides that more resources must be devoted to arms production then less will be available to produce civilian goods. In this situation a choice will have to be made between arms production and civilian goods. The concept of opportunity cost helps in making such choices.

### 1.7.2 Cost-Function

The functional relationship between cost and quantity produced is termed as cost function.

$$C = f(Q_x)$$

Here, C = Production-cost

$Q_x$  = Quantity produced of x goods

Cost-function of a firm depends on two things: (i) production-function, and (ii) the prices of the factors of production. Higher the output of a firm, higher would be the production-cost. That is why it is said that the cost of production depends on the quantum of output.

### 1.7.3 Time element and Cost -

Time element has an important place in the analysis of cost of production. In the theory of supply we usually take three kinds of time-period. They are:

- (i) **Very Short-period** - Very short-period is defined as the period of time which is so short that the output cannot be adjusted with the change in demand. In this period, the supply of a commodity is limited to its stock, hence during this period supply remains fixed.
- (ii) **Short Period** - Short period is defined as the period of time during which production can be varied only by changing the quantities of variable factors and not of fixed factors; Land, factory building, heavy capital equipment, services of management of high category are some of the factors that cannot be varied in a short period. That is why they are called fixed factors.

There are some factor-inputs that can be varied as and when required. They are called variable factors. For instance, power, fuel, labour, raw materials, etc. are the examples of variable factor-inputs.

- (iii) **Long Period** - Long period is defined as the period which is long enough for the inputs of all factors of production to be varied. In this period no factor is fixed, but all are variable factors.

### 1.7.4 Short-run Costs

In the short-run, a firm employs two types of factors : fixed factors and variable factors. Costs are also of two types : fixed costs and variable costs.

- (i) **Fixed Costs** - Fixed costs (also known as supplementary costs or overhead costs) are the costs that do not vary with the output. These are the expenses incurred on the fixed factors of production.

**Examples:** Rent; interest; insurance premium; salaries of permanent employees, etc.

- (ii) **Variable Costs** - Variable costs (or prime costs) are the costs that vary directly with the output. These are the expenses incurred on the variable factors of production.

**Examples:** Expenses on raw materials, power and fuel; wages of daily labourers, etc.

### 1.7.5 Distinctions between Fixed Costs and Variable Costs

Fixed Costs	Variable Costs
1. Fixed costs do not vary with quantity of output.	1. Variable costs vary with the quantity of output.
2. They are related with the fixed factors.	2. They are related with the variable factors.
3. They do not become zero. They remain same even when production is stopped.	3. They can become zero when production is stopped.
4. A firm can continue production costs are not recovered even fixed costs.	4. Production should at least recover the variable cost.

### 1.7.6 Total Cost Curves in the Short Run

There are three concepts concerning total cost in the short period : Total fixed cost; total variable cost and total cost.

- (i) **Total Fixed Cost (TFC)** – Total Fixed Costs are those costs that do not vary with the output. They continue to be the same even if output is zero or 1 unit or 10 lakhs units. Thus, they are totally unaffected by the changes in the rate of outputs. These costs are also often referred to as supplementary costs or overhead costs or unavoidable costs. Examples of fixed costs are : (i) Initial establishment expenses, (ii) Rent of the factory, (iii) Expenses on maintenance of Machinery; (iv) Wages and salaries of the permanent staff, (v) Interests on bonds, (vi) Insurance premium.

$TFC = \text{quantities of the fixed productive service} \times \text{factor price.}$

Total fixed cost of a firm is illustrated in the following table and diagram :

Units of output	TFC (₹)
0	20
1	20
2	20
3	20
4	20
5	20

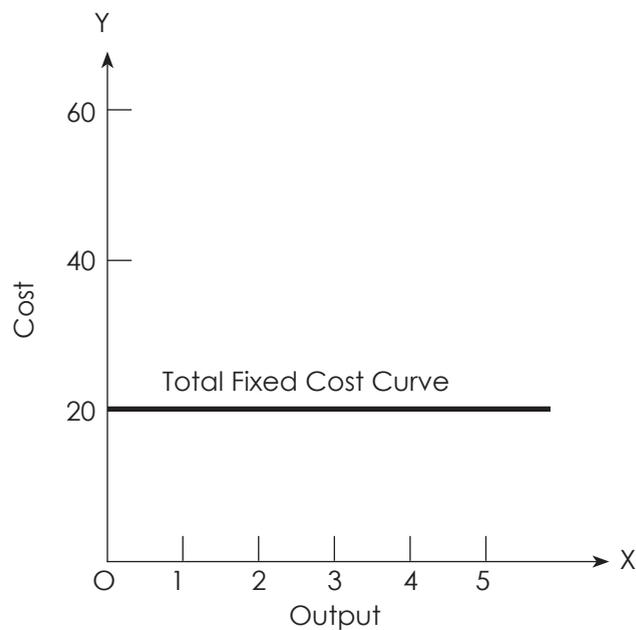


Fig.1.32: Total Fixed Cost Curve

TFC curve is a horizontal line parallel to the x-axis which explains total fixed cost remains the same at all levels of output.

- (ii) **Total Variable Cost (TVC)** – The costs that vary directly with the output and rises as more is produced and declines as less is produced, are called total variable costs. They are also referred to as prime costs or special costs or direct costs or avoidable costs. Examples of variable costs are : (i) wages of temporary labourers; (ii) raw materials; (iii) fuel; (iv) electric power, etc.

$TVC = \text{quantities of the variable factor service} \times \text{factor price.}$

Total Variable Cost is illustrated in the following table and diagram :

Units of output	TVC (₹)
0	0
1	18
2	30
3	40
4	52
5	65
6	82
7	106
8	140

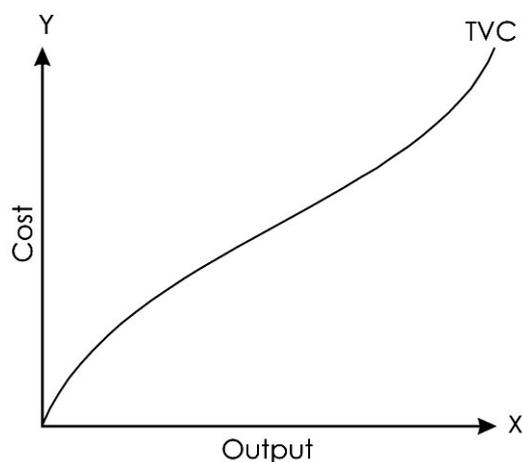


Fig.1.33: Total Variable Cost Curve

Our above table and diagram indicate that total variable cost varies directly with the volume of output. TVC curve starts from the origin, up to a certain range remains concave from below and then becomes convex. It shows that in the beginning, total variable cost rises at a diminishing rate and thereafter, it rises at increasing rates.

- (iii) **Total Cost** – Total Cost means the total cost of producing any given amount of output. When we add total fixed and total variable costs at different levels of output, we get the corresponding total costs.

Thus,  $TC = TFC + TVC$

Since, fixed costs are constant and variable costs necessarily rise as output rises, total costs also rise with the output or, to put the point more technically, TC is a function of total product and varies directly with it :  $TC = f(q)$ .

TC (Total Cost) curve can be obtained by adding TFC and TVC curves vertically at each point.

Again, since the total fixed cost, by definition remains constant, the changes in the total costs are entirely due to the changes in total variable costs. In other words, the rate of increase of total cost is the same as of total variable cost, as one of the two components of total cost remains constant. TC and TVC curves, therefore, have the similar shapes, the only difference is that TVC curve starts

from origin (O) while TC curve starts above the origin. Initially TC will include the amount of TFC and hence it starts from the positive intercept.

The relationship between these three – TFC, TVC and TC is illustrated in the following table and diagram :

**Example:**

Units of Output	TFC (₹)	TVC (₹)	TC (₹)
0	20	0	20
1	20	18	38
2	20	30	50
3	20	40	60
4	20	52	72
5	20	65	85
6	20	82	102
7	20	106	126
8	20	140	160

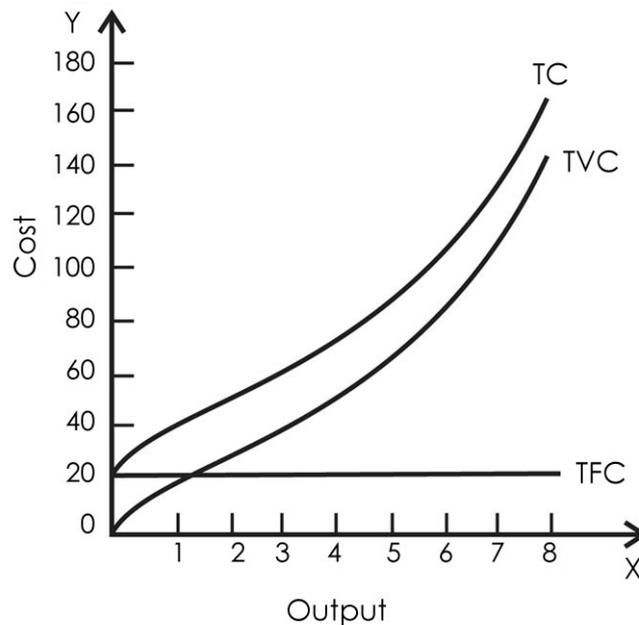


Fig.1.34: Cost Curves

**1.7.7 Unit Cost Curves in Short-Run**

The short-run unit cost curves are : Average Fixed Cost (AFC) curve; Average Variable Cost (AVC) curve; Average Total Cost (ATC) or Average Cost (AC) curve; and Marginal Cost (MC) curve. For price and output determination, per unit cost curves are more useful than the total costs just discussed.

**(i) Average Fixed Cost (AFC)** – Average fixed cost can be obtained by dividing total fixed cost (TFC) by the quantity of output (Q),

$$AFC = TFC/Q$$

Since total fixed costs remain the same, as output rises, average fixed cost diminishes but never becomes zero.

Features of AFC – (i) As output rises, the average fixed cost (AFC) goes on declining. The AFC curve is, therefore, a downward sloping curve, (ii) As output approaches zero, average fixed cost approaches infinity, but AFC curve never touches the y-axis. On the other hand, as output reaches very high levels, average fixed cost approaches zero, but it never becomes zero, it always remains positive. Hence the AFC curve never touches the x-axis. Thus it follows that AFC curve never touches either of the axis. Actually AFC curve takes the shape of rectangular hyperbola which shows that the area under the curve (i.e. total fixed cost) always remains the same.

AFC is illustrated in the following table and diagram.

Units of Production	TFC (₹)	AFC (₹)
0	20	-
1	20	20
2	20	10
3	20	6.67
4	20	5
5	20	4
6	20	3.33

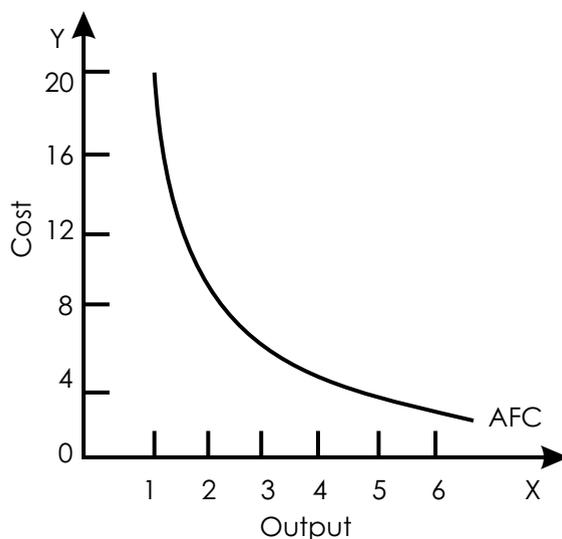


Fig.1.35: Average Fixed Cost Curve

(ii) **Average Variable Cost (AVC)** – Average variable cost can be obtained by dividing the total variable cost (TVC) by the quantity of output (Q).

$$AVC = TVC/Q$$

This is illustrated in the following example and diagram :

Units of Production	TVC (₹)	AVC (₹)
0	0	-
1	18	18
2	30	15
3	40	13.33
4	52	13
5	65	13
6	82	13.67
7	106	15.14
8	140	17.5

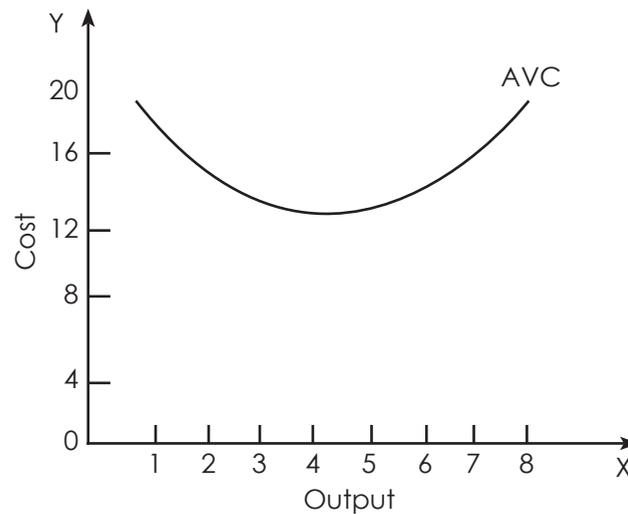


Fig.1.36: Average Variable Cost

As output rises, the AVC curve first falls, reaches a minimum and then begins to rise. Thus, AVC curve has a U-shape. In above example, AVC falls up to 5 units of output, thereafter, it starts to rise.

**(iii) Average Total Cost (ATC) or Average Cost (AC)** – Average total cost (ATC) is obtained by dividing the total cost (TC) by the quantity of output (Q). Thus, average cost (AC) is the per unit cost of production of a commodity. Or, alternatively, it can also be obtained by adding average fixed cost (AFC) and average variable cost (AVC).

$$ATC = TC/Q$$

$$\text{Or, } ATC = AFC + AVC$$

Diagrammatically the vertical summation of average fixed cost and average variable cost curves gives us the average total cost curve. The ATC curve is also a U-shaped curve.

**(iv) Marginal Cost (MC)** — Marginal cost is the increase in total cost resulting from one unit increase in output. In short, it may be called incremental cost. Thus,

$$MC = dTC/dQ$$

Or,  $MC = TC_n - TC_{n-1}$

Here, MC = Marginal Cost

$TC_n$  = Total Cost of n units of output

$TC_{n-1}$  = Total Cost of n-1 units of output

Suppose the total cost of 4 units of output is ₹ 72 and the total cost of 3 units is ₹ 60, then the marginal cost of 4 units level of output will be ₹ 12 (₹ 72 – ₹ 60).

Actually, MC is marginal variable cost since marginal fixed cost is absurd.

i.e.  $MC = \frac{\Delta TVC}{\Delta Q}$

Again,  $TC = TFC + TVC$

Taking changes in TC with respect to output Q,

$$\frac{dTC}{dQ} = \frac{dTVC}{dQ}$$

or  $MC = MVC$

Since a change in total cost is caused only by a change in total variable cost, marginal cost may also be defined as the increase in total variable cost resulting from one unit increase of output. Thus, marginal cost has nothing to do with the fixed costs.

Suppose the total variable cost of 4 units of output is ₹ 52 and the total variable cost of 3 units is ₹ 40, then the marginal cost will be ₹ 12 (52-40).

The estimation of marginal cost (MC) from total cost (TC) and total variable cost (TVC) is indicated in the table below:

Units of output	TFC (₹)	TVC (₹)	TC (TFC + TVC) (₹)	MC ( $TC_n - TC_{n-1}$ ) (₹)
(1)	(2)	(3)	(4)	(5)
0	20	0	20	-
1	20	18	38	18
2	20	30	50	12
3	20	40	60	10
4	20	52	72	12
5	20	65	85	13
6	20	82	102	17
7	20	106	126	24
8	20	140	160	34

The marginal cost curve based on the above table is depicted in the figure below:

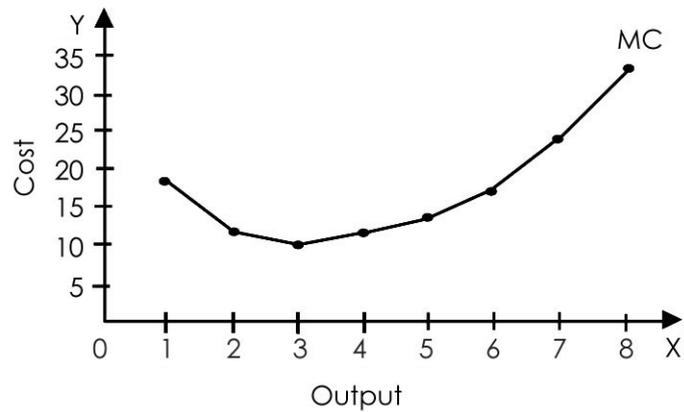


Fig.1.37

The different short-run cost are illustrated in the following table and diagram below :

### 1.7.7.1 Why is MC curve U-shaped in the short-run?

Units of Output	TVC (₹)	AVC (₹)	MC (₹)
0	0	-	-
1	18	18	18
2	30	15	12
3	40	13.33	10
4	52	13	12
5	65	13	13
6	82	13.67	17
7	106	15.14	24
8	140	17.5	34

Diagram

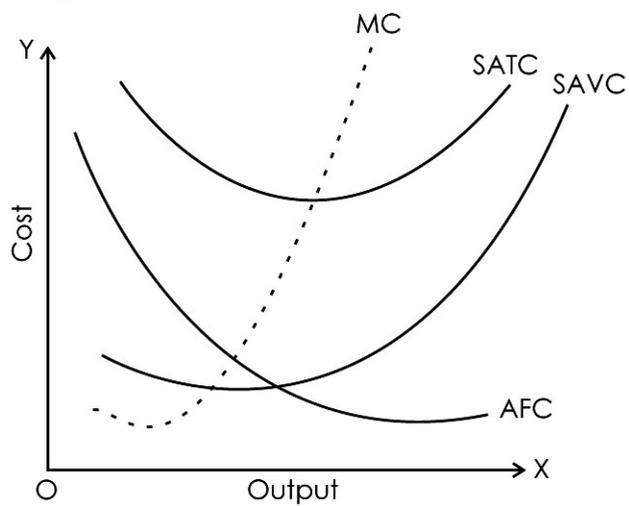


Fig.1.38: Cost Curves

- From the table and diagram, as output rises, the MC curve first falls reaches a minimum and then begins to rise.
- Thus, MC curve has a U-shape.
- The reason behind the U-shape of the MC curve is the operation of the law of variable proportions.
- The law states that with the increase in a variable factor, keeping other factors constant, the marginal physical product (MPP) first increases, and then after a certain level of production, it starts to decline.
- In the beginning the stage of increasing returns operates which increases the MPP, and after a certain point, the stage of diminishing returns starts to operate which reduces the MPP.
- On the basis of this in output, initially, the rate of increase in the requirement of variable factor is less and less, and, after a certain point, it is more and more.
- This implies that initially in the stage of increasing returns marginal cost (i.e., the rate of increase in the variable cost) diminishes with the increase in output.
- Then, after reaching a certain limit, in the stage of diminishing returns marginal cost rises with the further increase in output.
- Thus the marginal cost curve becomes U-shaped.

#### **1.7.7.2 Why are AVC and ATC curves U-shaped?**

- The shapes of AVC and ATC curves are influenced by the shape of MC curve in the short-run.
- The shape of MC curve is U-shaped because of the operation of the law of variable proportions.
- Consequently, AVC and ATC curves are also U-shaped.
- Initially, in the stage of increasing returns when marginal cost curve falls, the AVC and ATC curves also fall.
- After a certain level of output in the stage of diminishing returns when marginal cost curve rises, the AVC and ATC curves also rise.
- Thus, because of the operation of law of variable proportions as output rises, the AVC and ATC curves first fall, reach their minimum and the begin to rise.
- So, in the short-run, MC curve, AVC curve and ATC curve all are U-shaped.

#### **1.7.7.3 Relationship between AC and MC**

Recall the meaning of AC and MC which we have discussed earlier.

Average Cost is simply the total cost (TC) divided by the number of units produced (Q) or it is the cost per unit.

On the other hand, marginal cost is defined as the increment of total cost that comes from producing an increment of one unit of output.

The relationship between AC and MC is illustrated in the following table and diagram below:

Units of Output	TC	AC	MC
0	20	-	-
1	38	38	18
2	50	25	12
3	60	20	10
4	72	18	12
5	85	17	13
6	102	17	17
7	126	18	24
8	160	20	34

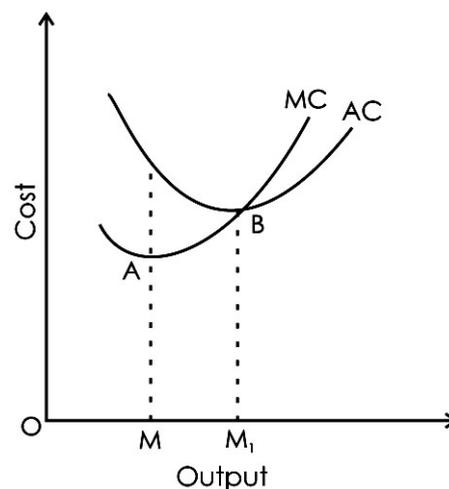


Fig.1.39

The table and diagram reveal the relationship between AC and MC as under :

- (i) When MC is less than AC (or MC curve remains below AC curve), the AC curve falls. For example units 1 to 5 and diagram up to point B (or  $OM_1$  output) show this situation.
- (ii) When MC is equal to AC, AC becomes constant. This is the minimum point of AC, and it is at this minimum point, that MC curve cuts AC from below. In this regard 6th unit in the example and point B in the diagram may be seen. This confirms that MC passes through the minimum point of AC.
- (iii) When MC is higher than AC (or MC curve rises above the AC curve), AC starts rising. It is shown as 6th unit and thereafter in the example and point B onwards in the diagram

Thus, AC-MC relationship can be summarized as follows: So long as MC is below AC, it keeps on pulling AC down; when MC gets to be just equal to AC, AC neither rises nor falls and is at its minimum; and when MC goes above AC, it keeps on pulling AC up.

### 1.7.8 Long - Run Cost

In the long-run, a firm can vary its scale of plant as and when it requires. All factor-inputs are thus variable in this period. Therefore, there are no fixed cost curves in the long-run. All cost curves in the long-run are basically variable cost curves. Here we find the following cost curves : Long-run Total Cost (LTC) curve; Long-run Average Cost (LAC) curve; and Long-run Marginal Cost (LMC) curve.

**Long-run Average Cost Curve:**

- A firm has a fixed scale of plant in the short-run.
- A short-run Average Cost (SAC) curve corresponds to a particular scale of plant.
- In the short-run, the firm can operate only on a particular scale of plant.
- In the long-run a firm can choose among possible sizes of plant or it can move from one scale of plant to the other scale of plant.
- The choosing of the scale of plant is depends on the quantity of output that a firm wants to produce.
- A firm would like to produce a given level of output at the minimum possible cost.
- The firm would like to build its scale of plant in accordance with the quantity of output in such a way that it can minimise its average cost.
- Suppose a firm can have three possible scales of plant which are shown by  $SAC_1$ ,  $SAC_2$  and  $SAC_3$  curves in the diagram.
- In the long-run, a firm can choose any scale of plant out of these three plants.
- The choice of the scale of plant will depend on the quantity of output.

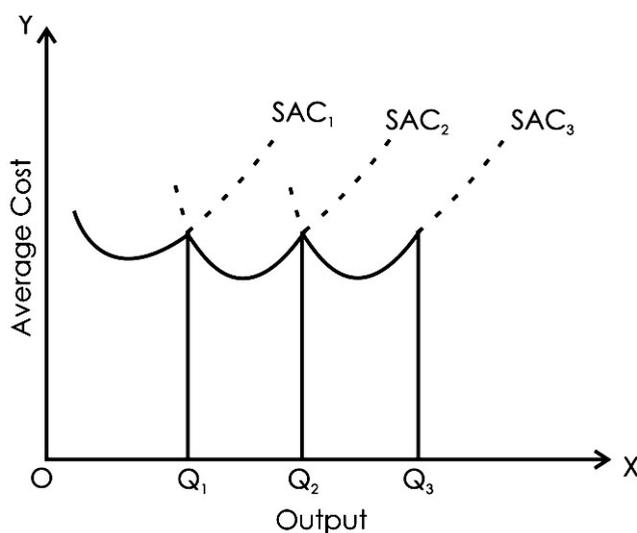


Fig.1.40

- Upto  $OQ_1$  quantity of output, the firm will operate on the  $SAC_1$  scale of plant because it gives the minimum average cost.
- The output larger than  $OQ_1$  but less than  $OQ_2$  will be produced at  $SAC_2$  scale of plant.
- If the firm wants to produce the output larger than  $OQ_2$  (say  $OQ_3$ ) then it will operate on  $SAC_3$  scale of plant.
- In the long-run a firm will choose that scale of plant which yields minimum possible average cost for producing a given level of output.
- Given that only three sizes of plants (as shown in the diagram above) are possible, then the bold dark portion of these SAC curves forms long-run average cost curve.
- Thus each point on this LAC represents the least average cost for producing that level of output.

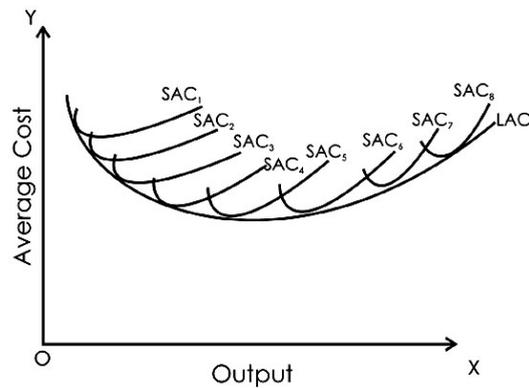


Fig.1.41

- Suppose instead of three plant sizes, there are infinite number of plants corresponding to which there will be numerous short-run average cost curves.
- Here the long-run average cost (LAC) curve will be a smooth and continuous line as shown in the diagram above.
- The curve will be tangent to each of the short-run average cost curves.
- The curve shows the least possible average cost of producing any output, when the scale of plants can be varied.
- The LAC curve is also called 'envelop curve' as it envelopes a family of short-run average cost curves from the below.
- The LAC curve is also termed as 'planning curve' because a firm plans to choose that short-run plant which allows it to produce the expected output at the minimum cost in the long-run.

### Long-run Marginal Cost Curve

Long-run marginal cost indicates the increase in long-run total cost resulting from one unit increase in output. Thus,

$$LMC = LTC_n - LTC_{n-1}$$

Here, LMC = Long-run marginal cost

$LTC_n$  = Long-run total cost of n units of output

$LTC_{n-1}$  = Long-run total cost of n-1 units of output.

#### 1.7.8.1 Relationship between LAC and LMC

It should also be noted here that the relationship between LAC curve and LMC curve is the same as that

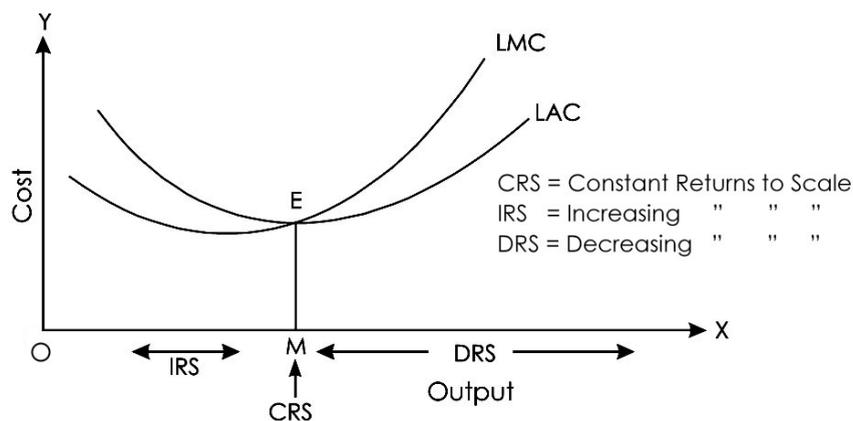


Fig.1.42

between SAC curve and SMC curve. Thus, when LMC curve lies below the LAC curve, the latter will be falling and when the LMC curve lies above the LAC curve, the latter will be rising. And the LMC curve cuts the LAC curve at its minimum point. LAC and LMC curves are also U-shaped curves. But they are flatter than the short-run cost curves. This is shown in Fig. 1.42.

### 1.7.8.2 Why is LAC curve U-shaped?

<p><b>Increasing Returns to Scale</b></p>	<ul style="list-style-type: none"> <li>• The LAC curve is U-shaped to scale.</li> <li>• As we increase the scale of operation in the initial stages we get increasing returns to scale (IRS) as a result of economies of scale.</li> <li>• IRS means that the increase in output is more than proportionate to the increase in factor-inputs.</li> <li>• It implies that for a given rate of increase in output (say 20%) the requirement of increase in factor-inputs is definitely less than proportionate (say 15%).</li> <li>• Hence the LAC falls as output is increased.</li> <li>• It happens in the output range O to M in the diagram.</li> </ul>
<p><b>Decreasing Returns to Scale</b></p>	<ul style="list-style-type: none"> <li>• Beyond a certain point we get decreasing returns to scale (DRS) as a result of diseconomies of scales.</li> <li>• Now LAC rises with the increase in output.</li> <li>• It happens at output levels higher than M in the diagram.</li> </ul>
<p><b>Constant Returns to Scale</b></p>	<ul style="list-style-type: none"> <li>• Increasing returns to scale and economies cause the LAC to fall in the initial stage.</li> <li>• After a certain point, decreasing returns to scale and diseconomies cause the LAC to rise.</li> <li>• When economies and diseconomies of scale offset each other, it is the stage of constant returns to scale (CRS).</li> <li>• Here LAC also becomes constant and does not change with the change in output.</li> <li>• It happens at M level of output.</li> </ul>

### 1.7.9 Economies and Diseconomies of Scale

We have already said that the U-shape of LAC curve is because of returns to scale. And returns to scale is the result of economies and diseconomies of scale. With the expansion of the scale of production firms get certain advantages, these are termed as economies of large scale production. But when the scale of production exceeds a certain limit, it leads to disadvantages or diseconomies of scale to the firms. Thus the firms get economies and diseconomies of scale with the expansion of output. These are termed as economies and diseconomies of large scale production. Economies refer to the saving in per unit cost as output increases. On the other hand, diseconomies refer to the disserving in the per unit cost as output increases.

Economies and diseconomies of scale are broadly classified into two groups:

- (A) Internal economies and diseconomies
- (B) External economies and diseconomies.



These are discussed as below:

### **(A) Internal Economies and Diseconomies**

Economies and diseconomies that accrue to a firm out of its internal situation when its scale increase are termed as internal economies and diseconomies. Now we shall discuss them in detail.

#### • **Internal Economies**

Internal Economies that accrue to a particular firm with the expansion of its output and scale are termed as internal economies. Internal economies of a firm are independent of the action of other firms. They are internal in the sense that they are limited to a firm when its output increases. They are not shared by other firms in the industry. Following are the main types of internal economies:

- (i) Labour Economies** – Division of labour and specialization are possible more in large-scale operations. Different types of workers can specialize and do the job for which they are more suited. A worker acquires greater skill by devoting his attention to a particular job. As a result of this quality and speed of work both improve.
- (ii) Technical Economies** – The main technical economies result from the indivisibilities. Several capital goods, because of the strength and weight required, will work only if they are of a certain minimum size. There is a general principle that as the size of a capital good is increased, its total output capacity increases far more rapidly than the cost of making it.
- (iii) Marketing Economies** – Marketing economies arise from the large scale purchase of raw materials and other inputs. A firm may receive large discounts on the purchase of bigger volume of raw materials and intermediate goods. Marketing economies can also be reaped by the firm in its sales promotion activities. Advertising space (in newspapers and magazines) and time (on television and radio), and the number of salesmen do not have to rise proportionately with the sales. Thus per unit selling cost may also fall with the increase in output.
- (iv) Managerial Economies** – Managerial economies arise from specialization of management and mechanisation of managerial functions. Large firms make possible the division of managerial tasks. This division of decision—making in large firms has been found very effective in the increase of the efficiency of management.
- (v) Financial Economies** – Large firms can easily raise timely and cheap finance from banks and other financial institutions and also from the general public by issue of shares and debentures.
- (vi) Risk-bearing Economies** – A large firm can more successfully withstand the risks of business. With the product diversification and by operating in several markets a large firm can withstand the risk of changing consumer's tastes and preferences.
- (vii) Economies Related to Transport and Storage Costs** – Large firms are able to enjoy freight concessions from railways and road transport. Because a large firm uses its own transport means and large vehicles, the per unit transport costs would fall. Similarly, a large firm can also have its own storage godowns and can save storage costs.
- (viii) Other Economies** – A large firm may also enjoy some other economies with the expansion of its output. Prominent among them are economies on conducting research and development activities and economies of employee welfare schemes.

As a result of all these internal economies firm's long-run average and marginal cost decline with the increase in output and scale of production.

- **Internal Diseconomies**

Internal Diseconomies are those disadvantages which are internal to the firm and accrue to the firm when it over expands its scale of production. The main internal diseconomies of scale are as follows : -

- (i) **Management Diseconomies and Diseconomies Related to Division of Labour** – These diseconomies occur primarily because of increasing managerial difficulties with too large a scale of operations. It becomes difficult for the top management to exercise control and to bring about proper coordination.
- (ii) **Technical Diseconomies** – If a firm frequently changes in its technologies and uses new technologies and new machines, it may increase its costs. After a certain limit, the large size or volume of the plant and machinery may also prove disadvantageous.
- (iii) **Risk-taking Diseconomies** – The business cannot be expanded indefinitely because of the “principle of increasing risk”. The risk of the firm increases because of reduction in demand, change in fashion and introduction of new substitutes in the market.
- (iv) **Marketing Diseconomies** – A large firm is forced to spend more on bringing and storing of raw materials and selling of finished goods in the distant markets.
- (v) **Financial Diseconomies** – A large firm has to borrow a large amount of money even at higher rate of interest. It imposes a burden on the financial position of the firm.

- **Impact of Internal Economies and Diseconomies on the LAC Curve**

When a firm accrues internal economies with the expansion of its scale of output, the LAC curve would fall. And when after a certain point, a firm receives internal diseconomies with the expansion of its scale of output, the LAC curve would rise.

Thus, internal economies cause the LAC to fall and internal diseconomies cause the LAC to rise. Hence the internal economies and diseconomies are responsible for the U-shaped of the LAC curve. It is shown in the diagram.

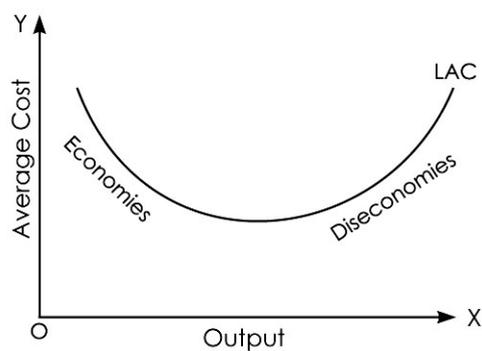


Fig.1.43

**(B) External Economies and Diseconomies**

Economies which accrue to the firms as a result of the expansion in the output of the whole industry are termed external economies. They are external in the sense that they accrue to the firms not out of its internal situation but from outside it i.e., from expansion of the industry. Jacob Vinor has defined external economies as ‘those which accrue to particular concerns as the result of expansion of output by the industry as a whole and which are independent of their own individual output’. Following are the main forms of external economies.



- (i) **Economies of Localisation/Concentration** - When an industry develops in a particular region, it brings with it all the advantages of localization. All the firms of this industry get the following main advantages:
- (a) Easy availability of skilled manpower;
  - (b) Improvement in transportation and communication facilities;
  - (c) Availability of banking, insurance and marketing services;
  - (d) Better and adequate sources of energy-electricity and power;
  - (e) Development of ancillary industries.
- (ii) **Economies of Disintegration/Specialisation** – The industry can have advantages from the economies of specialization when each firm specializes in different processes necessary for producing a product. For instance in a cloth industry some firms can specialise in spinning, others in printing etc. As a result of specialisation all the firms in the industry would be benefited.
- (iii) **Economies related to Information Services** – Firms in an industry can jointly set-up facilities for conducting research, publication of trade journals and experimentation related to industry. Thus, besides providing market information, the growth of the industry may help in discovering and spreading improved technical knowledge.
- (iv) **Economies of Producer's Organisation** – Firms of an industry may form an association. Such an association can have their own transport, own purchase and marketing departments, own research and training centres. This will help to reduce costs of production to a great extent and shall be mutually beneficial.

- **External Diseconomies**

Diseconomies which accrue to the firms as a result of the expansion in the output of the whole industry are termed external diseconomies. The main external diseconomies are as follows:

- (i) **Increase in input price** – When the industry expands, the demand for factor-inputs increases. As a result the input prices (such as wages, prices of raw materials and machinery equipments, interest rates, transport and communication rates etc.) shoot up. This causes the cost of production to rise.
- (ii) **Pressure on Infrastructure Facilities** – Concentration of firms in a particular region creates undue pressure on the infrastructure facilities – transportation, water, sanitation, power and electricity etc. As a result, bottlenecks and delays in production process become frequent which tend to raise per unit costs.
- (iii) **Diseconomies due to Exhaustible Natural Resources** – Diseconomies may also arise due to exhaustible natural resources. Doubling the fishing fleet may not lead to a doubling of the catch of fish; or doubling the plant in mining or on an oil-extraction field may not lead to a doubling of output.
- (iv) **Diseconomies of disintegration** – When the production of a commodity is disintegrated among various processes and sub-process, it may prove disadvantageous after a certain limit. The problem and fault in any one unit may create limit. The problem and fault in any one unit may create problem for whole of the industry. Coordination among different concerns also poses a problem.

As a result of external diseconomies, the LAC curve of the firms in an industry shifts upward.

- **Impact of External Economies and Diseconomies on the LAC Curve**

- (i) As a result of external economies, the LAC curve of the firms shifts downwards. It is shown in the diagram below that because of external economies, LAC curve shifts downward from  $LAC_1$  to  $LAC_2$ .
- (ii) As a result of external diseconomies, the LAC curve of the firms shifts upwards. It is shown in the diagram below that because of external diseconomies, LAC curve shifts upwards from  $LAC_1$  to  $LAC_3$ .

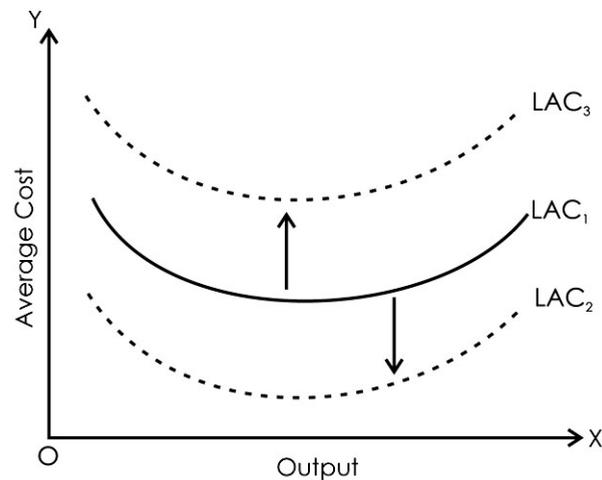


Fig.1.44

Thus in short, internal economies and diseconomies of scale affect the shape of the LAC curve and make it U-shaped. On the other hand, external economies and diseconomies cause the LAC curve to shift downward or upward, as the case may be.



## EXERCISE

1. Define the subject 'economics'. Give the definition of economics, as given by 'Adam Smith', Alfred Marshall, Lionel Robbins.
2. Why is economics a science and an art?
3. Why is economics called a positive and normative science?
4. Define micro and macro economics.
5. Define the terms : Utility, wealth.
6. Distinguish between total and marginal utility.
7. What is the difference between income and wealth?
8. Name the four factors of production.
9. What is 'demand function'?
10. State the 'law of demand'
11. Explain the 'law of demand' with the help of a demand schedule & demand curve.
12. State the major assumption to the law of demand.
13. Explain the exceptions to the law of demand.
14. Why is the demand curve negatively sloped? State any 6 causes.
15. What are giffin goods?
16. State with the help of diagrams the concept of 'movement along the demand curve' and 'shift of the demand curve'.
17. Define elasticity of demand. State the methods of measuring price elasticity of demand.
18. What are the types of price elasticity of demand?
19. Define income and Cross elasticity of demand.
20. State the determinants of price elasticity.
21. State the law of diminishing marginal utility.
22. Define 'supply'. How is supply different from stock?
23. Show the concept of movement and shift of supply.
24. State the meaning of elasticity of supply.
25. What do you mean by the term 'equilibrium price' and how is it determined with the help of demand and supply.
26. What do you mean by production function? Name the 2 types of production function.
27. State the different items of cost.
28. What is the meaning of 'opportunity cost'?
29. What are implicit costs and explicit costs?
30. How are 'fixed costs' different from 'variable costs'?
31. What is the meaning of economics and diseconomics of scale? Explain the 'law of variable proportions' and state the differences between this law and the laws of 'returns to scale'.



# Study Note - 2

## FORMS OF MARKET



### This Study Note includes

- 2.1 Various Forms of Market
- 2.2 Concepts of Total Revenue, Average Revenue & Marginal Revenue
- 2.3 Pricing in Perfect Competition
- 2.4 Pricing in Imperfect Competition

### 2.1 VARIOUS FORMS OF MARKET

#### Market

- In economics, market means a social system through which the sellers and purchasers of a commodity or a service (or a group of commodities and services) can interact with each other.
- They can participate in sale and purchase.
- Market does not refer to a particular place or location.
- It refers to an institutional relationship between purchasers and sellers.
- Market is an arrangement which links buyers and sellers.
- A market can be of different types.
- The market differ from one another due to differences in the number of buyers, number of sellers, nature of the product, influence over price, availability of information, conditions of supply etc.

Economists discuss four broad categories of market structures:

1. Perfect Competition
2. Monopoly
3. Monopolistic Competition
4. Oligopoly

#### 2.1.1 Perfect Competition

A market is said to be Perfectly Competitive if it satisfies the following features:-

- (i) **Large number of buyers and sellers** : Under perfect competition, there exists a large number of sellers and the share of an individual seller is too small in the total market output. As a result a single firm cannot influence the market price so that a firm under perfect competition is a price taker and not a price maker. Similarly, there are a large number of buyers and an individual buyer buys only a small portion of the total output available.
- (ii) **Homogenous goods**: Under perfect competition all firms sell homogenous goods which are identical in quantity, shape, size, colour, packaging etc. So the products are perfect substitutes of each other.

- (iii) **Free entry and free exit** : Any firm can enter or leave the industry whenever it wishes. The condition of free entry and free exit ensures that all the firms under perfect competition will earn normal profits in the long run. If the existing firms are earning supernormal profits, new firms would be attracted to enter the industry and increases the total supply. This will reduce the market price and the supernormal profit will not sustain. On the other hand if the existing firm incur supernormal loss then firms would leave the industry, thus reducing the supply. As a result, price will again rise and the loss will be wiped out.
- (iv) **Profit maximization** :- The goal of all firms is maximization of profit.
- (v) **No Government regulation** :- There is no Government intervention in the market.
- (vi) **Perfect mobility of factors** :- Resources can move freely from one firm to another without any restriction. The labours are not unionized and they can move between jobs and skills.
- (vii) **Perfect knowledge** :- Individual buyer and seller have perfect knowledge about market and information is given free of cost. Each firm knows the price prevailing in the market and would not sell the commodity which is higher or lower than the market price. Similarly, each buyer knows the prevailing market price and he is not allowed to pay a higher price than that. The firm also has a perfect knowledge about the techniques of productions. Each firm is able to make use of the best techniques of production.

### 2.1.2 Imperfect Competition

Imperfectly competitive markets may be classified as : (i) Monopoly, (ii) Monopolistic Competition, (iii) Oligopoly and (iv) Duopoly

#### (1) Monopoly

Monopoly refers to the market situation where there is one seller and there is no close substitute to the commodities sold by the seller. The seller has full control over the supply of that commodity. Since there is only one seller, so a monopoly firm and an industry are the same.

##### Features :

- (i) **Single seller and large number of buyers** : Under monopoly there is one seller and therefore a firm faces no competition from other firms. Though there are large numbers of buyers, no single buyer can influence the monopoly price by his action.
- (ii) **No close substitute** : Under monopoly there is no close substitute for the product sold by the monopolist. According to Prof. Boulding, a pure monopolist is therefore a firm producing a product which has no substitute among the products of any other firms.
- (iii) **Restriction on the entry of new firms** : Under monopoly new firms cannot enter the industry.
- (iv) **Price maker** :- A monopoly firm has full control over the supply of its products and hence it has full control over its price also. A monopoly firm can influence the market price by varying its supply, for eg., It can make the price of its product by supplying less of it.
- (v) **Possibility of Price Discrimination** : Price discrimination is defined as that market situation where a single seller sell the same commodity at two different prices in two different markets at the same time, depending upon the elasticity of demand on the two goods in their respective market. Under such circumstances a monopolist can incur supernormal loss then firms would leave the industry, thus reducing the supply. As a result, price will again rise and the loss will be wiped out.

#### (2) Monopolistic Competition

It is that form of market in which there are large numbers of sellers selling differentiated products which are similar in nature but not homogenous, for eg., the different brands of soap. These are closely related goods with a little difference in odour, size and shape. We separate them from



each other. The concept of monopolistic competition was developed by an American economist "Chamberline". It is a combination of perfect competition and monopoly.

**Features :**

- (i) **Large number of sellers and buyers :** In monopolistic competition the number of sellers is large and each other act independently without any mutual dependence. Here the action of an individual firm regarding change in price has no effect on the market price. The firms under monopolistic competition are not price takers.
- (ii) **Product Differentiation :** Most of the firms under monopolistic sale products which are not homogenous in nature but are close substitutes. Products are differentiated from each other in the following ways:
  - (a) **Real Differentiation :** These types of product differentiation arises due to differences in the quality of inputs used in making these products, differences in location of firms and their sales service.
  - (b) **Artificial Differentiation :** It is made by the sellers in the minds of the buyers of those products through advertisements, attractive packing, etc.
- (iii) **Non-price competition :** In this case, different firms may compete with each other by spending a huge sum of money on advertisements keeping the product prices unchanged.
- (iv) **Selling Cost :** Expenditure incurred on advertisements and sales promotion by a firm to promote the sale of its product is called selling cost. They are made to persuade a particular product in preference to other products. Some advertisements have become so popular that people use a brand name to describe the product, for eg., brand name is used to describe all types of washing powder.
- (v) **Free entry and free exit :** There are no restrictions on the entry of new firms and the firms decide to leave the industry. Every firm under monopolistic competition earns only normal profits in the long run and there arises no supernormal profit nor loss.
- (vi) **Independent price policy :** A firm under monopolistic competition can influence the price of the commodity to some extent and hence they face an inverse relationship between price and quantity. In this case the price elasticity of demand would be relatively elastic because of the existence of many substitutes.

**(3) Oligopoly**

Oligopoly is a market situation in which there are few firms producing either differential goods or closely differential goods. The number of firms is so small that every seller is affected by the activities of the others.

**Features :**

- (i) **Few Sellers :** There are few sellers in oligopoly market, such that number of sellers is small that each and every seller is affected by the activities of the others.
- (ii) **Interdependence :** Interdependence among firms is the most important characteristic under Oligopoly. The number of sellers is so less in the market that each of these firms contribute a significant portion of the total output. As a result, when any one of them undertakes any measure to promote sales, it directly affect other firms and they also immediately react. Hence every firm decides its policy after taking into consideration the possible reaction of the rival firm. Thus every firm is affected by the activities of the other firms and this is called interdependence of firm.
- (iii) **Nature of Product :** A firm under oligopoly may produce homogenous goods which is called oligopoly without product differentiation for eg. Cooking gas supplied by Indian Oil & HP.

Oligopoly may also produce differential products which is called oligopoly with product differentiation for eg. Automobile Industry.

**(iv) Barrier to Entry :** The existence of oligopoly in the long run requires the existence of barrier to the entry of the new firms. Several factors such as unlimited size of the market, requirement of huge initial investment etc. creates such barrier upon the entry of new firms.

#### **(4) Duopoly**

It is a specific type of oligopoly where only two producers exist in one market. In reality, this definition is generally used where only two firms have dominant control over a market. Duopoly provides a simplified model for showing the main principles of the theory of oligopoly: the conclusions drawn from analysing the problem of two sellers can be extended to cover situations in which there are three or more sellers. If there are only two sellers producing a commodity a change in the price or output of one will affect the other; and his reactions in turn will affect the first. In other words, in duopolies there are two variables of interest: the prices set by each firm and the quantity produced by each firm.

## **2.2 CONCEPTS OF TOTAL REVENUE, AVERAGE REVENUE AND MARGINAL REVENUE**

The term revenue refers to the receipts obtained by a firm from the sale of certain quantities of a commodity at various prices. The revenue concept relates to total revenue, average revenue and marginal revenue.

**2.2.1 Total Revenue (TR)-** Total revenue is the total sale proceeds of a firm by selling certain units of a commodity at a given price.

If a firm sell 10 units of a commodity at ₹ 20 each, Then  $TR = 20 \times 10 = ₹ 200.00$

Thus total revenue its price per unit multiplied by the number of units sold.

**TR = P x Q** where P - Price per unit Q - Quantity sold.

**2.2.2 Average Revenue (AR) -** Average Revenue is the revenue earned per unit of output. Average Revenue is found out by dividing the total revenue by the number of units sold.

$$AR = TR/Q$$

$$TR = P.Q$$

Thus  $AR = P.Q/Q = P$

**2.2.3 Marginal Revenue -** Marginal Revenue is the change in total revenue resulting from sale of an additional unit of the commodity.

e.g If a seller realises ₹ 200.00 after selling 10 units and ₹225 by selling 11 units, we say  $MR = (225.00 - 200.00) = ₹ 25.00$

Mathematically it can be expressed as **MR = dTR/ dQ**

Where d is the rate of change.

## **2.3 PRICING IN PERFECT COMPETITION**

### **2.3.1 Firm's Equilibrium under Perfect Competition**

- A firm is a small producing unit.
- It supplies too small portion of the total product to influence price.
- By increasing or decreasing its contribution, it can hardly influence total supply and hence price.

- So a firm is said to be a Price Taker in the sense that it sells at the current market price as determined by the Industry.
- In determining its equilibrium output the firm is guided by the objective of profit maximization.
- The firm's strategy in this respect differs between short period and long period.

### 2.3.2 A Competitive Firm is not a Price Determinator, but an output Adjustor

- In Perfect Competition there are large numbers of firms producing homogenous goods.
- An individual firm in such market supplies a very small part of the total market supply.
- So, by changing its supply it cannot affect the price.
- The firms have no independent price making power.
- They cannot fix the price according to their wishes.
- Firms are bound to accept the price as determined by the industry.
- A firm is said to be a price taker because it accept the price from the market as a whole.
- In this sense the firms are Output Adjustor.
- A firm will produce the output where its profit is maximum.
- Price is given and so at the current price the firm can sell as much or as little as it wishes.
- Whether the output is large or small, price per unit will remain the same.
- Since price being fixed for all the units, the firm's price will be equal to average revenue and marginal revenue ( $P = AR = MR$ ). This can be shown by the following table –

i.e.

$$TR = PQ$$

$$AR = \frac{TR}{Q} = P$$

$$MR = \frac{\Delta TR}{\Delta Q} = P$$

$$\therefore AR = MR = P$$

Units	Price per unit	Total revenue	Average revenue	Marginal revenue
50	₹ 5	₹ 250	₹ 5	-
51	₹ 5	₹ 255	₹ 5	₹ 5
52	₹ 5	₹ 260	₹ 5	₹ 5
53	₹ 5	₹ 265	₹ 5	₹ 5

From this table it appears that a firm's price is equal to AR and MR. Further they are equal for all units of output. Hence the price curve is a horizontal straight line parallel to X-axis.

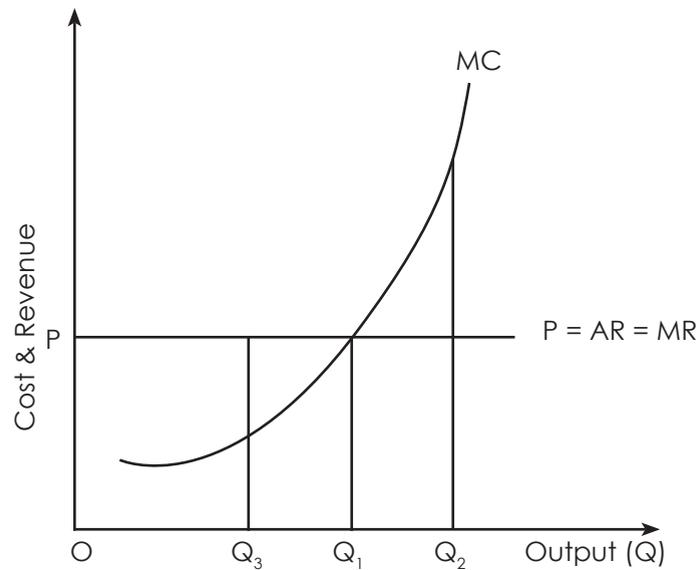


Fig. 2.1: Price Determination

- With a given price a firm in such a market produces the output up to the point where  $MR = MC$ .
- This is shown by the above graph.
- In this graph, when the firm produces  $OQ_1$  its  $MR = MC$ .
- If it produces more than this quantity then for every unit it must have to suffer loss because  $MC$  will be more than  $MR$ .
- This is shown by the output  $OQ_2$ .
- Similarly if it produces output lesser than  $OQ_1$  it will enjoy excess profit because  $MC$  will be less than  $MR$ .
- The firm will therefore, get incentive to produce more.
- Thus a firm under perfect competition produces up to the point where  $MR = MC$ .
- The equality of  $MR = MC$  is a necessary but not a sufficient condition.
- The sufficient condition is that  $MC$  must cut  $MR$  from below as it is shown in the above graph.
- If  $MC$  cuts  $MR$  from above then the point of intersection will not be the point of equilibrium output as the firm will be able to earn more profit by producing more.

### 2.3.3 Determination of Equilibrium Price and Output of a firm under Perfect Competition

Perfect Competition (PC) is that market form which is characterized by many sellers selling homogenous goods at uniform prices. Under such a market a single firm cannot make its price, whereas the price is decided by the industry consisting of all such firms.

Therefore a single firm under PC is a price taker and not a price maker. How the equilibrium price is determined by a firm under PC is shown below :

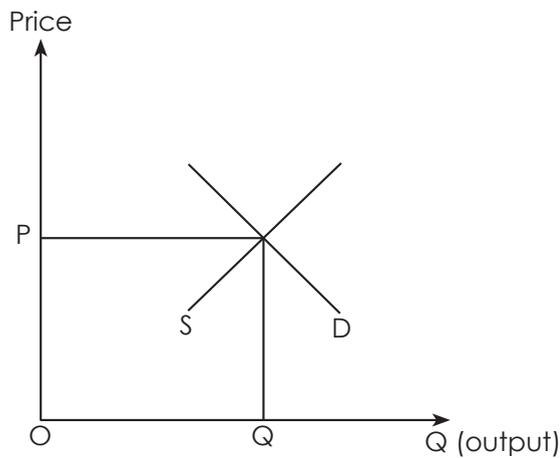


Fig. 2.2a

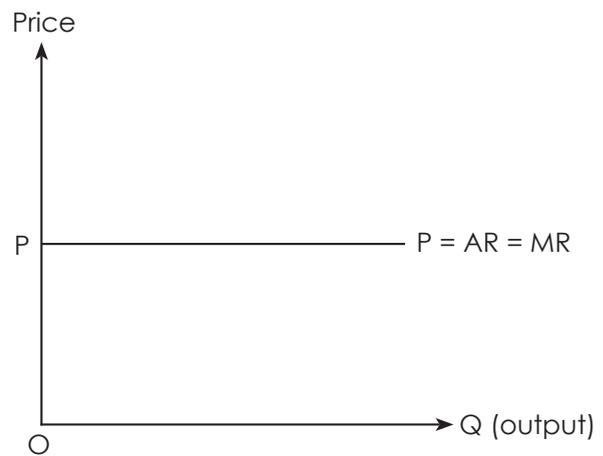


Fig. 2.2b

In fig(2.2a) point e is the equilibrium point of the industry where aggregate demand (D) = aggregate supply(S). The equilibrium price is OP which is decided by the industry has to be accepted by all firms in that industry as shown in fig (2.2b).

Under PC since several firms sell the same goods and there is a provision for free entry and free exit of the firm. Therefore per unit price = AR = MR.

[under PC,  $P = AR = MR$ ]

### 2.3.4 Equilibrium under Short Run & Long Run

In order to find out equilibrium price and output of a firm under PC in the short run. There are two conditions.

- (i)  $MC = MR$ .
- (ii) MC curve cuts the MR Curve from below.

In the short run, there may be a situation of super normal profits or losses.

**(a) In case of Super Normal Profit** — When the AR of the firm exceeds the AC of the firm (i.e. when AC lies below the AR curve), Then there arises super normal profit. This is explained with the following diagram:

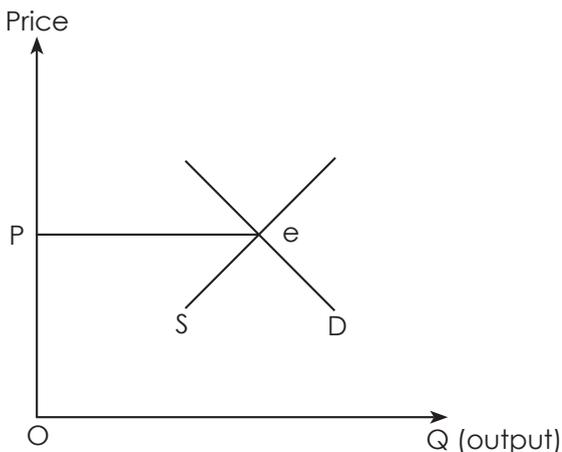


Fig. 2.3a

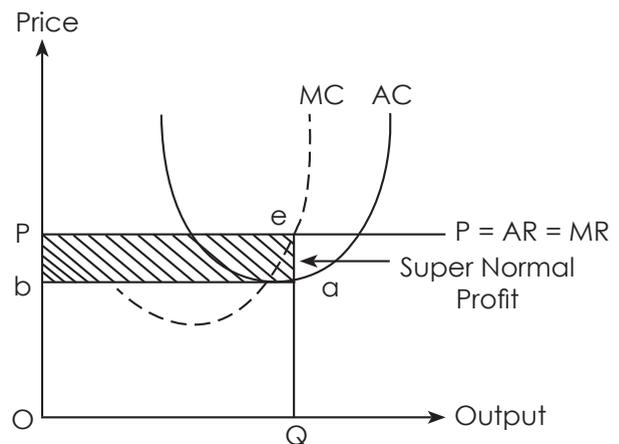


Fig. 2.3b

In Fig (2.3a) the equilibrium price  $OP$  which is found out by the intersection of  $D$  &  $S$  at the industry level which has to be accepted by all the firms belonging to that industry.

So, the equilibrium price of the firm is  $OP$  [Fig(2.3b)] point  $e$  is the equilibrium point where  $MC = MR$  and  $MC$  cuts  $MR$  from below. Therefore the total amount of Super Normal Profit is calculated below:

$$\text{Total Profit} = TR - TC$$

$$= (AR \times Q) - (AC \times Q)$$

$$= (eQ \times OQ) - (aQ \times OQ)$$

$$= PeQO - baQO.$$

$$= \text{peab (shaded area).}$$

Where

$baQO = \text{Total Cost}$

$PeQO = \text{Total Revenue}$

**(b) Loss :** In case of loss the  $AC$  of the firm has to be greater than  $AR$ . It is explained in the following diagram:

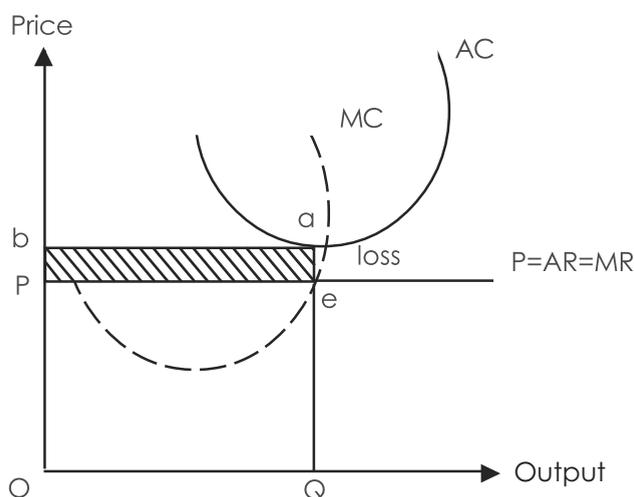


Fig - 2.4

In the above diagram we can show that  $AC$  curve lies above the  $AR$  curve. The equilibrium point at  $e$  where  $MC = MR$  &  $MC$  Curve cuts the  $MR$  Curve from below. Therefore  $OQ$  is the equilibrium quantity & the amount of loss is calculated as follows :

$$\text{Total Loss} = TC - TR$$

$$= (AC \times Q) - (AR \times Q)$$

$$= (aQ \times OQ) - (eQ \times OQ)$$

$$= baQO - PeQO$$

$$= \text{Peab (shaded area)}$$

Where

$baQO = \text{Total Cost}$

$PeQO = \text{Total Revenue}$

## (ii) Long Run

A Firm is said to be in equilibrium in the long run when  $P = AR = MR = MC = AC$ . Therefore under  $PC$  in the long run there exists normal profit and no super normal profits or losses exists. Existence of super normal profits in the short run attract more firm to the industry and thus aggregate supply will rise which will reduce the price and hence the sustained super normal profit will disappear.

On the other hand if there is an event of loss then the existing firms will gradually leave the industry and as a result the supply will fall, price will rise and the super normal loss will be wiped out.

## 2.4 PRICING IN IMPERFECT COMPETITION

### 2.4.1 Equilibrium Price and Output Determination under Monopoly

In case of a monopoly firm or industry there is a downward sloping demand curve or average revenue curve which suggests that a monopolist can reduce his unit price to encourage more sales. In case of monopoly the AR & MR curves are downward sloping and the MR curve lies below the AR curve, as shown below :

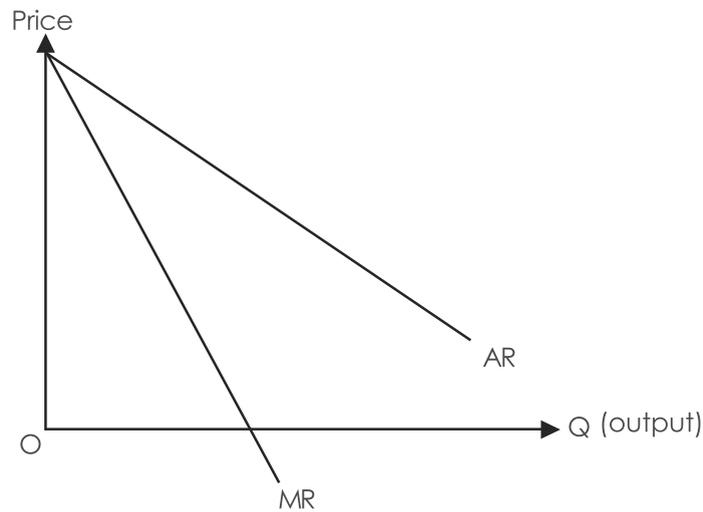


Fig. 2.5

In a monopoly market the conditions of equilibrium are - (i)  $MC = MR$  & (ii) MC curve cuts MR curve from below:

To explain the different situation of profit & losses under monopoly, we explain the following cases :

**(a) Super normal profit** – If a monopoly earns super normal profit then the AC curve will lie below the AR curve.

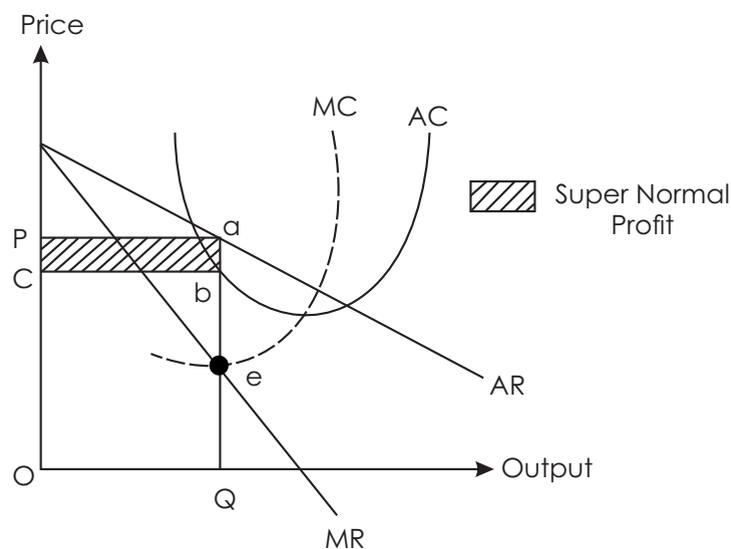


Fig.2.6

In the above diagram we measure output along the x-axis & revenue and cost on the y-axis pt e is the equilibrium point where  $MC = MR$  and  $MC$  cuts  $MR$  from below.  $OP$  is the equilibrium price and  $OQ$  is the equilibrium quantity. We calculate the total profit as:

$$\begin{aligned}
 \text{Total Profit} &= TR - TC \\
 &= (AR \times Q) - (AC \times Q) \\
 &= (OQ \times OP) - (bQ \times oQ) \\
 &= PaQo - CbQo \\
 &= PabC \text{ (shaded area)}
 \end{aligned}$$

**(b) Loss :** In case of loss the  $AC$  curve lies above the  $AR$ .

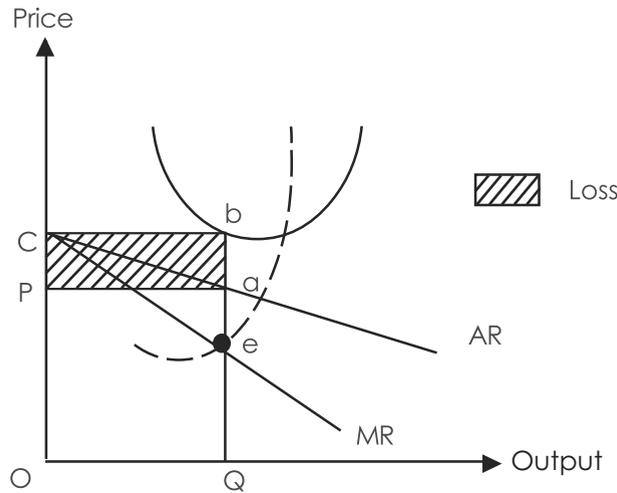


Fig.2.7

In the above diagram  $e$  is the point of equilibrium.  $OP$  is the equilibrium price and  $OQ$  is the equilibrium quantity. The amount of super normal loss is determined as follows:

$$\begin{aligned}
 \text{Total loss} &= TC - TR \\
 &= (AC \times Q) - (AR \times Q) \\
 &= (bQ \times OQ) - (aQ \times OQ) \\
 &= CbQO - PaQO \\
 &= PabC \text{ (shaded region)}
 \end{aligned}$$

**(c) No Super normal profit or loss :** In this situation the  $AR = AC$  and therefore the  $AR$  curve is tangent to the  $AC$  Curve as shown below.

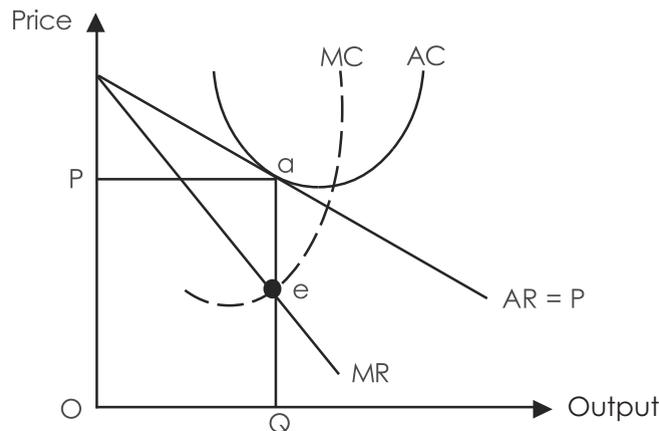


Fig.2.8



In the diagram e is the point of equilibrium, OP is the equilibrium price and OQ is the equilibrium output. The AR curve is tangent to the AC curve at point a and therefore  $AR = AC$  or

$$\begin{aligned} TR &= TC \\ (AR \times Q) &= (AC \times Q) \\ (OQ \times OQ) &= (aQ \times OQ) \end{aligned}$$

Or,  $PaQO = PaQO$

#### 2.4.2 Price Discrimination under Monopoly

- Sometimes the monopolist charges different prices to different consumers for the same commodity.
- A company producing electricity may charge one price for domestic consumers and another for industrial consumers.
- Sometimes, in order to capture a foreign market, a monopolist keeps the export price lower than the price in the domestic market. (This is called 'dumping').
- Sometimes exactly the opposite is done. A low price is charged for domestic consumers but the price is raised when the good is sold to a rich foreign nation.
- All these are cases of price discrimination.
- When a monopolist discriminated the price between consumers, the practice is called 'price discrimination'.

#### Classification of Price Discrimination:

Professor Pigou has classified price discrimination into three different types:

<b>Price discrimination of the first degree</b>	<ul style="list-style-type: none"> <li>• The monopolist discriminates price not only between different consumers but also between the different units of purchase by a given consumer.</li> <li>• He extracts the maximum possible price for each unit of his output.</li> <li>• The monopolist has complete knowledge about the market demand curve.</li> <li>• He can charge the maximum price which a consumer is ready to pay for purchasing a given quantity.</li> </ul>
<b>Price discrimination of the second degree</b>	<ul style="list-style-type: none"> <li>• Price does not differ for each unit of purchase.</li> <li>• The consumer is made to pay one price upto a certain amount of purchase and another price for purchases exceeding this amount.</li> <li>• This is known as the principle of block pricing.</li> </ul>
<b>Price discrimination of the third degree</b>	<ul style="list-style-type: none"> <li>• A particular consumer pays a particular price, irrespective of the amount of his purchase.</li> <li>• But the price differs between different consumers (or different groups of consumers).</li> </ul>

Our discussion here will mainly be confined to this third type of price discrimination.

#### When is price discrimination possible?

A monopoly firm can sell the same product at two different prices to two different groups of buyers. This type of price discrimination becomes possible under the following circumstances:

- (a) Different price elasticities of demand :** If the price elasticity of demand is different in two different markets, then such price discrimination becomes easier. The monopolist charges higher price for the product in a market where price elasticity of demand is relatively inelastic. On the other hand, he charges relatively lower price in a market where the price elasticity of demand is relatively elastic.
- (b) Tariff barrier:** If two markets are separated by a tariff wall, the monopolist can follow this principle of price discrimination. For example, the monopolist can sell its product at a lower price in the foreign market, and at a higher price in the domestic market. If there remains high import tariff then it might not be profitable for the domestic buyers to purchase that product at a lower price from the foreign market because they will have to pay a high import tariff on that

imported item. In this situation, products sold by the monopolist will not flow from the low-priced foreign market to the high-priced domestic market.

- (c) Geographical distance between the markets :** Price discrimination is also possible when two markets are separated from one another by geographical distance. In this case, the monopolist can sell its product at a lower price in a distant market and at higher price in the local market. In this case also, any buyer would find it unprofitable to purchase the product from the low priced distant market due to substantial amount of transport cost involved in this process. So, products will not flow from the low-priced distant market to the high-priced local market.
- (d) Impossibility of resale of a product (particularly service items) :** If it is not possible on the part of any buyer to resale the product sold by the monopolist, then the monopolist can easily follow the policy of price discrimination. This happens particularly in case of service items. For example, a renowned doctor can charge different fees for rendering similar service to two different patients. Similarly, a renowned lawyer can fix different service charges for two groups of clients for rendering similar services. Here, such doctors or the lawyers would be regarded as the discriminating monopolists.
- (e) Ignorance of the consumers :** If the consumers remain ignorant about the difference in prices of the same product in two different markets, then also the monopolist can easily follow the policy of price discrimination.
- (f) Typical behaviour of the consumers :** Sometimes the consumers do not pay any importance to the small differences in prices (say, a difference of only 20 paise) of the same product sold by the monopolist to different groups of consumers. In that situation it becomes easier for the monopolist to follow this policy. Again in some cases, a group of consumers consider higher price as an indicator of higher quality (the so called Veblen effect). Such typical behaviour of the consumers creates an opportunity for the monopolist to follow the policy of price discrimination.

### 2.4.3 Price and Output Determination under Monopolistic Competition

#### • Two demand Curves

##### (i) Perceived Demand Curve

This demand shows different combinations between quantity demanded and price such that neither of the form has any further incentive to deviate from their decisions.

##### (ii) Proportional Demand Curve

In this case, this demand curve captures the impact of all firms simultaneously changing the same price and hence it takes into account the effects of the action of rivals.

The following diagrams explains the demand curves.

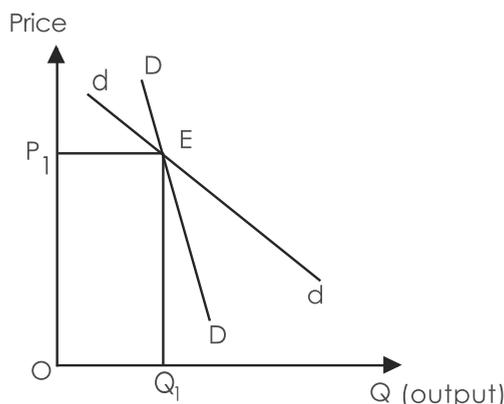


Fig. 2.9

Initially the firm settles at E where the perceived demand curve (dd) and proportional demand curve (DD) intersect. If any firm reduces, its price, it assumes that other firms keep their output

unchanged. Hence, it makes according to perceived demand curves. But actually, all firms simultaneously reduce the prices. Hence, the actual movement is along  $DD$  and perception is along  $dd$ .

• **Equilibrium Condition under Monopolistic Competition**

For short run equilibrium, the following conditions should be satisfied:

- (i)  $MR = MC$ .
- (ii)  $MC$  must cut  $MR$  from below
- (iii) Perceived and proportional demand curves must intersect each other at the point of determination of price and output.

The following diagram represents the above condition:-

Here, equilibrium is attained at  $E$  where  $MR = MC$  and the equilibrium price,  $OP$ , ensures  $DD=dd$ .

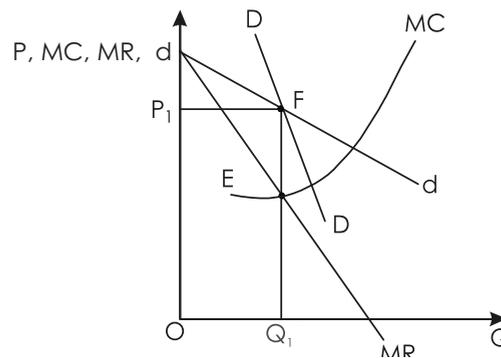


Fig. 2.10

- Long run equilibrium is achieved at the point where  $LMC$  equals  $MR$ .
- The equilibrium output is thus determined  $OQ_{mc}$ .
- At this output,  $AR$  equals  $AC$ .
- The firm gets normal profit by selling  $OQ_{mc}$  output at the price  $OP_{mc}$ .
- It operates less than its full utilization level, this call for the emergence of “Excess Capacity” in the market.
- The industry operates under Increasing Returns to scale as compared to perfect competition (Operates under constant returns to scale).
- The difference between ideal output and actual output captures excess-capacity.

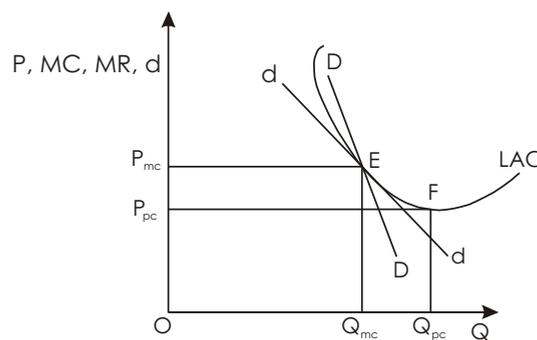


Fig. 2.11

The Fig. 2.11 explains the case.

Hence the difference between  $Q_{pc}$  and  $Q_{mc}$  captures the extent of excess capacity.

### 2.4.4 Price and Output Determination under Oligopoly/Duopoly

We shall now undertake the study of a number of models of oligopoly or duopoly put forward by some classical economists. The theory of non-collusive or uncoordinated oligopoly is one of the oldest theories of competition and monopoly or perhaps of all the theories of the behavior of the individual firm. A model of oligopoly (duopoly case) Cournot's model of oligopoly was subjected to economist, in 1838. Joseph Bertrand, a French mathematician, whose criticism in 1883 by not provided a substitute model of oligopoly.

Traditionally, Oligopoly Models are based on the assumption that an oligopolist's behavior will not affect his rival firm no matter what he does. This is technically termed as conjectural variation.

<b>Cournot's Model</b>	<ul style="list-style-type: none"> <li>• Augustin Cournot, a French economist, published his theory of duopoly in 1838.</li> <li>• The case of two identical mineral springs operated by two owners who are selling the mineral water in the same market.</li> <li>• Their waters are identical.</li> <li>• Therefore, his model relates to the duopoly with homogenous products.</li> <li>• It is assumed by Cournot that the owners operate mineral springs and sell water without any cost of production.</li> <li>• Thus, cost of production is taken as zero.</li> <li>• Only the demand side of the market is analysed.</li> <li>• The duopolists fully know the market demand for the mineral water.</li> <li>• The market demand for the product is assumed to be linear, that is, market demand curve facing the two producers is a straight line.</li> <li>• Cournot begins his analysis with the fundamental assumption that each duopolist believes that regardless of his actions and their effect upon market price of the product, the other will go on producing the same amount of output which he is presently producing.</li> <li>• For determining the output to be produced, he will not take into account reactions of his rival in response to his variation in output.</li> <li>• Cournot's output is two third of competitive output and price is two third of most profitable i.e. monopoly price.</li> <li>• Cournot's Model is criticised on the ground that zero cost of production is unrealistic.</li> </ul>
<b>Stackelberg Model</b>	<ul style="list-style-type: none"> <li>• The producer 1 under duopoly structure incorporates the decision level of his rival.</li> <li>• Incorporates in its own profit function and thereby maximizes profit.</li> <li>• Non-collusion is practiced at large.</li> <li>• Leader-follower relation emerges.</li> </ul>
<b>Bertrand Model</b>	<ul style="list-style-type: none"> <li>• According to Joseph Bertrand, each producers can always lower the price by undertaking the other and uncertainty his supply of output until price is equal to the cost of production.</li> <li>• Here, adjusting variable is price and not output.</li> </ul>
<b>Edgeworth Model</b>	<ul style="list-style-type: none"> <li>• Each duopolist believes that his rival will continue to charge the same price as he is just doing irrespective of what price he himself sets in.</li> <li>• No determinate equilibrium can exist under duopoly.</li> </ul>
<b>Collusive Oligopoly</b>	<ul style="list-style-type: none"> <li>• Each producer gains by colluding with each other.</li> <li>• A cartel is formed when firms jointly fixes price and output with a view to maximize joint profit.</li> <li>• For example OPEC countries form a cartel to jointly control the supply of oil like a pure monopolist and maximize joint profits.</li> <li>• It ensures that co-operation is always better than non-cooperation.</li> </ul>

### 2.4.5 Pricing Strategies

- **Cost-plus pricing**

Cost-plus pricing is the simplest pricing method. The firm calculates the cost of producing the product and adds on a percentage (profit) to that price to give the selling price. This method although simple but has two flaws; it takes no account of demand and there is no way of determining if potential customers will purchase the product at the calculated price.

- **Limit pricing**

A limit price is the price set by a monopolist to discourage economic entry into a market, and is illegal in many countries. The limit price is the price that the entrant would face upon entering as long as the incumbent firm did not decrease output. The limit price is often lower than the average cost of production or just low enough to make entering not profitable.

- **Penetration pricing**

Setting the price low in order to attract customers and gain market share. The price will be raised later once this market share is gained.

- **Price discrimination**

Setting a different price for the same product in different segments to the market. For example, this can be for different classes, such as ages, or for different opening times.

- **Psychological pricing**

Pricing designed to have a positive psychological impact. For example, selling a product at ₹ 3.95 or ₹ 3.99, rather than ₹ 4.00.

- **Dynamic pricing**

A flexible pricing mechanism made possible by advances in information technology, and employed mostly by Internet based companies.

- **Price leadership**

An observation made of oligopolistic business behavior in which one company, usually the dominant competitor among several, leads the way in determining prices, the others soon following. The context is a state of limited competition, in which a market is shared by a small number of producers or sellers.

- **Target pricing**

Pricing method whereby the selling price of a product is calculated to produce a particular rate of return on investment for a specific volume of production. The target pricing method is used most often by public utilities, like electric and gas companies, and companies whose capital investment is high, like automobile manufacturers.

- **Absorption pricing**

Method of pricing in which all costs are recovered. The price of the product includes the variable cost of each item plus a proportionate amount of the fixed costs and is a form of cost-plus pricing.

- **High-low pricing**

Method of pricing for an organization where the goods or services offered by the organization are regularly priced higher than competitors, but through promotions, advertisements, and or coupons, lower prices are offered on key items. The lower promotional prices are designed to bring customers to the organization where the customer is offered the promotional product as well as the regular higher priced products.

- **Marginal-cost pricing**

In business, the practice of setting the price of a product to equal the extra cost of producing an extra unit of output.

## PROBLEMS ON FIRMS, PROFIT, COST AND PRODUCTION

### Questions

1. Which of the following is most likely an example of production inputs that can be adjusted in the long run, but not in the short run?
  - A. Amount of wood used to make a desk.
  - B. Number of pickles put on a sandwich.
  - C. The size of a McDonald's kitchen.
  - D. Number of teacher's assistants in local high schools.
  - E. The amount of electricity consumed by a manufacturing plant.
2. The Law of Diminishing Marginal Returns is responsible for
  - A. AVC that first rises, but eventually falls, as output increases.
  - B. AFC that first rises, but eventually falls, as output increases.
  - C. MP that first falls, but eventually rises, as output increases.
  - D. MC that first falls, but eventually rises, as output increases.
  - E. ATC that first rises, but eventually falls, as output increases.
3. Which of the following cost and production relationships is inaccurately stated?
  - A.  $AFC = AVC - ATC$
  - B.  $MC = \Delta TVC / \Delta Q$
  - C.  $TVC = TC - TFC$
  - D.  $APL = TPL / L$
  - E.  $MC = w / MPL$
4. If the per unit price of labor, a variable resource, increases, it causes which of the following?
  - A. An upward shift in AFC.
  - B. An upward shift in MPL.
  - C. A downward shift in ATC.
  - D. An upward shift in MC.
  - E. A downward shift in AFC.

Use the following figure to respond to questions 5 to 6.

### Answers and Explanations

1. **C**—The short run is a period of time too short to increase the plant size. All other choices involve decisions that could increase production almost immediately, with no change in the size of the facility. Increasing the size of a McDonald's kitchen takes quite some time and represents an increase in the total capacity of the kitchen to produce.
2. **D**—The Law of Diminishing Marginal Returns says that MPL eventually falls as you add more labor to a fixed plant. This question tests you on the important connection between production and cost. Remember that we derived this "bridge" and found that  $MC = w / MPL$ . So when MPL is initially rising, MC is falling. Eventually when MPL is falling, MC is rising. Choices A, B and E are just flat wrong. All three average costs begin by falling. AFC continues to fall, but AVC and ATC eventually rise.
3. **A**—AFC plus AVC equals ATC. If you do the subtraction,  $AFC = ATC - AVC$ , making choice A the only incorrect statement. If you have studied your production and cost relationships, you recognize that choices B, C, D and E are all stated correctly.
4. **D**—When labor is more expensive, the MC of producing the good increases, so the MC curve shifts upward. The price of a variable input has increased, so easily rule out any reference to fixed costs. If anything, a higher wage shifts MPL downward.



## Applications

### MICRO-ECONOMICS-I (\*DENOTES ANSWERS)

1. Economic models or theories
  - a. are limited to variables that are directly (positively) related
  - \*b. are simplifications of the real world they represent
  - c. cannot be tested empirically
  - d. are limited to variables that are inversely related
2. Allocative efficiency means that
  - a. opportunity cost has been reduced to zero
  - \*b. resources are allocated to the use which has the highest value to society
  - c. technological efficiency has not been achieved
  - d. only relative scarcity exists
3. Operating inside a society's production possibilities frontier is a:
  - a. drawback of capitalism relative to socialism
  - \*b. symptom of inefficiency or idle resources
  - c. way to build reserves to stimulate investment and growth
  - d. result whenever the capital stock depreciates rapidly
4. Which event will shift the butter/guns production possibilities frontier outward?
  - \*a. a new and superior method of producing butter
  - b. a decrease in the resources devoted to the production of investment goods
  - c. an increase in the production of guns
  - d. a reduction in the production of butter
5. Which of the following is correct with respect to a firm's supply of a given product? The supply curve shows
  - a. the amount of profit that will be earned for various output levels
  - \*b. the amount of a good that will be available for sale at various prices
  - c. an inverse relationship between price and quantity supplied
  - d. the amounts of a good that will be sold at various prices
6. If the real income of a consumer decreases and, as a result, his demand for product X increases, it can be concluded that product X is a/an
  - a. complementary good
  - b. normal good
  - \*c. inferior good
  - d. substitute good
7. If bread and butter are complementary goods, then an increase in the price of bread will result in:
  - a. an increase in the demand for butter

- b. an increase in the demand for bread
  - \*c. a decrease in the demand for butter
  - d. a decrease in the demand for butter
8. Excess demand occurs whenever
- a. quantity demanded is less than quantity supplied
  - b. goods are scarce
  - c. the actual price is greater than the equilibrium price
  - \*d. the actual price is less than the equilibrium price
9. At the equilibrium price in a market,
- \*a. there is no tendency for price to change
  - b. quantity supplied exceeds quantity demanded
  - c. there is a tendency for price to rise
  - d. there is a tendency for price to fall
  - e. quantity demanded exceeds quantity supplied
10. The price of lettuce rose 70 percent during the 1970's and, as a result, sales of salad dressing fell by more than 25 percent. In economic terms:
- a. the cross elasticity of demand is negative indicating the two goods are substitutes
  - b. the price elasticity of supply for salad dressing is low
  - c. salad dressing has low price elasticity of demand
  - \*d. the cross elasticity of demand is negative indicating these are complementary goods
11. Which of the following is not a determinant of the price elasticity of demand?
- \*a. the price elasticity of supply
  - b. whether the product is a necessity
  - c. whether the product is a luxury
  - d. the time period in question
12. The law of diminishing marginal utility:
- a. provides an explanation for perfectly elastic demand curves
  - \*b. suggests that as a individual's consumption of a good increases, his marginal utility must eventually decrease
  - c. suggests that total utility will eventually decrease if enough of the good is consumed
  - d. suggests that as a consumer buys more of a good, its price will drop
13. To maximize total utility, consumption should be arranged such that the
- a. the total utility associated with each good consumed is equal for all goods consumed
  - b. the ratio of the total utility associated with each good consumed to the price of the good is equal for all goods consumed
  - c. marginal utility associated with the last unit of each good consumed is equal for all goods consumed



- \*d. ratio of the marginal utility associated with the last unit of each good consumed to the price of the good is equal for all goods consumed
14. Which of the following will generate additional American demand for the Mexican peso?
- \*a. increased American travel to Mexico
  - b. decision by Mexican petroleum companies to invest in the American oil fields
  - c. new American tariffs levied against Mexican goods
  - d. decline in American demand for tequila produced in Mexico
15. Quotas tend to be associated with efforts to:
- \*a. expand domestic production
  - b. raise foreign consumer prices
  - c. lower domestic consumer prices
  - d. lower profits in domestic industries
16. An example of an implicit cost is the
- \*a. interest that a corporation could earn on its undistributed profits
  - b. salaries paid to the managers of the firm
  - c. rent paid by a firm for the use of a warehouse
  - d. property taxes paid by the firm
  - e. wages paid to the blue collar worker
17. A driver wishes to buy gasoline and have his car washed. He finds that the market price of gasoline is ₹1.08 and that the wash costs ₹1.00 when he buys 19 gallons but that if he buys 20 gallons, the car wash is free. The marginal cost of the twentieth gallon is:
- a. ₹1.00
  - b. zero
  - \*c. 8 paisa
  - d. ₹1.08
18. When the total product of a resource is at a maximum then:
- a. average product is equal to marginal product
  - b. average product is equal to zero
  - \*c. marginal product is equal to zero
  - d. average product is at its maximum
  - e. marginal product is at its maximum
19. Which of the following is true concerning short-run total costs?
- a. total costs are minimized when average total costs are minimized
  - b. total costs are at a maximum when the average physical product of labor is at its maximum value
  - c. at zero output, total costs equal zero
  - \*d. total costs equal total variable costs plus total fixed costs

20. The long-run average cost curve
- a. suggests that firms always utilize their fixed plant and capacity in an efficient manner
  - b. suggests that firms will build over-sized plants and underutilize them at all levels of output
  - c. is the sum of the short-run average-cost curves facing a firm
  - \*d. indicates the lowest average costs associated with different levels of output
21. If a perfectly competitive firm sells 250 units of output at a market price of 55 rupees per unit, its marginal revenue is:
- \*a. ₹ 55
  - b. ₹110
  - c. more than ₹ 55 but less than ₹13,750
  - d. less than ₹ 55
22. In a perfectly competitive market, the demand curve facing the firm is
- a. negatively sloped regardless of the characteristics of the market demand curve
  - \*b. perfectly elastic while the market demand curve is typically negatively sloped
  - c. identical to the market demand curve
  - d. perfectly inelastic even though the market demand curve is not
23. If the marginal cost of a firm is rising and greater than its marginal revenue, the firm should
- a. shut down in the short run
  - b. shut down in the long run
  - c. increase output to increase revenue and profit
  - d. remain at the same level of output since any change would lead to larger losses
  - \*e. decrease output
24. The perfectly competitive firm's supply curve is exactly the same as:
- \*a. its marginal cost curve for all prices above average variable cost
  - b. its fully allocated costs
  - c. the supply curve of all firms in the economy
  - d. its average variable cost curve
25. When a perfectly competitive firm is in long-run equilibrium, the market price is equal to:
- a. average total cost, but may be greater or less than marginal cost
  - b. marginal revenue, but may be greater or less than both average and marginal cost
  - c. marginal cost, but may be greater or less than average cost
  - \*d. average total cost and also to marginal cost
26. Assuming no externalities, perfect competition results in efficient resource allocation (allocative efficiency) because price:
- a. is greater than average variable cost
  - \*b. is equal to marginal cost



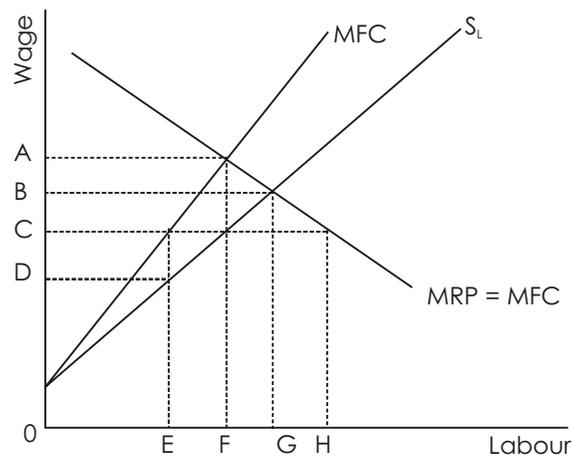
- c. equals average total cost
  - d. is less than marginal cost
  - e. is equal to long-run average cost
27. The monopolist's demand curve is
- \*a. identical with the industry or market demand curve
  - b. nonexistent
  - c. perfectly elastic
  - d. perfectly inelastic
28. To maximize profits, a monopolist should produce at that level of output at which:
- a. demand and marginal cost intersect
  - b. demand and average cost intersect
  - \*c. marginal revenue equals marginal cost
  - d. marginal revenue equals average total cost
  - e. average total cost and marginal cost intersect
29. Which of the following may be a benefit to society associated with monopolistic competition that does not exist with perfect competition?
- a. homogeneous products
  - b. interdependence in decision making
  - c. arbitrage
  - \*d. product differentiation
30. In long run equilibrium, the typical monopolistically competitive firm will
- a. earn a positive economic profit
  - b. face a perfectly elastic demand curve
  - \*c. earn only a zero economic profit
  - d. cease to advertise
  - e. no longer need to engage in nonprice competition
31. The number of firms in an oligopoly must be
- a. large enough that firms cannot closely monitor each other
  - \*b. small enough that firms are interdependent in decision making
  - c. less than a dozen
  - d. large enough that firms cannot collude
  - e. large enough that firms will see no reason to engage in nonprice competition
32. When a group of individuals or firms who produce and supply the same good form an organization whose purpose is to reduce competition between themselves, the organization is known as a \_\_\_\_\_. This group, if successful, will (raise/ lower/ maintain) the level of output supplied relative to that produced previous to the organization's existence.
- a. oligopoly, lower

- b. natural monopoly, raise
  - \*c. cartel, lower
  - d. monopoly, lower
33. Which of the following is a FALSE statement? Imperfect competition implies that in the long run
- a. too little of the good is produced relative to the societal optimum
  - b. the firm's demand curve is not horizontal
  - c. the firm may not produce at its minimum average total cost
  - d. price may be greater than marginal revenue
  - \*e. price is equal to marginal cost
34. Output for a price discriminating monopolist, in comparison to a single-price monopoly, will be
- a. lower and profits will be lower
  - b. lower and profits will be higher
  - c. higher and profits will be lower
  - \*d. higher and profits will be higher
35. As labor costs account for a larger portion of total costs, demand for labor becomes
- a. perfectly elastic
  - b. perfectly inelastic
  - c. less elastic
  - \*d. more elastic
36. The demand for labor is
- a. likely to increase with decreases in resource price
  - b. a direct relationship between resource price and quantity demanded
  - \*c. a derived demand
  - d. always unitary elastic
  - e. an inverse relationship between quantity available and quantity demanded
37. Consider a situation in which there is perfect competition in both the input and output markets. The firm will hire that input level which equates
- \*a. marginal revenue product with marginal factor cost
  - b. marginal physical product with marginal factor cost
  - c. marginal factor cost with supply
  - d. marginal revenue product with demand
  - e. marginal revenue product with marginal physical product
38. In a perfectly competitive labor market, the supply curve of labor faced by the individual firm is
- a. given by the value of the marginal product (VMP) of labor curve
  - b. the upward sloping portion of the marginal factor cost (MFC) of labor curve
  - c. perfectly inelastic at the market wage

\*d. equal to the market wage

39. In a nonunionized monopsonistic labor market the wage rate
- will be higher and the level of employment lower than in a competitive labor market
  - will be lower and the level of employment higher than in a competitive labor market
  - and the level of employment will both be higher than in a competitive labor market
  - and level of employment will both be lower than in a competitive labor market
  - any one of the above is possible

Use the graph below to answer question number 40



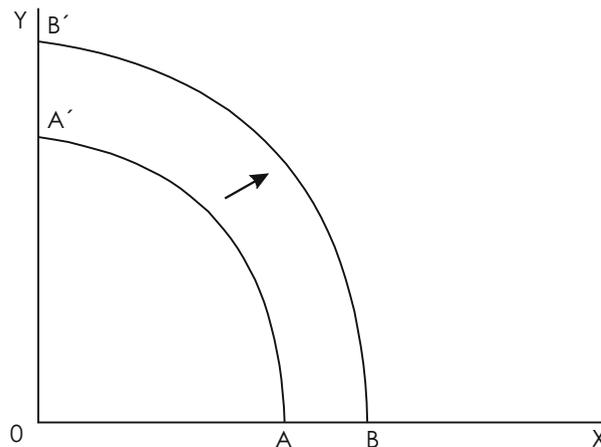
40. The firm in the graph above will pay its workers a wage of ₹\_\_\_\_\_.

- 0-C
- 0-D
- 0-A
- 0-B

**MICRO-ECONOMICS-II (\*DENOTES ANSWERS)**

1. Opportunity costs are the values of the:
  - a. minimal budgets of families on welfare
  - b. hidden charges passed on to consumers
  - c. monetary costs of goods and services
  - \*d. best alternatives sacrificed when choices are made
  - e. exorbitant profits made by greedy entrepreneurs
2. A mixed economy is one where
  - a. the system changes from purely a free market economy to purely a control economy
  - b. the market system handles resource allocation
  - c. there are elements of democracy and dictatorship
  - \*d. there are elements of a free market economy and a control (planned) economy

**Use the graph below to answer question number 3**



3. According to the graph above, a shift in the production-possibilities frontier from A-A to B-B could result from:
  - \*a. improved technology in the production of both goods
  - b. changes in the combination of goods produced
  - c. unemployment
  - d. inflation
  - e. changes in consumers' tastes
4. A certain country produces only two goods, A and B. A change in government policy results in the society being able to enjoy more of good A without having to sacrifice any of good B. This situation:
  - \*a. suggests that before the policy change the economy was either operating inefficiently or had unemployed resources
  - b. demonstrates that all economic problems are inter-related



- c. demonstrates the law of scarcity
  - d. indicates that government was able to temporarily push society beyond its potential
5. Which one of the following will cause the demand curve for gasoline to shift to the right?
- \*a. a fall in the price of cars
  - b. an increase in the supply of gasoline
  - c. a fall in the price of gasoline
  - d. a rise in the price of cars
6. If the price of product 'X' decreases, the demand for a close substitute product 'Y':
- a. is inelastic
  - \*b. will shift to the left
  - c. will not be affected
  - d. is elastic
7. To say that oatmeal is an inferior good, as economists use the term
- a. means that as the price of oatmeal falls, the quantity demanded of oatmeal falls
  - b. means that there is no real income effect when the price of oatmeal changes
  - c. provides an example of a normative statement
  - \*d. means that as the average level of income falls, the demand for oatmeal rises
  - e. means that the supply of oatmeal is perfectly inelastic
8. Assuming that over the last three years the equilibrium quantity of wheat has risen while over the same period the equilibrium price has not changed, which of the following is the most likely explanation of these facts?
- \*a. An increase in the number of consumers and a reduction in input prices
  - b. A reduction in the price of a substitute for wheat and a reduction in input prices
  - c. A reduction in consumers' income wheat is a normal good and an increase in input prices
  - d. An increase in consumers' income wheat is a normal good and an increase in input prices
9. Price ceilings and price floors are usually intended to benefit:
- a. government by increasing government revenue
  - \*b. buyers (ceilings) and sellers (floors)
  - c. buyers
  - d. sellers
10. If the percentage change in quantity demanded for a product is smaller than the percentage change in price, then demand for the good is
- a. infinitely elastic
  - b. of unitary elasticity
  - c. perfectly inelastic
  - \*d. inelastic
  - e. elastic

11. Two goods are complements in consumption if:
  - a. both are inferior goods
  - \*b. the cross elasticity of demand between them is negative
  - c. both have negative price elasticities
  - d. one has a positive elasticity and the other has a negative price elasticity
12. Utility analysis suggests that
  - a. a consumer will purchase only one good at a time
  - \*b. there is an inverse relationship between price and quantity demanded
  - c. the law of demand is nonsense
  - d. a consumer will always purchase goods in pairs
13. Consumers' surplus means
  - a. total expenditure divided by the price per unit
  - \*b. the difference between the maximum price a consumer would have been willing to pay for a good and the actual price paid
  - c. value in use
  - d. value in exchange
14. The demand for a foreign currency results primarily from the:
  - a. supply of domestically produced goods and services
  - b. demand for goods and services produced domestically
  - c. supply of that foreign currency at a given exchange rate
  - \*d. demand for foreign goods and services
15. A tax imposed only on an imported good is a
  - a. subsidy
  - b. embargo
  - c. quota
  - \*d. tariff
16. The cost that does NOT vary with the quantity of output that a firm produces is
  - a. average variable cost
  - b. average fixed cost
  - c. total variable cost
  - d. total cost
  - \*e. total fixed cost
17. The meaning of the term "marginal cost" is most closely described by which of the following statements?
  - a. unavoidable expenditures that must be paid regardless of the firm's output
  - \*b. the increase in total costs which occurs if output increases by one unit
  - c. total variable cost divided by quantity
  - d. the total costs associated with producing some specific level of output



18. A driver wishes to buy gasoline and have his car washed. He finds that the market price of gasoline is ₹1.08 and that the wash costs ₹1.00 when he buys 19 gallons but that if he buys 20 gallons, the car wash is free. The marginal cost of the twentieth gallon is:
- ₹1.00
  - zero
  - \*c. 8 paise
  - ₹1.08
19. In the short run, if average variable costs equal ₹ 6 and average total costs equal ₹10 and output equals 100, then total fixed costs equal:
- ₹16
  - ₹1,600
  - ₹ 4
  - \*d. ₹ 400
  - ₹ 0.025
20. The factors which cause economies and diseconomies of scale help explain
- \*a. why the firm's long-run average total cost curve is U-shaped
  - the profit-maximizing level of production
  - the distinction between fixed and variable costs
  - why the firm's short-run marginal cost curve cuts the short-run average variable cost curve at its minimum point
21. The additional revenue a firm receives from selling an extra unit of output is
- average revenue
  - marginal profit
  - total revenue
  - \*d. marginal revenue
  - price
22. If a perfectly competitive firm sells 250 units of output at a market price of 55 rupees per unit, its marginal revenue is:
- \*a. ₹ 55
  - ₹110
  - more than ₹ 55 but less than ₹13,750
  - less than ₹55
23. A profit-maximizing firm will produce that level of output where
- \*a. marginal revenue equals marginal cost
  - marginal cost equals marginal product
  - price equals average cost
  - price equals variable cost
  - marginal revenue exceeds marginal cost by the maximum amount

24. In the short run if a profit-maximizing firm is incurring losses, it will
- a. produce if it can cover its fixed costs
  - \*b. produce if price exceeds average variable cost
  - c. shut down
  - d. go out of business
25. When firms leave a perfectly competitive market, other things equal,
- a. market demand will increase and market price will rise
  - b. market demand will decrease and market price will fall
  - \*c. market supply will decrease and market price will rise
  - d. market supply will decrease and market price will fall
26. Which of the following is characteristic of perfectly competitive firms in long-run equilibrium?
- a. firms experience diseconomies of scale
  - \*b. firms produce at minimum average total cost
  - c. price exceeds marginal cost
  - d. firms earn positive economic profit
27. Assume that at the current output level, a monopolist is breaking even (profit equals zero), has a marginal revenue of ₹ 7, and a marginal cost of ₹ 4. Which of the following statements is correct?
- \*a. The firm could increase its profit by increasing its output
  - b. The firm could increase its profit by decreasing its output
  - c. The firm is producing the profit-maximizing output
  - d. The firm could increase its profit by increasing its price
28. If a monopolist lowers price and total revenues rise, then
- a. average revenue must be less than marginal revenue
  - b. there must be no close substitutes for the monopolist's product
  - c. the monopolist must be in the inelastic region of its demand curve
  - \*d. the marginal revenue must be positive
29. Two of the characteristics of monopolistic competition are
- a. many firms, identical products
  - \*b. many firms, different products
  - c. a single firm, several products
  - d. a single firm, one product
30. In monopolistic competition, the demand curve facing a firm will become more elastic the:
- a. greater the obstacles to entry
  - b. greater the elasticity of its supply curve
  - \*c. greater the number of sellers
  - d. fewer the number of sellers



31. The number of firms in an oligopoly must be
- a. large enough that firms cannot closely monitor each other
  - \*b. small enough that firms are interdependent in decision making
  - c. less than a dozen
  - d. large enough that firms cannot collude
  - e. large enough that firms will see no reason to engage in nonprice competition
32. If a cartel determines the profit-maximizing quantity for the whole group, it will choose the quantity at which
- a. price is highest
  - b. cost is lowest
  - \*c. marginal cost equals marginal revenue
  - d. marginal cost equals demand
33. All markets that are NOT perfectly competitive have which of the following characteristics?
- a. each firm's demand curve is the industry demand curve
  - b. products that the various firms sell are always differentiated to some extent
  - \*c. firms in the market have some control over price (face a downward sloping demand curve)
  - d. there are only a few firms in the industry
  - e. all the firms make substantial profits
34. For price discrimination to be possible between different buyers, the seller must, among other things,
- \*a. prevent resale of the commodity
  - b. rely on the ignorance of one consumer about what other consumers are paying
  - c. produce at decreasing cost
  - d. face an inelastic demand
35. Marginal revenue product (MRP) equals
- a. the product's price times marginal product
  - b. the product's price times marginal cost
  - c. marginal revenue times the product's price
  - \*d. marginal revenue times marginal product
36. The firm's demand curve for an input is downward sloping because of the
- a. willingness of workers to offer more labor at a higher price
  - \*b. law of diminishing marginal productivity
  - c. fact that most firms buying factors of production are at least partial monopolists
  - d. fact that unions exist in many labor markets

**Use the table below to answer question number 36**

Number of Workers	Wage Rate (₹)	Marginal Revenue Product (₹)
0	4	-
1	4	6
2	4	5
3	4	4
4	4	3

37. According to the information in the table above, the number of workers that should be hired to maximize profit is:
- 1
  - 0
  - 4
  - \*d. 3
38. In a perfectly competitive labor market, the supply curve of labor faced by the individual firm is
- given by the value of the marginal product (VMP) of labor curve
  - the upward sloping portion of the marginal factor cost (MFC) of labor curve
  - perfectly inelastic at the market wage
  - \*d. equal to the market wage
39. A firm which is the sole employer in a particular area may be classified as
- an oligopolist
  - a duopolist
  - a monopolist
  - \*d. a monopsonist
40. The wage rate a monopsonist would pay
- \*a. is less than the marginal revenue product
  - is equal to the marginal factor cost
  - is equal to the marginal revenue product
  - is greater than the marginal revenue product
  - is greater than the marginal factor cost



### MICRO-ECONOMICS-III (\*DENOTES ANSWERS)

1. Microeconomics is the branch of economics that focuses on
  - a. national economic activity
  - \*b. individual decision makers and markets
  - c. deficit spending
  - d. inflation and unemployment
2. Allocative efficiency means that
  - a. opportunity cost has been reduced to zero
  - \*b. resources are allocated to the use which has the highest value to society
  - c. technological efficiency has not been achieved
  - d. only relative scarcity exists
3. Operating inside a society's production possibilities frontier is a:
  - a. drawback of capitalism relative to socialism
  - \*b. symptom of inefficiency or idle resources
  - c. way to build reserves to stimulate investment and growth
  - d. result whenever the capital stock depreciates rapidly
4. The law of \_\_\_\_\_ is illustrated by a production possibilities frontier which is bowed out (concave) from the origin
  - a. constant opportunity costs
  - b. decreasing opportunity costs
  - c. comparative advantage
  - \*d. increasing opportunity costs
  - e. of large numbers
5. A decrease in consumer preferences for a product, other things being equal, means that
  - a. supply will decrease
  - \*b. market demand will shift to the left
  - c. market demand will shift to the right
  - d. quantity demanded will increase
  - e. quantity demanded is not a function of price
6. An inferior good is a product
  - a. that is not expensive
  - b. for which there is no demand
  - c. for which demand increases as income increases
  - \*d. for which demand falls as income increases
  - e. that has an upward-sloping demand curve

7. Substitution and income effects of a change in the price of a good may be used to explain the
  - a. direct relationship between price and quantity purchased
  - \*b. inverse relationship between price and quantity demanded
  - c. direct relationship between income and demand
  - d. direct relationship between price and quantity supplied
8. When there is a shortage in a market
  - \*a. consumers are willing to buy more of the good at the current price
  - b. the equilibrium price is below zero
  - c. quantity supplied exceeds quantity demanded
  - d. firms are willing to sell more of the good at the current price
  - e. market shortages are not possible
9. The price of good X has increased significantly over the last year. Nonetheless, suppliers still sell the same quantity each week as last year. Evidently there has been
  - a. a decrease in demand and an increase in supply
  - b. a decrease in demand and a decrease in supply
  - c. an increase in demand and an increase in supply
  - \*d. an increase in demand and a decrease in supply
10. Price elasticity of demand measures:
  - a. the change in quantity supplied to the change in price
  - b. the extent to which a demand curve shifts from the change in an exogenous variable (outside factor)
  - c. the response between two goods when the price of one good changes
  - \*d. consumer responsiveness to price changes
11. Suppose the price of a certain good fell from ₹1.00 to ₹0.50 and, as a result, the quantity demanded increased from 500 to 750 units. Over this range, the demand curve is:
  - a. elastic
  - b. perfectly elastic
  - c. perfectly inelastic
  - \*d. inelastic
12. The price of good X is ₹1.50 and that of good Y is ₹1. If a particular consumer's marginal utility for Y is 30, and he is currently maximizing his total utility, then his marginal utility of X must be:
  - a. 30 units
  - \*b. 45 units
  - c. 15 units
  - d. 20 units
  - e. 60 units

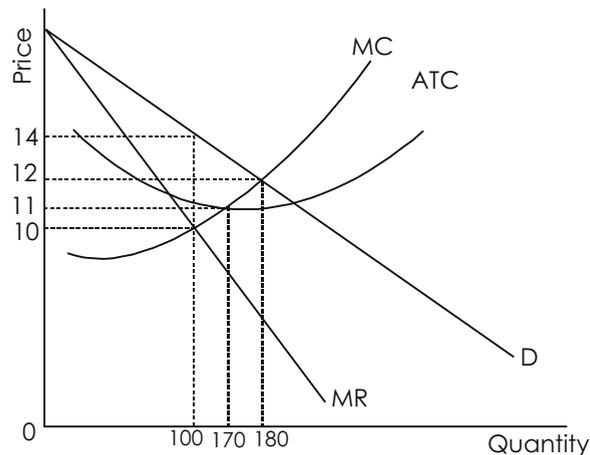


13. Utility refers to
- \*a. the satisfaction a consumer receives from consuming a good
  - b. the usefulness of a good
  - c. a shift in the demand curve for a good
  - d. a decline in the supply of a good
14. Assume that rapid price inflation in India results in an increase in the demand by Indians for goods produced in America. As a result,
- a. the supply of Rupee increases, hence the dollar price of the rupee rises
  - b. the demand for Rupee falls; hence the dollar price of the rupee falls
  - \*c. the supply of Rupee increases; hence the dollar price of the rupee falls
  - d. the demand for Rupee increases; hence the dollar price of the rupee rises
15. A quota protects domestic producers by:
- a. lowering the domestic price
  - b. encouraging competition among domestic producers
  - \*c. setting an absolute limit on the amounts of imports
  - d. placing a prohibitive tax on imports
16. Economic profit is the difference between a firm's total revenue and its
- a. implicit costs
  - b. accounting costs
  - c. average costs
  - d. explicit costs
  - \*e. total costs
17. In the short run, if average variable costs equal ₹6 and average total costs equal ₹10 and output equals 100, then total fixed costs equal:
- a. ₹16
  - b. ₹1,600
  - c. ₹4
  - \*d. ₹400
  - e. ₹0.025
18. If marginal cost lies below average total cost, then
- a. average fixed cost must be rising
  - b. average total cost must be rising
  - \*c. average total cost must be falling
  - d. marginal cost must be falling
  - e. marginal cost must be rising

19. In the short-run, total cost at zero output is
- \*a. total fixed cost (TFC)
  - b. average total cost (ATC)
  - c. total variable cost (TVC)
  - d. average variable cost (AVC)
  - e. marginal cost (MC)
20. Which economic concept explains why a large drug store chain can produce at a lower average cost than Towne Pharmacy, an individually owned drug store?
- a. diseconomies of scale
  - b. constant returns to scale
  - c. diminishing marginal returns
  - \*d. economies of scale
21. In which of the following markets would one find many sellers, homogeneous products, and easy entry?
- a. monopoly
  - b. monopolistic competition.
  - c. oligopoly
  - \*d. perfect competition
22. The price charged by a perfectly competitive firm is determined by
- \*a. market demand and market supply together
  - b. the firm's costs alone
  - c. market supply alone
  - d. market demand alone
  - e. the firm's demand curve
23. Where marginal cost is rising and exceeds marginal revenue, a profit-maximizing firm would
- a. continue producing the same level of output in the short run
  - b. shut down in the long run
  - c. produce more
  - \*d. produce less
24. A perfectly competitive firm will shut down in the short run if
- a. it incurs an economic loss
  - b. normal profit is greater than zero
  - c. total revenue is greater than total costs
  - d. total costs are greater than total revenue
  - \*e. total revenue is less than total variable costs

25. Assuming no externalities, perfect competition results in efficient resource allocation (allocative efficiency) because price:
- is greater than average variable cost
  - \*is equal to marginal cost
  - equals average total cost
  - is less than marginal cost
  - is equal to long-run average cost
26. When firms leave a perfectly competitive market, other things equal,
- market demand will increase and market price will rise
  - market demand will decrease and market price will fall
  - \*market supply will decrease and market price will rise
  - market supply will decrease and market price will fall
27. The demand curve facing the monopoly firm
- \*is equivalent to the market-demand curve
  - suggests that the monopolist can sell additional units without lowering the price
  - is perfectly inelastic
  - is equal to its total revenue curve
  - all of the above are correct
28. Monopoly is allocatively inefficient because the monopolist produces where:
- marginal cost is greater than marginal revenue
  - marginal revenue is greater than marginal cost
  - price equals marginal revenue
  - \*price is greater than marginal cost

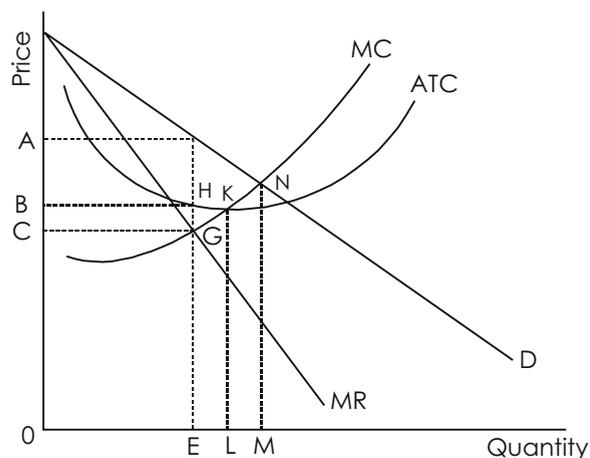
Use the graph below to answer question number 29



29. If this monopolistically competitive firm is a profit maximizer it will realize a short-run:
- loss of ₹ 250
  - loss of ₹ 320

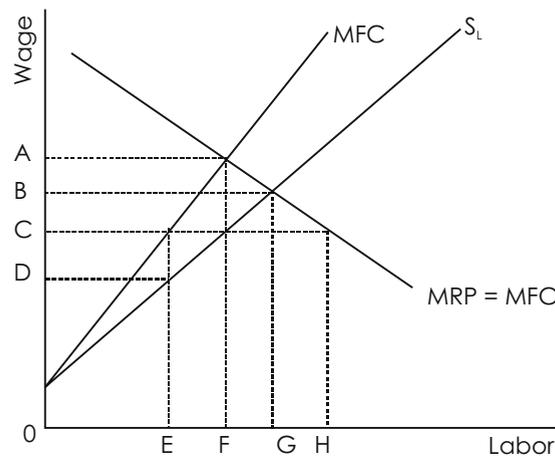
- c. economic profit of ₹160  
 \*d. economic profit of ₹320  
 e. economic profit of ₹600
30. When a monopolistically competitive firm is in long-run equilibrium, it is:
- making a zero economic profit
  - allocatively inefficient since it produces where its price exceeds its marginal cost
  - technologically (productively) inefficient since it produces an output smaller than the one which would minimize its average costs of production
  - \*d. all of the above are true
31. The number of firms in an oligopoly must be
- large enough that firms cannot closely monitor each other
  - \*b. small enough that firms are interdependent in decision making
  - less than a dozen
  - large enough that firms cannot collude
  - large enough that firms will see no reason to engage in nonprice competition
32. The kinked demand curve model
- \*a. assumes that oligopolistic rivals will ignore a price increase on the part of a rival and match a price decrease
  - assumes that oligopolistic rivals will match both a price decrease and a price increase
  - requires a collusive oligopoly
  - assumes that oligopoly pricing is flexible upward and downward
  - assumes product differentiation
33. For imperfectly competitive firms (monopoly, monopolistic competition, and oligopoly firms)
- price is the same as marginal revenue at all output levels
  - price is either less than marginal revenue at particular output levels or the same as marginal revenue
  - price is less than marginal revenue at all or most output levels
  - \*d. price is greater than marginal revenue at all or most output levels

**Use the graph below to answer question number 34**



34. The cost and revenue curves of a certain firm are shown in the graph to the right. In order to maximize profits or minimize losses the firm should produce:
- OM units and charge price NM
  - \*b. OE units and charge price OA
  - OE units and charge price OB
  - OL units and charge price LK
  - OE units and charge price OC
35. When economists say that the demand for labor is a derived demand, they mean that the demand for labor is
- \*a. related to the demand for the product labor is producing
  - b. dependent upon government expenditures for social goods and services
  - c. based on the assumption that workers are trying to maximize their money incomes
  - d. based upon the desire of businessmen to exploit labor by paying below equilibrium wage rates
36. The law of diminishing marginal product (returns) implies
- a. a negatively sloped marginal factor cost curve
  - b. a positively sloped marginal physical product curve
  - \*c. a negatively sloped marginal revenue product curve
  - d. a positively sloped marginal revenue product curve

**Use the graph below to answer question number 37**



37. The firm in the graph above will pay its workers a wage of ₹ \_\_\_\_.
- \*a. 0-C
  - b. 0-D
  - c. 0-A
  - d. 0-B

38. Consider a situation in which there is perfect competition in both the input and output markets. The firm will hire that input level which equates
- \*a. marginal revenue product with marginal factor cost
  - b. marginal physical product with marginal factor cost
  - c. marginal factor cost with supply
  - d. marginal revenue product with demand
  - e. marginal revenue product with marginal physical product

**Use the table below to answer question number 39**

Marginal Revenue Product (₹)	Q of Labor	Wage Rate (₹)	Marginal Factor Cost (₹)
-	0	10	-
70	1	20	20
65	2	30	40
60	3	40	60
55	4	50	80
50	5	60	100

39. Above are a firm's marginal revenue product, wage rate, and marginal factor cost schedules. At the profit-maximizing employment level, the firm will pay a wage of:
- \*a. ₹40
  - b. ₹60
  - c. ₹10
  - d. ₹20
40. Assume that a firm can sell all the product it wants at ₹5 per unit. If the wage is ₹15 per worker, the firm is employing the profit maximizing quantity of labor if the marginal product of labor is
- a. 5
  - b. 1/3
  - c. 2
  - \*d. 3



### MICRO-ECONOMICS-IV (\*DENOTES ANSWERS)

1. "A compassionate welfare program should have a higher priority than strong defense." This statement is an example of
  - a. the ceteris paribus fallacy
  - \*b. a normative economic statement
  - c. a positive economic statement
  - d. the fallacy of composition
2. In economics, capital is best defined as:
  - \*a. produced goods which are used as productive resources
  - b. private property
  - c. money needed to run a business
  - d. the primary factor in productivity
3. Opportunity cost along a production possibilities frontier is
  - a. zero
  - b. the amount by which the production of guns increases when the production of butter increases
  - c. how much of each good is produced
  - \*d. the sacrifice of one good required to produce one more unit of another good
  - e. all of the above
4. A production possibilities frontier will shift out when:
  - a. the production of investment goods decreases
  - \*b. the quantity and/or productivity of resources (factors of production) increases
  - c. unemployment is decreased
  - d. the labor force decreases
5. Demand shows the relationship between
  - a. income and quantity needed per unit of time
  - b. price of a good and the available quantity of that good per unit of time
  - \*c. the price of a good and the quantity consumers are willing and able to buy in a given time period
  - d. income and quantity demanded per unit of time
6. The statement that oatmeal is an inferior good, as economists use the term
  - a. means that as the price of oatmeal falls, the quantity demanded of oatmeal falls
  - b. means that there is no real income effect when the price of oatmeal changes
  - c. is an example of a normative statement
  - \*d. means that as the average level of income falls, the demand for oatmeal rises
  - e. means that the supply of oatmeal is perfectly inelastic

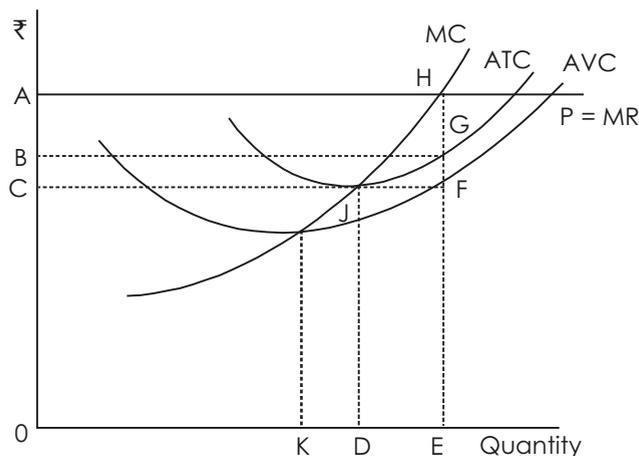
7. The income effect of a price change arises because
  - \*a. as price falls or rises there is an effect similar to an income increase or decrease
  - b. the effect of taxes on government revenues
  - c. higher or lower prices affect suppliers incomes
  - d. as the price of a good rises or falls buyers feel their incomes have fallen due to inability to recall the previous price and a suspicion regarding all price changes
8. An increase in demand accompanied by a simultaneous decrease in supply will result in
  - a. a change in equilibrium quantity
  - b. a decrease in equilibrium quantity
  - c. a decrease in equilibrium price
  - \*d. an increase in equilibrium price
  - e. an increase in equilibrium quantity
9. A price ceiling will not cause a shortage if the government
  - a. enters the market and purchases the excess
  - b. always has perfect information
  - \*c. does not enforce the ceiling price
  - d. sets the ceiling price below the equilibrium price
10. When the price of a certain good increases by 30%, quantity demanded decreases by 2%. What is the price elasticity of demand?
  - a. 15
  - b. 30
  - \*c. 1/15
  - d. 2
11. If goods R and K have a cross elasticity of -5 and goods R and S have a cross elasticity of 5,
  - a. R and K are substitutes; R and S are complements
  - \*b. R and K are complements; R and S are substitutes
  - c. K is price inelastic
  - d. S is price inelastic
  - e. R and K are normal goods; R and S are inferior goods
12. In the theory of utility, it is assumed that marginal utility
  - a. is zero as consumption of a product increases
  - \*b. diminishes beyond some point as consumption of a product increases
  - c. increases as consumption of a product increases
  - d. increases as consumption of a product remains constant
  - e. remains constant as consumption of a product increases



13. If George gets 100 units of utility from watching the show "Family Ties" one time and 150 units of utility from watching the same show twice, his marginal utility from watching the second time is
- 250
  - 50
  - \*c. 50
  - 150
14. If the equilibrium dollar price of Dutch guilders is 40 cents, but for some reason the market opens at 30 cents, it is likely that
- an excess supply of guilders will force a decline in the dollar price of guilders
  - the U.S. demand for Dutch guilders will increase
  - the Dutch demand for U.S. goods will increase, moving the dollar price of guilders toward equilibrium
  - \*d. an excess demand for guilders will force a rise in the dollar price of guilders
15. Imposition of a U.S. tariff on imported shoes:
- harms foreign consumers of shoes by decreasing the amount of shoes available for their consumption
  - harms U.S. shoe workers who now face a more hectic production schedule
  - benefits consumers in the United States by guaranteeing a high-quality product
  - \*d. benefits domestic shoe producers by eliminating competitors
16. The short run is a period of time
- during which all inputs are fixed
  - that is just long enough to permit entry and exit
  - that is always less than one year
  - \*d. during which at least one input is fixed
  - during which all inputs can be varied
17. Which of the following is true concerning short-run total costs?
- total costs are minimized when average total costs are minimized
  - total costs are at a maximum when the average physical product of labor is at its maximum value
  - at zero output, total costs equal zero
  - \*d. total costs equal total variable costs plus total fixed costs
18. At its minimum point, the average total cost curve is intersected by the
- total fixed cost curve
  - total variable cost curve
  - average fixed cost curve
  - average variable cost curve
  - \*e. marginal cost curve

19. A. Rock operates the Telly Savalas Lolly-Pop Factory in Springfield, Mo. At the present level of output, he finds that his average fixed costs = ₹40, average variable costs = ₹60 and total costs = ₹9000. Given this information, what is the quantity being produced?
- 225 units of output
  - \*b. 90 units of output
  - insufficient information is given to determine the quantity being produced
  - 150 units of output
  - 450 units of output
20. If a firm's long-run average costs remain constant as production increases, then we say that the firm has
- quasi-returns to scale
  - \*b. constant returns to scale
  - economies of scale
  - diseconomies scale
21. Suppose a firm can sell as much or as little as it wants at a price of ₹5. This firm
- can make infinitely large profits
  - \*b. has constant marginal revenue
  - is likely to be a monopolist
  - is likely to be an oligopolist
22. The additional revenue a firm receives from selling an extra unit of output is
- average revenue
  - marginal profit
  - total revenue
  - \*d. marginal revenue
  - price

Use the graph below to answer question number 23

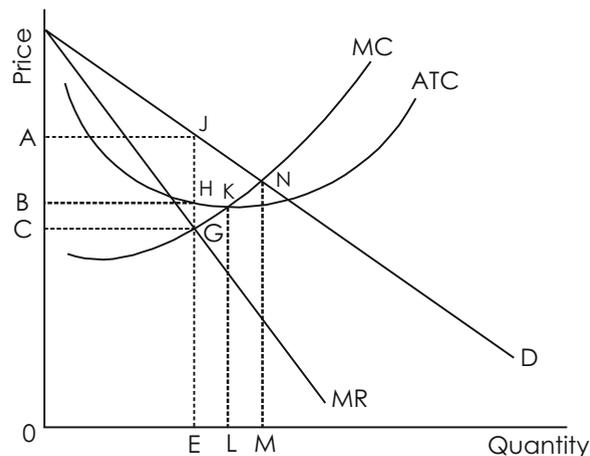




23. According to the graph above, at a price of OA this profit maximizing firm will realize:
- an economic profit of ACFH
  - \*b. an economic profit of ABGH
  - a loss equal to BCFG
  - a loss equal to ACFH
  - economic profits of zero
24. Assume that marginal revenue equals marginal cost at 100 units of output. At this output level, a profit-maximizing firm's total fixed cost is ₹600 and its total variable cost is ₹400. The price of the product is ₹5 per unit. In the short run the firm should produce
- \*a. 100 units of output
  - more than 100 units of output
  - 0 units of output
  - less than 100 units of output
25. Which of the following is NOT true of perfectly competitive firms in the long run?
- Price is equal to minimum ATC
  - \*b. Firms can make profits or losses
  - Economic profits are zero
  - Price is equal to marginal cost
26. In a perfectly competitive, constant cost, industry
- \*a. the long-run market supply curve will be perfectly elastic
  - the long run market demand curve will be perfectly inelastic
  - the long-run market demand curve will be positively sloped
  - the long-run market demand curve will be perfectly elastic
27. For a non-discriminating monopolist who is maximizing profits, which of the following cannot be true?
- marginal revenue equals average total cost
  - price equals average total cost
  - marginal revenue equals marginal cost
  - average total cost equals marginal cost
  - \*e. price equals marginal revenue
28. If a monopolist lowers price and, as a result, its total revenue rises, then
- its price must be less than its marginal revenue
  - there must be no close substitutes for the monopolist's product
  - the monopolist must be in the inelastic region of its demand curve
  - \*d. its marginal revenue must be positive
29. If additional firms enter a monopolistically competitive industry
- a. the price would most likely increase

- \*b. the demand facing an existing firm would decrease
  - c. the demand facing an existing firm would increase
  - d. the profits of an existing firm would increase
30. When a monopolistically competitive firm is in long-run equilibrium, it is:
- a. making a zero economic profit
  - b. allocatively inefficient since it produces where its price exceeds its marginal cost
  - c. technologically (productively) inefficient since it produces an output smaller than the one which would minimize its average costs of production
  - \*d. all of the above are true
31. "Mutual Interdependence" means a situation in which each firm
- \*a. considers the reactions of its rivals when it determines its price policy
  - b. faces a perfectly elastic demand for its product
  - c. produces a product similar but not identical to the products of its rivals
  - d. produces a product identical to the products produced by its rivals

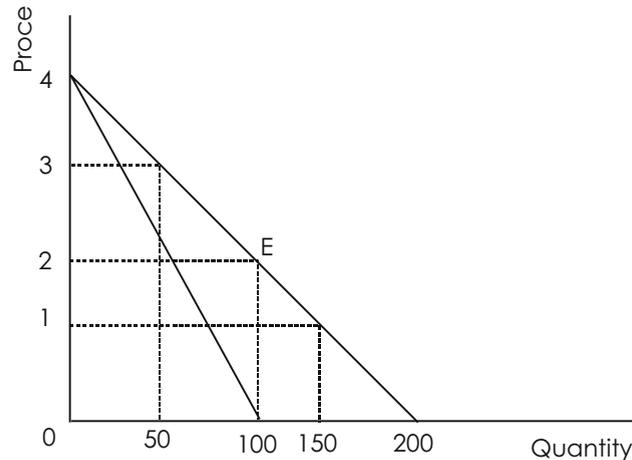
**Use the graph below to answer question number 32**



32. The cost and revenue curves of a certain firm are shown in the graph above. When maximizing its profit, the firm will realize:
- a. a loss of GH per unit
  - b. an economic profit of ACGJ
  - c. a loss equal to ABHJ
  - d. a loss of JH per unit
  - \*e. an economic profit of ABHJ
33. According to the kinked demand curve model, which of the following is generally true with respect to firms in oligopolistic industries?
- a. in recent decades they have tended to eliminate rivals through merger or predatory practices until a single monopoly firm remains in the industry

- b. market conditions force the firms to be allocatively efficient
- \*c. they tend to be reluctant to change price but will use non-price competition to increase sales
- d. they engage in vigorous price competition

**Use the graph below to answer question number 34**



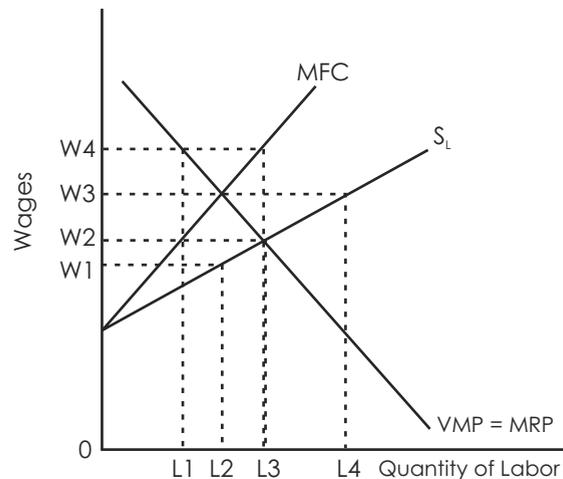
34. Suppose that you own and operate a movie theater: the demand (and marginal revenue) for theater tickets is drawn in the graph above. The unique feature of this business is that all costs are fixed. (If you must pay ₹50 to rent a film that can be shown only once, your costs are ₹50 whether you have 1 or 100 customers).

What are the number of tickets you should sell in order to maximize profits? What price should you charge? ₹ (Hint: draw the appropriate MC curve in the diagram below)

- a. 150, ₹1
  - b. 200, ₹.50
  - c. 50, ₹3
  - \*d. 100, ₹2
35. The marginal revenue product is the
- a. change in revenue associated with a change in the product price
  - \*b. extra revenue associated with hiring an additional unit of the input
  - c. change in revenue associated with a change in factor price
  - d. total revenue divided by the quantity hired of the resource
  - e. extra revenue associated with selling an additional unit of the good
36. The marginal revenue product of labor is expected to decrease as more labor is employed because:
- \*a. of the law of diminishing marginal productivity
  - b. of the law of diminishing marginal utility
  - c. the supply of labor is positively sloped

- d. the supply of labor is backward bending
  - e. labor quality declines as the employment of labor increases
37. In a perfectly competitive output market, the marginal revenue product is equal to the
- a. marginal physical product
  - \*b. price of the product times the marginal product
  - c. price of the product
  - d. price of the input
38. If a firm hires an insignificant fraction of unskilled labor in its community, then the wage rate that it must offer in order to employ workers probably
- \*a. does not change as the firm hires more workers
  - b. is very high
  - c. rises as the firm hires more workers
  - d. falls as the firm hires more workers

**Use the graph below to answer question number 39**

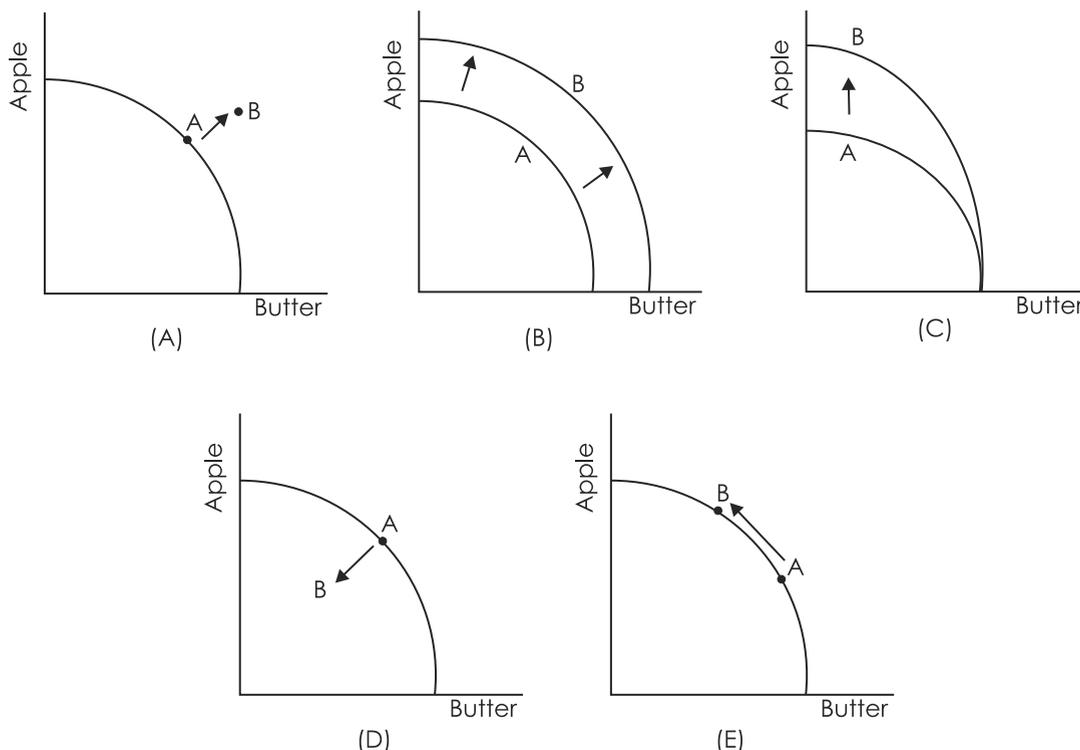


39. According to the above graph, this monopsony firm will hire a quantity of labor equal to
- a. 0-L4
  - b. 0-L3
  - \*c. 0-L2
  - d. 0-L1
40. A profit-maximizing monopsonist will hire additional units of labor as long as its:
- a. marginal revenue product exceeds labor supply
  - \*b. marginal revenue product exceeds marginal factor cost
  - c. marginal factor cost curve is horizontal
  - d. marginal revenue product curve is declining
  - e. marginal factor cost exceeds the marginal revenue product

**MICRO-ECONOMICS-V (\*DENOTES ANSWERS)**

1. Factors of production (resources) include
  - a. land, capital, and interest
  - b. land, interest, and rent
  - \*c. labor, land, and capital
  - d. labor, capital, and profits
  - e. wages, rent, and interest
  
2. If Seymour can paint 1 room for every 200 cakes he bakes, the opportunity cost of a cake for Seymour is painting
  - \*a. 1/200 of a room
  - b. 1/2 of a room
  - c. 1 room
  - d. 1/100 of a room
  
3. Unemployment and technological inefficiency can:
  - a. exist at any point on a production possibilities frontier
  - b. cause the production possibilities frontier to shift inward
  - \*c. both be illustrated by a point inside the production possibilities frontier
  - d. both be illustrated by a point outside the production possibilities frontier

**Use the following graph to answer question 4**



4. Assume that an economy is producing only two goods: apples and butter. Suppose that a new fertilizer is invented which greatly increases the productivity of apple trees. From the figures above, choose the one which best illustrates the change in the production possibilities caused by this increased productivity, all other things unchanged.
  - \*a. (C)
  - b. (D)
  - c. (A)
  - d. (B)
  - e. (E)
5. Which one of the following will cause the demand curve for gasoline to shift to the right?
  - \*a. a fall in the price of cars
  - b. an increase in the supply of gasoline
  - c. a fall in the price of gasoline
  - d. a rise in the price of cars
6. An improvement in a competitive seller's technology is likely to result in:
  - a. an increase in the quantity offered for sale at each price
  - b. an increase in his supply
  - c. a shift of his supply curve to the right
  - \*d. all of the above
7. Suppose the price of good 'X' has decreased; which in turn, leads to an increase in the demand for good 'Y'. Economic analysis states that the goods (X and Y) must be:
  - a. substitute goods
  - \*b. complementary goods
  - c. normal goods
  - d. inferior goods
  - e. durable goods
8. This month, the Fritter Firm finds that it can sell 200 fritters at a price of ₹1 per fritter. The previous month, the firm was able to sell only 150 fritters at ₹1 per fritter. What most likely happened over the month?
  - a. supply decreased
  - b. quantity supplied decreased
  - \*c. demand increased
  - d. demand decreased
9. Price ceilings and price floors are usually intended to benefit:
  - a. government by increasing government revenue
  - \*b. buyers (ceilings) and sellers (floors)
  - c. buyers
  - d. sellers



10. If a price decrease from ₹50 to ₹40 results in a decrease in quantity supplied from 14 units to 10 units, the price elasticity of supply is
- 1.00
  - \*b. 1.50
  - .40
  - .67
  - 2.50
11. The price elasticity of demand, for a given product, indicates:
- the extent to which a demand curve shifts as incomes change
  - \*b. consumer responsiveness to price changes
  - how far businessmen can stretch their fixed costs
  - the degree of competition in a market
12. Assume that Mr. Consumer spent all of his budget to purchase 8 units of good S and 3 units of good T when the price of good S was ₹2 per unit and the price of good T was ₹3 per unit. Assume also that the marginal utility of the eighth unit of S was 16 and the marginal utility of the third unit of T was 18. If S and T are the only goods available and Dr. Consumer is rational, one can conclude that Dr. Consumer
- should have purchased more of good T and less of good S
  - should have purchased less of both goods
  - maximized utility
  - \*d. should have purchased more of good S and less of good T
13. Marginal utility is
- the utility per unit associated with the last unit of a good consumed
  - the total utility associated with consuming a good
  - equal to the price of the good
  - the usefulness of the last or next unit of a good consumed
  - \*e. the change in total utility associated with consuming an additional unit of a good
14. When U.S. residents demand German marks:
- they plan to spend those marks on American produced goods
  - they can only use those marks to purchase gold from the German Central Bank
  - \*c. U.S. residents at the same time supply dollars to German residents
  - U.S. residents at the same time demand U.S. dollars from German residents
15. Tariffs tend to reduce the volume of imports by:
- reducing the price of domestically produced goods
  - placing quality requirements on imported goods
  - limiting the quantity of a good which can be imported during a specified time period
  - \*d. increasing the price of the item to domestic consumers

16. The long-run is a
- a. period long enough to allow firms to make economic decisions
  - b. period which affects larger rather than smaller firms
  - c. period of 3 years or longer
  - \*d. period long enough to allow firms to vary all resources
17. A young chef is considering opening his own restaurant. To do so, he would have to quit his current job at ₹20,000 a year and take over a store building he owns that currently rents for ₹6,000 a year. His expenses at the restaurant would be ₹50,000 for food and ₹2,000 for gas and electricity. What are his implicit costs?
- a. ₹78,000
  - b. ₹52,000
  - \*c. ₹26,000
  - d. ₹60,000
  - e. ₹72,000
18. Economic goods and services produced by business firms are called
- a. innovations
  - b. productivity
  - c. inputs
  - \*d. outputs
  - e. technological progress
19. When production is subject to the influence of the law of diminishing marginal productivity (but it is still possible to increase total output) then, in order to obtain successive increases in output of 1 extra unit
- \*a. greater and greater amounts of the variable input will be needed
  - b. the marginal contribution must be negative
  - c. smaller and smaller amounts of the variable input will be needed
  - d. adding more of the variable input will do more harm than good, because it must diminish total output instead of increasing it
20. A U-shaped long-run average cost curve represents
- \*a. economies and diseconomies of scale
  - b. average fixed costs and average variable costs
  - c. increasing and decreasing marginal product
  - d. fixed costs and variable costs
21. The model of perfect competition is more useful for analyzing situations in which firms
- a. engage in price wars in order to secure a position in the market
  - b. differentiate their products
  - \*c. are price takers
  - d. engage in advertising and other forms of nonprice competition



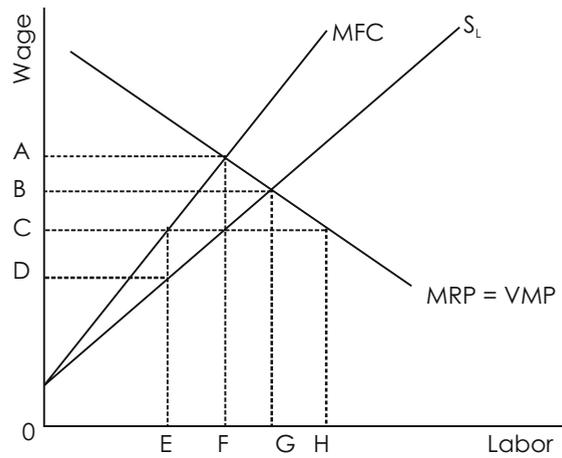
22. A perfectly competitive firm can exert no control over price because
- \*a. the firm's production is insignificant relative to production in the industry
  - b. the firm's marginal revenue curve is downward sloping
  - c. the firm's demand curve is downward sloping
  - d. of a lack of substitutes for the product
23. For the perfectly competitive firm, the profit maximizing level of output is where
- a. marginal revenue equals price
  - \*b. marginal revenue equals marginal cost
  - c. price equals average total cost
  - d. price equals average variable cost
24. The short-run supply curve for a perfectly competitive industry is equal to the horizontal summation of the individual firms'
- a. marginal cost curves
  - \*b. marginal cost curves above their respective average variable cost curves
  - c. average total cost curves
  - d. average variable cost curves
25. If firms in a perfectly competitive industry are incurring average total costs that are less than the prices they are charging, the firms:
- a. will enjoy long-run economic profit
  - b. must be colluding
  - c. will enjoy short-run economic profits that will be offset by long-run economic losses
  - \*d. will face new competition in the long-run which will drive price down to the average cost of production
26. In the long run, if a firm is incurring an economic loss, then the firm
- a. has some long-run fixed costs
  - \*b. is likely to leave the industry
  - c. is earning greater than normal profit but not an economic profit
  - d. will maximize opportunity costs by staying in business
  - e. will produce as long as total revenue exceeds total fixed cost
27. A firm might become a monopolist because:
- a. it has exclusive legal rights to make a certain product or to use a particular process
  - b. significant economies of scale exist in the industry
  - c. it uses business practices, such as price cutting, to drive competitors from the market
  - \*d. all of the above are true

28. Given the same cost curves, a monopoly will charge
- \*a. a higher price and produce a smaller output than a perfectly competitive firm
  - b. a higher price and produce a larger output than a perfectly competitive firm
  - c. a lower price and produce a larger output than a perfectly competitive firm
  - d. a lower price and produce a smaller output than a perfectly competitive firm
  - e. the same price and produce the same output as a perfectly competitive firm
29. If a monopolistically competitive firm is in long-run equilibrium, then
- a. demand equals average revenue and average revenue equals marginal revenue
  - b. average total cost equals marginal revenue
  - c. price equals average total costs and marginal cost
  - \*d. price equals average total costs but is greater than marginal cost
30. In monopolistic competition there are
- a. many firms each producing a homogeneous product
  - b. a few firms each producing a differentiated product
  - \*c. many firms each producing a differentiated product
  - d. a few firms each producing a homogeneous product
31. The kinked demand curve model
- \*a. assumes that oligopolistic rivals will ignore a price increase on the part of a rival and match a price decrease
  - b. assumes that oligopolistic rivals will match both a price decrease and a price increase
  - c. requires a collusive oligopoly
  - d. assumes that oligopoly pricing is flexible upward and downward
  - e. assumes product differentiation
32. When firms make pricing and output decisions jointly they are said to be
- a. arbitrating
  - b. arbitraging
  - c. dumping
  - \*d. colluding
33. For imperfectly competitive firms (monopoly, monopolistic competition, and oligopoly firms)
- a. price is the same as marginal revenue at all output levels
  - b. price is either less than marginal revenue at particular output levels or the same as marginal revenue
  - c. price is less than marginal revenue at all or most output levels
  - \*d. price is greater than marginal revenue at all or most output levels



34. For price discrimination to be possible between different buyers, the seller must, among other things,
- \*a. prevent resale of the commodity
  - b. rely on the ignorance of one consumer about what other consumers are paying
  - c. produce at decreasing cost
  - d. face an inelastic demand
35. An increase in the market demand for labor will cause:
- a. the supply of labor to rise
  - \*b. the wage rate to rise and the quantity of labor employed to rise
  - c. the level of employment to fall
  - d. the wage rate to fall
36. In which of the following cases should a firm use less labor in order to increase profits?
- \*a. marginal revenue product is less than marginal factor cost
  - b. marginal physical product is less than marginal factor cost
  - c. marginal revenue product exceeds marginal factor cost
  - d. marginal revenue product equals marginal factor cost
37. A firm which is perfectly competitive in both its output and labor market should hire an additional worker if
- a. marginal product would be decreased
  - b. marginal product would be increased
  - c. total revenue is less than total cost
  - d. marginal revenue product is less than the wage rate
  - \*e. marginal revenue product is more than the wage rate
38. An increase in a perfectly competitive firm's demand for labor could be caused by
- a. a fall in the market price of the product that the firm produces
  - \*b. an increase in the market price of the product that the firm produces
  - c. a fall in the wage rate
  - d. a decrease in the marginal product of labor
39. Compared to a perfectly competitive labor market, the monopsonist would hire
- a. more labor and pay a higher wage
  - b. more labor and pay a lower wage
  - c. less labor and pay a higher wage
  - \*d. less labor and pay a lower wage

Use the graph below to answer question number 40



40. The firm in the diagram above is:
- \*a. perfectly competitive in the product market and a monopsonist in the labor market
  - b. a monopolist in the product market and perfectly competitive in the labor market
  - c. perfectly competitive in the product market and the labor market
  - d. a monopolist in the product market and a monopsonist in the labor market



## MICRO-ECONOMICS-VI (\*DENOTES ANSWERS)

1. Opportunity cost can be defined as
  - \*a. the highest-valued alternative that had to be sacrificed for the option that was chosen
  - b. the lowest-valued alternative that had to be sacrificed for the option that was chosen
  - c. the time involved in the production of an economic good
  - d. the money cost of an economic good
2. Economic models or theories
  - a. are limited to variables that are directly (positively) related
  - \*b. are simplifications of the real world they represent
  - c. cannot be tested empirically
  - d. are limited to variables that are inversely related
3. On a production possibilities frontier, the optimum or best combination of output is
  - a. at the precise midpoint of the frontier
  - b. at a point near the bottom of the frontier
  - c. at a point near the top of the frontier
  - d. at a point near the middle of the frontier
  - \*e. impossible to determine since this is a value judgment to be made by society
4. Assuming an economy to be operating at a point inside the production possibilities frontier, one may conclude that:
  - \*a. unemployment of resources or technological inefficiency exists
  - b. the economy is a free market economy
  - c. the economy is at full employment
  - d. maximum output is now achieved
5. Suppose that a demand curve for a product is negatively sloped and that the price of the product increases from ₹4.50 to ₹5.00. Which of the following will result?
  - a. the supply of the product will decrease
  - b. quantity demanded of the product will increase
  - c. consumer tastes for this product will increase
  - d. the demand for the product will increase
  - \*e. quantity demanded of the product will decrease
6. The market system rations goods/services to those who 'value it most highly', that is, those who
  - \*a. are willing and able to give up the most other goods to acquire it
  - b. need it the most
  - c. can afford it
  - d. are willing and able to give up the least other goods to acquire it

7. Which of the following will not cause a change in demand for good X?
  - a. a change in the price of substitute good Y
  - b. a change in the price of complementary good Z
  - \*c. a change in the price of X
  - d. a change in consumer incomes
8. Last year a firm made 1000 units of its good available at a price of ₹5 per unit. This year the firm would still be willing to make 1000 units available but only if the price is ₹7 per unit. What has happened?
  - a. quantity supplied has decreased
  - b. quantity supplied has increased
  - c. supply has increased
  - \*d. supply has decreased
9. At the equilibrium price in a market,
  - \*a. there is no tendency for prices to rise or fall
  - b. quantity supplied exceeds quantity demanded
  - c. there is a tendency for prices to rise
  - d. there is a tendency for prices to fall
  - e. quantity demanded exceeds quantity supplied
10. Suppose the price of a certain good fell from ₹1 to ₹.50 and the quantity demanded increased from 250 to 750 units. Over this range of the demand curve, the elasticity of demand is:
  - a. 1
  - b. .75
  - \*c. 1.5
  - d. 1.2
11. If the percentage change in quantity demanded for a product is smaller than the percentage change in price, then demand for the good is
  - a. infinitely elastic
  - b. of unitary elasticity
  - c. perfectly inelastic
  - \*d. inelastic
  - e. elastic
12. The law of diminishing marginal utility states that
  - \*a. eventually additional units of a given product will yield less and less extra satisfaction to a consumer
  - b. total utility is maximized when consumers obtain the same amount of utility per unit of each product consumed
  - c. it will take larger and larger amounts of resources beyond some point to produce successive units of a product
  - d. price must be lowered in order to induce firms to supply more of a product

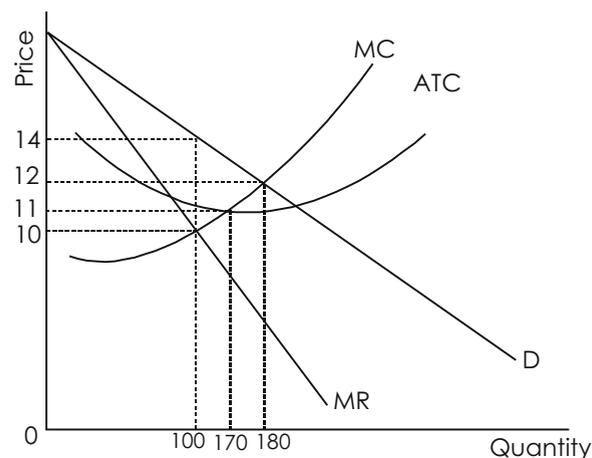


13. If George gets 100 units of utility from watching the show "Family Ties" one time and 150 units of utility from watching the same show twice, his marginal utility from watching the second time is
- 250
  - 50
  - \*c. 50
  - 150
14. The exchange rate is:
- \*a. the price of one country's currency expressed in terms of another country's currency
  - the ratio of the value of total imports to the value of total exports
  - the dollar price of an ounce of gold
  - total exports divided by total imports
15. If a nation limits the quantity of a foreign produced good that can be imported into that nation during a specified period of time, the nation has imposed:
- \*a. a quota
  - an ad valorem tariff
  - a selective tariff
  - a specific tariff
16. Which of the following is most likely to be an implicit cost for Ace Manufacturers?
- the cost of Ace's advertising on local TV stations
  - \*b. the interest payments that Ace could have earned on the money it just paid to redecorate its corporate offices
  - interest payments on Ace's outstanding debt
  - salaries paid to Ace's vice presidents
17. A production function describes the relationship between the
- rate of output and costs of production
  - rate of output and technology
  - \*c. maximum rate of output and given quantities of inputs
  - actual rate of output and given quantities of inputs
18. The addition to total output resulting from the employment of one more worker, other things equal, is the
- total product of labor
  - \*b. marginal product of labor
  - average product of labor
  - input ratio
19. A firm's short-run average total cost curve is affected by all of the following except:
- \*a. the demand for the product
  - the prices of all the factors of production

- c. the production technology
  - d. the price(s) of the variable factor(s) of production
20. When economies of scale exist, a firm's long-run average cost
- \*a. decreases as output increases
  - b. slopes upward
  - c. increases as output increases
  - d. remains constant as output increases
21. The model of perfect competition is more useful for analyzing situations in which firms
- a. engage in price wars in order to secure a position in the market
  - b. differentiate their products
  - \*c. are price takers
  - d. engage in advertising and other forms of nonprice competition
22. Assume that the market price faced by a perfectly competitive firm increases. This means that:
- a. the average total cost for the firm will shift to the right
  - \*b. the firm's marginal revenue curve will shift up
  - c. the marginal cost curve will shift up
  - d. the demand curve faced by the firm will shift down
23. At any level of output greater than the most profitable one, a reduction in output by one unit decreases total
- a. revenue but not total cost
  - b. revenue by the same amount as total cost
  - \*c. cost more than total revenue
  - d. revenue more than total cost
24. For the perfectly competitive firm, the profit maximizing level of output is where
- a. marginal revenue equals price
  - \*b. marginal revenue equals marginal cost
  - c. price equals average total cost
  - d. price equals average variable cost
25. If firms in a perfectly competitive industry are incurring average total costs that are less than the prices they are charging, the firms:
- a. will enjoy long-run economic profit
  - b. must be colluding
  - c. will enjoy short-run economic profits that will be offset by long-run economic losses
  - \*d. will face new competition in the long-run which will drive price down to the average cost of production

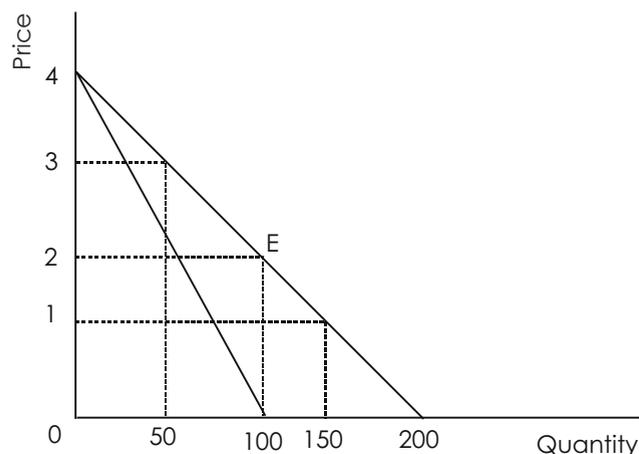
26. Consider a perfectly competitive, constant-cost industry which is in long run equilibrium. Which of the following statements is correct?
- changes in the market demand may, in the long run, cause the market price to rise, fall, or remain constant
  - changes in the market demand will, in the long run, have no impact on the market price
  - the market demand for this industry must be perfectly elastic
  - if the market demand increases then, in the long run, the market price will also increase
27. There are several reasons that monopoly may arise. Which of these is not one of them?
- there may be extensive economies of scale in the industry
  - a firm may be awarded a government franchise of some type
  - a firm may have a patent on the product
  - economies of scale are not significant relative to market demand
28. To maximize profits or minimize losses, a monopolist should equate
- price to average cost
  - total revenue to total cost
  - marginal revenue with marginal cost
  - price to marginal cost
  - average revenue to average cost.
29. Which of the following does not characterize a market structure that is defined as monopolistic competition?
- entry to the industry is relatively easy
  - each firm is only a price taker
  - there are a large number of firms
  - each firm's product is differentiated from that of the other firms

**Use the graph below to answer question number 30**



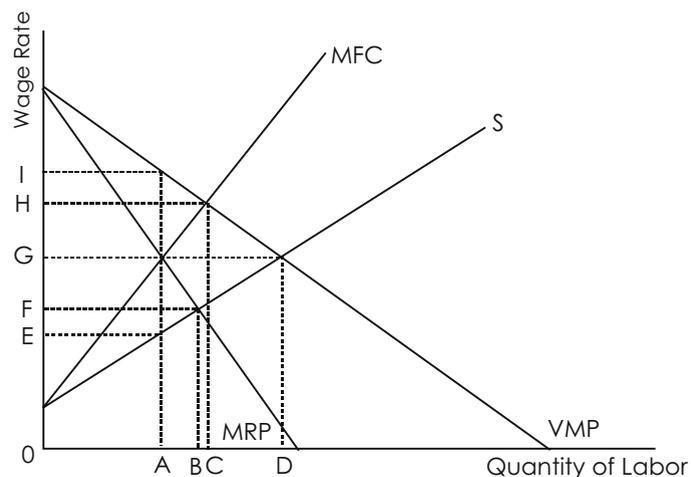
30. Use the graph to the right to answer this question. If this monopolistically competitive firm is a profit maximizer it will realize a short-run:
- a. loss of ₹250
  - b. loss of ₹320
  - c. economic profit of ₹160
  - \*d. economic profit of ₹320
  - e. economic profit of ₹600
31. A kinked demand curve is most often associated with the market structure of:
- \*a. oligopoly
  - b. monopoly
  - c. perfect competition
  - d. monopolistic competition
  - e. a quasi-public corporation
32. A profit-maximizing oligopolist
- a. will shut down when it cannot cover its fixed cost
  - b. will always earn positive economic profit in the long run
  - c. equates marginal revenue with demand
  - \*d. charges a price in excess of marginal cost
  - e. produces the output for which price equals average cost
33. Output for a price discriminating monopolist, in comparison to a single-price monopoly, will be
- a. lower and profits will be lower
  - b. lower and profits will be higher
  - c. higher and profits will be lower
  - \*d. higher and profits will be higher

**Use the graph below to answer question number 34**



34. Suppose that you own and operate a movie theater: the demand (and marginal revenue) for theater tickets is drawn in the above graph. The unique feature of this business is that all costs are fixed. (If you must pay ₹50 to rent a film that can be shown only once, your costs are ₹50 whether you have 1 or 100 customers).
- What price should you charge? ₹ (Hint: draw the appropriate MC curve in the diagram above) :  
 What are the number of tickets you should sell in order to maximize
- 150, ₹1
  - 200, ₹.50
  - 50, ₹3
  - 100, ₹2
35. When economists say that the demand for labor is a derived demand, they mean that the demand for labor is
- related to the demand for the product labor is producing
  - dependent upon government expenditures for social goods and services
  - based on the assumption that workers are trying to maximize their money incomes
  - based upon the desire of businessmen to exploit labor by paying below equilibrium wage rates
36. An increase in the market demand for labor will cause:
- the supply of labor to rise
  - the wage rate to rise and the quantity of labor employed to rise
  - the level of employment to fall
  - the wage rate to fall
37. A firm which is perfectly competitive in the output market will continue to hire labor as long as:
- the value of the marginal product is less than marginal factor cost
  - marginal cost is greater than marginal revenue
  - marginal revenue product is less than marginal factor cost
  - marginal revenue product is greater than marginal factor cost

**Use the graph below to answer question number 38**



38. The firm in the above graph will hire \_\_\_\_ workers.
- a. 0-C
  - b. 0-D
  - \*c. 0-A
  - d. 0-B
39. If a firm hires an insignificant fraction of unskilled labor in its community, then the wage rate that it probably must offer in order to employ workers
- \*a. does not change as the firm hires more workers
  - b. is very high
  - c. rises as the firm hires more workers
  - d. falls as the firm hires more workers
40. The wage rate a monopsonist would pay
- \*a. is less than the marginal revenue product
  - b. is equal to the marginal factor cost
  - c. is equal to the marginal revenue product
  - d. is greater than the marginal revenue product
  - e. is greater than the marginal factor cost

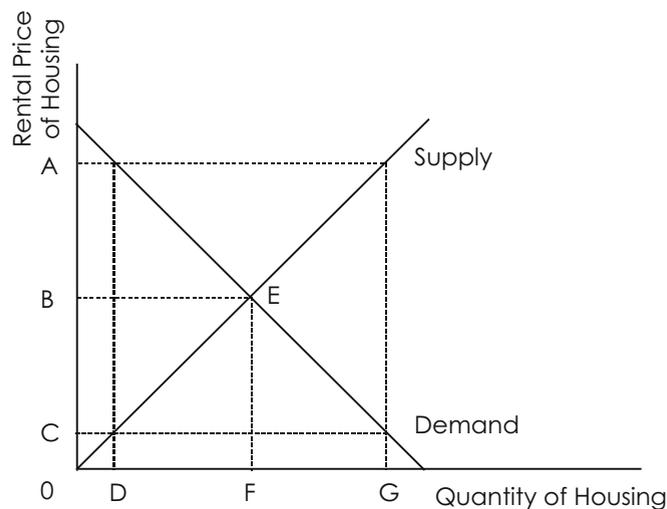


## MICRO-ECONOMICS-VII (\*DENOTES ANSWERS)

1. The question of HOW production will be organized in a market economy is most directly determined by:
  - \*a. suppliers or entrepreneurs
  - b. the National Economic Planning Commission
  - c. consumers
  - d. economic forecasters
2. The difference between a scarce (economic) good and a free good is that
  - \*a. for free goods at a price of zero enough of the good is available to completely satisfy consumers' demand for the good
  - b. free goods no longer exist — there are only scarce goods
  - c. free goods are made with natural resources
  - d. free goods are provided by the government
3. A reduction in the amount of unemployment
  - a. moves the economy along the production possibilities frontier
  - b. moves the economy further away from the production possibilities frontier
  - c. shifts the production-possibilities frontier
  - \*d. moves the economy closer to the production possibilities frontier
4. A production possibilities frontier will shift out when:
  - a. the production of investment goods decreases
  - \*b. the quantity and/or productivity of resources (factors of production) increases
  - c. unemployment is decreased
  - d. the labor force decreases
5. The typical demand curve is
  - a. vertical
  - b. horizontal
  - c. positively sloped
  - \*d. negatively sloped
6. Suppose the law prohibiting possession of marijuana in quantities of less than one ounce were abolished and at the same time penalties for the production or sale of marijuana were increased. As a result of these two changes, the demand for marijuana would (increase/decrease) and the supply of marijuana would (increase/decrease), the price of marijuana then should (rise/fall/neither rise nor fall).
  - a. decrease, decrease, neither
  - b. decrease, increase, fall
  - \*c. increase, decrease, rise
  - d. increase, decrease, neither

7. If the demand for product J shifts to the left as the price of product K increases, then
- J and K are complementary goods
  - J and K are not related goods
  - the number of consumers of product K has increased
  - J and K are substitute goods
8. Suppose that as the price of gasoline rises from ₹1.00 per gallon to ₹1.50 per gallon, the quantity of gasoline sold increases from 100 trillion gallons to 150 trillion gallons. Which of the following is a possible explanation for this?
- There were fewer users of automobiles
  - The price of public transportation increased over the same time period
  - The demand curve for gasoline is perfectly inelastic
  - All of the above are possible explanations
9. Price elasticity of supply is the
- change in quantity supplied due to a change in quantity demanded
  - percentage change in quantity supplied divided by the percentage change in price
  - responsiveness of supply to changes in costs
  - responsiveness of the price to changes in supply

**Use the graph below to answer question number 10**



10. If a price ceiling is imposed on the rental price of housing (assume the government can enforce the price ceiling) then:
- a ceiling price of OC will result in a shortage of DG units of housing
  - a ceiling price of OA will result in a shortage of DG units of housing
  - a ceiling price of OC will result in a surplus of DG units of housing
  - a ceiling price of OA will result in a surplus of DG units of housing



11. Suppose the price of a certain good fell from ₹1 to ₹.50 and the quantity demanded increased from 250 to 750 units. Over this range of the demand curve, the elasticity of demand is:
- a. 1
  - b. .75
  - \*c. 1.5
  - d. 1.2
12. The price that one is willing to pay for a unit of a good depends on its
- \*a. marginal utility
  - b. cost of production
  - c. total utility
  - d. supply
13. Utility refers to the
- \*a. satisfaction derived from consuming a good or service
  - b. net social benefit of a good or service
  - c. market value of a good or service
  - d. scarcity price of a good or service
14. When U.S. residents demand German marks:
- a. they plan to spend those marks on American produced goods
  - b. they can only use those marks to purchase gold from the German Central Bank
  - \*c. U.S. residents at the same time supply dollars to German residents
  - d. U.S. residents at the same time demand U.S. dollars from German residents
15. Which of the following could NOT result from a tariff?
- \*a. consumers to be better off because there are more goods available
  - b. consumers to be worse off because there are fewer imports
  - c. domestic producers to be better off because they sell more goods
  - d. domestic producers to be better off because they sell at a higher price

**Use the Table below to answer question number 16**

Output	Total Cost (₹)
0	24
1	33
2	41
3	48
4	54
5	61
6	69

16. In the table above, the total variable cost of producing 5 units is:
- \*a. ₹37
  - b. ₹24
  - c. ₹61
  - d. ₹48
17. Explicit costs differ from implicit costs in that explicit costs are:
- \*a. paid to others whereas implicit costs do not represent a payment to others
  - b. true costs; implicit costs are not part of total economic costs
  - c. not deductible for tax purposes
  - d. not necessarily paid whereas implicit costs are always directly paid

**Use the table below to answer question number 18**

Units of Labor per Day	Total Units of Output per Day	Total Fixed Costs per Day (₹)
0	0	120
1	10	120
2	30	120
3	60	120
4	100	120
5	120	120
6	126	120
7	119	120

18. In the table above, the average fixed cost associated with an output of 100 units per day is \_\_\_\_\_?
- a. ₹30.01
  - \*b. ₹1.20
  - c. ₹120
  - d. ₹0
19. If marginal cost lies below average total cost, then
- a. average fixed cost must be rising
  - b. average total cost must be rising
  - \*c. average total cost must be falling
  - d. marginal cost must be falling
  - e. marginal cost must be rising
20. The marginal product of capital divided by its price is half as large as the marginal product of labor divided by its price. For production costs to be minimized:
- a. more capital should be used and less labor



- \*b. more labor should be used and less capital
  - c. the price of capital must fall
  - d. the firm must increase production to reach the minimum point of the short-run average cost curve
21. The demand curve of a perfectly competitive firm
- a. is the same as the market demand curve for the entire industry
  - \*b. is perfectly elastic
  - c. has a price elasticity coefficient of less than 1
  - d. is perfectly inelastic
22. A perfectly competitive firm
- a. is likely to earn positive economic profit in the long run
  - b. will always exit the industry if it is incurring losses in the short run
  - \*c. is a price taker
  - d. always produces at the minimum average total cost
23. At the output where a firm's average total cost equals its price, the firm is
- a. incurring an economic loss
  - b. earning more than a break-even return
  - c. earning an economic or pure profit
  - \*d. earning zero economic profits
  - e. earning less than a break-even return
24. Where marginal cost is rising and exceeds marginal revenue, a profit-maximizing firm would
- a. continue producing the same level of output in the short run
  - b. shut down in the long run
  - c. produce more
  - \*d. produce less
25. A decrease in demand that results in economic losses in a perfectly competitive industry will:
- a. encourage entry into the industry
  - \*b. encourage exit from the industry
  - c. induce new, more efficient, firms to enter the industry
  - d. cause existing firms in the industry to expand the scale of their operation
26. If entry of new firms into a perfectly competitive market results in higher resource costs, the long-run market-supply curve will be
- a. negatively sloped
  - b. perfectly inelastic
  - c. perfectly elastic
  - \*d. positively sloped

27. Monopolists
- a. are guaranteed at least a zero economic profit
  - b. are guaranteed more than a normal profit
  - c. are guaranteed an economic profit
  - \*d. none of the above are correct
28. For the monopolist, at the profit maximizing level of output in the short run, all of the following necessarily hold except
- a. Price is greater than MC
  - b. ATC is greater than Average Variable Cost (AVC)
  - \*c. Marginal Cost (MC) equals Average Total Cost (ATC)
  - d. Marginal Revenue (MR) equals MC
29. In monopolistic competition there are
- a. many firms each producing a homogeneous product
  - b. a few firms each producing a differentiated product
  - \*c. many firms each producing a differentiated product
  - d. a few firms each producing a homogeneous product
30. If additional firms enter a monopolistically competitive industry
- a. the price would most likely increase
  - \*b. the demand facing an existing firm would decrease
  - c. the demand facing an existing firm would increase
  - d. the profits of an existing firm would increase
31. In oligopoly markets there
- a. is a single source of supply
  - b. is a single source of demand
  - c. are a large number of firms each selling a homogeneous product
  - d. are a large number of firms each selling a highly differentiated product
  - \*e. is a small number of firms each selling either a differentiated or a homogenous product
32. "Mutual Interdependence" means that
- a. each firm in the market makes homogeneous products
  - \*b. a single firm will consider reactions of rivals to any action the single firm takes
  - c. pricing actions of rivals in the market are of no consequence to a single firm
  - d. each firm in the market makes differentiated products
  - e. the demand curves of the firm and the market are identical



33. All markets that are not perfectly competitive have which of the following characteristics?
- a. each firm's demand curve is the industry demand curve
  - b. products that the various firms sell are always differentiated to some extent
  - \*c. firms in the market have some control over price (face a downward sloping demand curve)
  - d. there are only a few firms in the industry
  - e. all the firms make substantial profits
34. If a firm which is unable to price discriminate is faced with a downward sloping demand curve:
- a. its supply curve is its marginal cost curve above its average variable cost curve
  - \*b. its marginal revenue curve is less than its price
  - c. its marginal revenue curve equals its price
  - d. its most profitable output is where marginal cost equals price
35. The price elasticity of demand for labor will be greater
- a. the more difficulty it is to substitute capital for labor
  - b. the smaller is the proportion of total costs accounted for by labor
  - \*c. the greater is the price elasticity of demand for the output
  - d. the shorter is the time period for adjustment
36. An increase in the market demand for labor will cause:
- a. the supply of labor to rise
  - \*b. the wage rate to rise and the quantity of labor employed to rise
  - c. the level of employment to fall
  - d. the wage rate to fall
37. A firm which is perfectly competitive in both its output and labor market should hire an additional worker if
- a. marginal product would be decreased
  - b. marginal product would be increased
  - c. total revenue is less than total cost
  - d. marginal revenue product is less than the wage rate
  - \*e. marginal revenue product is more than the wage rate
38. If both the output and the labor market are perfectly competitive, the wage will be
- \*a. about equal to the value of the additional output produced by the last worker hired
  - b. mainly determined by the bargaining power of unions
  - c. driven down to the subsistence level
  - d. about equal to the value of the average product of labor

39. A monopsonist, as compared to a perfect competitor in the labor market, would
- a. pay the same wage and employ more labor
  - b. pay the same wage and employ less labor
  - c. pay a higher wage and employ more labor
  - d. pay a higher wage and employ less labor
  - \*e. pay a lower wage and employ less labor
40. A monopsonistic firm will pay a wage that is
- a. greater than the marginal factor cost
  - b. equal to the opportunity cost of the employer
  - \*c. less than the marginal factor cost
  - d. equal to the marginal factor cost
  - e. equal to the cost of capital

# Study Note - 3

## NATIONAL INCOME



### This Study Note includes

- 3.1 Concept of National Income
- 3.2 Measurement of National Income
- 3.3 National Income & Economic Welfare
- 3.4 Concept of Consumption, Saving & Investment
- 3.5 Economic Growth & Fluctuation

### 3.1 CONCEPT OF NATIONAL INCOME

- The value of aggregate output produced by different sectors during a given time periods.
- In real terms — it is the flow of goods and services produced in an economy in a particular period - a year.

#### 3.1.1 Concepts Associated with National Income

<b>Gross National Product (GNP)</b>	<ul style="list-style-type: none"> <li>• the market value of all final goods and services;</li> <li>• These are produced by domestically owned factors of production in a country in that year.</li> </ul>
<b>Net National Product (NNP)</b>	<ul style="list-style-type: none"> <li>• <math>NNP \text{ at market price} = GNP \text{ minus depreciation of capital stock.}</math></li> <li>• The productive power of physical capital stock diminishes gradually because of the wear and tear that it undergoes in the process of production.</li> </ul>
<b>NNP at factor cost or National Income</b>	<ul style="list-style-type: none"> <li>• <math>NNP \text{ at factor cost} = NNP \text{ at market price minus Indirect Business Tax minus Non tax liabilities minus Business Transfer Payments plus Subsidy from Government} = \text{National Income.}</math></li> </ul>
<b>Gross Domestic Product (GDP)</b>	<ul style="list-style-type: none"> <li>• the sum total of values of all goods and services produced within the geographical boundary of the country;</li> <li>• These are without adding the factor income received from abroad.</li> </ul>

#### Distinction between Gross National Product and Gross Domestic Product –

Gross National Product (GNP) is different from Gross Domestic Product (GDP) in following respects:

- (a) GNP refers to the total market value of all the final goods and services produced in a country during a given year, plus net factor income from abroad.
- But GDP refers to the total market value of all the goods and services produced in the given year within the domestic territory of the country.
- (b) GNP includes all income earned by the country in abroad (including foreign investments). But GDP does not include the income earned by the country from abroad.

### 3.2 MEASUREMENT OF NATIONAL INCOME

There are three alternative ways of estimating National Income of a country. Broadly it may be viewed from income side, output side and expenditure side. Let us discuss these methods:

<b>Product method</b>	<ul style="list-style-type: none"> <li>• It implies by adding the values of output produced and services rendered by different sectors;</li> <li>• The output method is unscientific;</li> <li>• Only those goods and services are counted which are paid for, that is marketed;</li> <li>• The value added method can be used;</li> <li>• Here only the value added by each firm in the production process is included in the output figure,</li> <li>• The value added output of all sectors makes up GNP at factor cost.</li> </ul>
<b>Income method</b>	<ul style="list-style-type: none"> <li>• All income from employment and ownership of assets before taxation received from productive activities to be counted.</li> <li>• It is the factor income method.</li> <li>• The undistributed profits of the private sector are added.</li> <li>• The trading surplus of the public sector corporations is also added.</li> <li>• These exclude some items which do not arise from productive activities, such as — sickness benefits, interest on national debt etc.</li> </ul>
<b>Expenditure Method</b>	<ul style="list-style-type: none"> <li>• It depends on by measuring the total domestic expenditure;</li> <li>• It comprises two elements;</li> <li>• Consumption expenditure of the household sector on goods and services, consumption outlays of business sector and public authorities.</li> <li>• investment expenditure is used for making a fixed capital like building, machinery etc.</li> </ul>

#### Usefulness of National Income estimates

1. It shows how the production is changing, to output and the effects of government policies and programmes.
2. In analyzing the relation between input of one industry and the output of the other.
3. It reveals the distribution of income among economic units.
4. Changes of tastes and fashions are revealed which help businessmen in deciding what to produce or for whom to produce.
5. The national income quantum indicates the ability of a country to pay its share for international purpose e.g. membership of IMF or World Bank.

#### Difficulties in Estimating National Income

<b>Conceptual Difficulties</b>	<ul style="list-style-type: none"> <li>• No practicable methods exists for inclusion of some items in National Income (NI), such as — services for which no remuneration is paid, goods that are marketed sold at a price but are used for self-consumption etc.</li> <li>• It is not always possible to make a clear distinction between primary, intermediate and final goods.</li> <li>• The price that should be chosen to determine the money value of National product is a difficult question.</li> <li>• Debate regarding inclusion of income of foreign companies in National Income estimates since, a large part of such income is remitted out of the country.</li> </ul>
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### Statistical Difficulties

- Changes in the price level involve the use of Index Numbers which have their inherent difficulties.
- Official statistics are not always accurate as it is based on guess work and sample survey.
- Methods of computing NI are not the same in all countries.
- The statistical data are often not available.

## 3.3 NATIONAL INCOME AND ECONOMIC WELFARE

- Many things (pollution cost, disseminates of modern urban living, leisure etc.) that contribute to human welfare are not included in the GNP (Gross National Product).
- GNP may not adequately reflect changes in the quality of products.
- GNP does not measure the quality of life.
- Increase in the general price level would bring a fall in the economic welfare.
- If the net National Product has increased on account of more production of capital goods, it will not increase welfare.
- Welfare also depends upon the distribution of National Income.
- The unequal distribution of National Income decrease economic welfare.

## 3.4 CONCEPT OF CONSUMPTION, SAVING AND INVESTMENT

### 3.4.1 Consumption

Keynes held that current consumption depends upon current gross income minus tax liabilities. He says "men are disposed as a rule and on the average, to increase their consumption as their income increases by not by as much as the increase in their income." Symbolically  $1 > C > 0$ . This is the psychological law of consumption.

#### • Consumption Function

The propensity to consume shows income consumption relationship  $C = F(Y)$ . here C is consumption, a dependent variable and Y is an independent variable. It should be noted that propensity to consume does not mean desire to consume but effective consumption. C is an increasing function of income as Y and C move in the same direction.

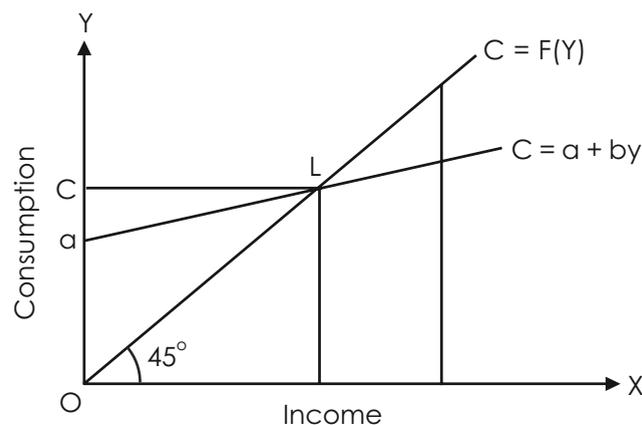


Fig. 3.1

OX measures real income and OY consumption. The C curve represents the propensity to consume. It slopes upward to the right showing consumption rising along with income. At point a while income is zero consumption is positive, and upto CL on the consumption curve, we find that consumption exceeds income.

- **Average Propensity to consume**

It implies the ratio of total consumption to total income.

$$APC = c / y$$

- **Marginal propensity to consume**

This implies the effect of additional income on consumption. It is the ratio of additional consumption to additional income :  $MPC = dc/dy$ , Or  $MPC < 1$ . That is to say MPC is less than unity. The propensity to consume is a fairly stable function of income.

**Determinants of Consumption Function**

Consumption function depends on subjective and objective factors. Among objective factors we may mention a few:

- (a) **Tax Policy** – A higher rate of tax will reduce personal income and to that extent consumption as well.
- (b) **The Rate of Interest** – A higher rate of interest may induce more savings and so less consumption. However a higher interest income may raise consumption by raising total income.
- (c) **Holding of Assets** – If people want to hold more assets, like property, jewellery etc. they will curtail consumption.
- (d) **Windfall Profits or Loss** – Consumption level of those classes of people changes who gain windfall profit or incur heavy loss.

Among subjective factors we may mention some motives that lead individuals to refrain from spending. These are motive of precaution, motive of foresight, motive of improvement, motive of avarice etc.

### 3.4.2 Saving

**Definition**

- Excess of income over expenditure on consumption.
- Symbolically  $S = Y - C$ .
- The unconsumed part of national income of all members of the community represents, National Savings.
- Total domestic savings = households' savings + business sector's savings + government's savings.

**Determinants**

**(i) Income:**

- Savings is functionally related to income  $S = f(Y)$ .
- The saving income ratio tends to rise with increase in income.
- The savings function is a stable function of income in the short run.
- Savings as such is not a stable function of income.
- Marginal propensity to save ( $ds/dy$ ) is always greater than zero but less than unity.
- People save part of additional income but not the entire income.
- Symbolically,  $1 > MPS > 0$  or  $1 > ds/dy > 0$ .



The saving function is explained by three income concepts in macro economics.

- (a) Absolute Income – current savings depend on current disposable income i.e. income minus taxes paid.
- (b) Relative Income – savings of an individual depends upon his percentile position in the total income distribution.
- (c) Permanent Income – it is current income plus the expected income received over a period of time. Actual or measure income is the sum of permanent and transitory income  $Y_m = Y_p + Y_t$ . Transitory income implies unanticipated addition or subtractions in income.

**(ii) Distribution of income:**

- Inequality of income distribution helps the process of savings.
- “Demonstration effect”, that is man's desire to imitate the superior consumption standard of neighbours or relatives.
- This induces a man to buy expensive goods and so saving decline.

**(iii) Sound financial instruments and the rate of interest:**

- A higher rate of interest motivates us to save more.
- Existence of diverse type of financial instruments gives people incentive to save more.

**(iv) Subjective or psychological factors:**

- A man's attitude towards savings depends on his farsightedness, his desire to bequeath a fortune, to enjoy a better living in future or to possess some physical asset.
- A man saves or insures as a precaution against future uncertainty and insecurity.

### 3.4.3 Investment

**Definition**

Investment has dual aspect. It implies the production of new capital goods like plants and equipments. Secondly, a change in inventories or stocks of capital of a firm between two periods.

**Determinants:**

- There are two determinants — (a) the marginal efficiency of capital (MEC) and (b) the rate of interest.
- MEC implies the prospective yield from the capital asset and the supply price of this asset.
- Symbolically  $C = Q/P$ . Where Q is the prospective yield from capital asset and P is the supply of this asset.
- In considering a particular investment project the investor must have some idea of future returns, that is yields from the real asset in its life span.
- To find the present value of all expected future returns we have to discount all future returns.
- Generally there exists a negative relation between interest rate and investment expenditure.
- A fall in the rate of interest may induce an increase in investment expenditure whereas a higher rate, investment is likely to be less.
- At a higher interest rate, a firm instead of using funds for capital equipments may invest in financial assets.
- Thus the level of investment is a negative function of the rate of return.
- Risk, uncertainty and instability tend to discourage business to undertake investment projects.
- A firm may expand investment outlay for innovation viz. introducing a new good or a new technique.

- Innovations either by increasing sale or by reducing cost may help the innovating firm a larger return on its investment.
- Investment decisions are influenced by the cost of capital goods.
- A firm normally calculates the initial cost of acquisition, and the subsequent cost of maintenance and operation of capital goods.

**Marginal Productivity of Capital (MPC):**

- The additional physical product obtained due to the employment of one extra unit of capital (do/dc) per unit of time.
- The MPC is net current product of the capital good minus the cost of capital good.
- In contrast, MEC denotes the series of increments in output anticipated over the life of the capital equipment.

**Investment Multiplier:**

- The Keynesian multiplier shows how many times the total income increases by a given amount of initial investment.
- If dl represents increase in investment, dY represents increase in income and M the multiplier, then  $M = dY/dl$ .
- The multiplier is the number by which the initial investment is to be multiplied to get the resulting change in income.
- With the help of the marginal propensity to consume the relation between a given dose of investment and the resulting change in income can be shown.

**Acceleration Principle:**

- Change in output of consumption goods cause investment for production of capital goods used in producing those consumption goods.
- The ratio between the induced investment and the net change in consumption outlay is known as acceleration coefficient.
- $a = dl/dC$ , where dl is net change in investment and dC for net change in consumption expenditure and for accelerator.
- The value of accelerator depends on capital output ratio, the durability of capital goods.
- The acceleration effect will be high if capital equipments have more durability and capital output ratio is high.

**3.5 ECONOMIC GROWTH AND FLUCTUATION**

**3.5.1 Economic Fluctuation**

- The business world in capitalistic economy is said to experience ups and downs in its economic activities.
- The fluctuations take the form of Wave are known as Trade Cycle or Business Cycle, in economics.
- Every trade cycle pass through four phases, such as —

<b>Prosperity</b>	<ul style="list-style-type: none"> <li>• The main spring of business prosperity is profit.</li> <li>• In a capitalist economy as profits inflate, industrialists and businessmen get necessary incentive to produce more and invest more.</li> <li>• More investment leads to more employment and so more income more effective demand.</li> </ul>
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<b>Recession</b>	<ul style="list-style-type: none"> <li>• Excessive expansion leads to diseconomies of large scale production, rising cost, higher wages and much shortages.</li> <li>• When demand for bank credit being high and rising, interest rates tend to move up.</li> <li>• These diminish profit to a lower level.</li> </ul>
<b>Depression</b>	<ul style="list-style-type: none"> <li>• Income, employment and output decline sharply by the recessionary trends.</li> <li>• Investments fall and enterprise is discouraged.</li> <li>• Pessimism leads to depression and deflation.</li> </ul>
<b>Recovery</b>	<ul style="list-style-type: none"> <li>• Depression does not continue for indefinite period.</li> <li>• It is an improving stage of trade.</li> <li>• Weaker units are liquidated, old debts are repaid, and enterprises are reorganized.</li> <li>• Unemployment rate gradually decreases.</li> <li>• Income is generated.</li> </ul>

### Anti Cyclical Policy

- Government of a country may take some measures to control cyclical fluctuations.
- Through an expansionary or contractionary credit policy the central bank can control business cycle.
- In a period of depression government should spend more and tax less.
- The objective should be the increasing effective demand that is buying power of people.
- In prosperity phase government should spend less and tax more.
- The socialists think that cyclical fluctuations are the outcome of a capitalistic economy.
- Here profit motive is the main driving force.
- The problem can be uprooted if the system moves from capitalism to socialism.

### 3.5.2 Economic Growth

#### Definition

- The expansion in the capacity of an economy to produce goods and services over a period of time.
- An outward shift of production possibilities frontier of an economy.
- It shows the different maximum possible combinations of quantities of two goods if it employs all its available resources full and given the existing state of technology.

#### Measurement

- Different methods have been suggested for measuring economic growth.
- One measure is a country's overall capacity to produce goods and services.
- The money value of GNP can change because of change in price.
- It is necessary to measure economic growth rate by using constant Rupees, or real income.
- An increase in real GNP if followed by a higher rate of growth of population may lead to deterioration or no change in the standard of living of the population.
- $\text{Real GNP per capita} = \text{Real GNP} / \text{Population}$
- If the numerator (GNP) grows faster than the denominator (Population), real GNP per capita will grow and quality of life will improve.

**Components of Economic Growth**

<b>Size of population (P)</b>	<ul style="list-style-type: none"> <li>Population helps economic growth by enlarging demand.</li> <li>It paves the way for producing large quantity of output</li> </ul>
<b>Fraction of population that constitute labour force <math>L/P</math> (<math>L = PX</math>)</b>	<ul style="list-style-type: none"> <li>If this proportion (<math>L/P</math>) is high more will be productive capacity of an economy and vice versa.</li> </ul>
<b>The total number of labour hours actually worked by the labour force <math>L \times H = P \times L/P \times H</math></b>	<ul style="list-style-type: none"> <li>The length of the average work hour of the labour force generally seems to have a direct impact on the rate of economic growth.</li> </ul>
<b>Output per labour i.e. labour productivity <math>Q/(L \times H)</math></b>	<ul style="list-style-type: none"> <li>Output per labour hour has a direct bearing on the level of GNP.</li> <li>The more productive labour, the more will be the total output of an industry.</li> </ul>

**Relation between Stability and Growth**

- Financial stability is essential for economic growth.
- A stable economy can help the formation of capital by stimulating the inflow of foreign capital.
- Stability of currency is necessary to stimulate a rapid increase in productivity.
- If prices are not stable, firms can make 'easy' profit and repay their old debts in depreciated currency.
- The existence of well-organised financial institutions is likely to quicken economic growth by mobilizing savings for investment purposes.

**EXERCISE**

- Distinguish between –
  - GDP & GNP
  - GDP & NDP
  - NNP & GNP
  - GDPMP & NDPFC
- Explain the 'production method' of measuring national income. State the difficulties in this method.
- Explain the income and expenditure method of calculating national income, along with the difficulties associated.
- Point out the difficulties in the measurement of national income.
- What is the meaning of 'double counting' in national income accounting and what does it lead to?
- Why are the services of house wives not included in national income?
- Why are the following not included in national income :
  - Sale of an old car;
  - Winning of a lottery;
  - Income of a smuggler.
- Give an example of transfer payment.
- What is meant by Consumption functions? What is the distinction between Average propensity to consume and Marginal Propensity to consume? Discuss the factors determining Marginal Propensity to consume.
- What is meant by Economic Growth? What are the components of economic growth?
- Discuss whether savings is a virtue or a vice for –
  - an individual
  - the society

# Study Note - 4

## MONEY



### This Study Note includes

- 4.1 Money
- 4.2 Gresham's Law
- 4.3 Quantity theory of Money
- 4.4 Inflation
- 4.5 Investment & Rate of Interest
- 4.6 Money Supply
- 4.7 Liquidity Preference and Marginal Efficiency

### 4.1 MONEY

#### Definition

- A medium of exchange.
- With the help of money any exchange of goods and services can take place.
- Money is said to be the most liquid asset among all the assets of a man.
- It has general acceptability as a means of payment and liquid characteristic. Keynes called this liquidity preference.
- Generally money is created by the Central Bank or the Government of a country.
- These are legal tender money as there is legal compulsion for their acceptance.
- They also called as Cash Money.
- Another considerable flow of money is Credit Money — created by the commercial banks by their loan transactions.

#### Functions of Money

Static functions	Medium of Exchange	<ul style="list-style-type: none"><li>• In an exchange economy money has an intermediary role.</li><li>• The invention of money has made the exchange system smooth and convenient.</li></ul>
	Measure of value	<ul style="list-style-type: none"><li>• Things are said to be cheap or expensive on the basis of amount of money required for their possession.</li><li>• This makes exchange mutually profitable.</li></ul>
	Standard of deferred payment	<ul style="list-style-type: none"><li>• It implies the role of money in borrowing and lending.</li><li>• Money taken as loan is usually repaid after a time gap.</li><li>• This delayed payment is done through money.</li></ul>
	Store of value	<ul style="list-style-type: none"><li>• Purchasing power of money can be stored by keeping a part for future use, called monetary savings.</li><li>• Current income can be used for current consumption as well as future consumption by savings.</li></ul>

<b>Dynamic Functions</b>	<ul style="list-style-type: none"> <li>• Money activated idle resources and puts them into productive channels.</li> <li>• It thus, helps in increasing output, employment and income.</li> <li>• It helps in converting savings into investment.</li> <li>• Creation of new money governments of modern economies can spend more than what they can.</li> </ul>
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**Value of Money**

- It means Exchange Value.
- It implies how much of goods and services can be obtained in exchange of a unit of money.
- Value of money is inverse of price.
- When price level increases, the value of money decrease and vice versa.

**Forms of Money**

- The total money supply of a country can broadly be classified into two groups—Cash Money and Credit Money.
- It also includes all other financial assets.
- The degree of moniness varies widely from asset to asset.

**The Components of Money Supply —**

<b>Paper Money and Coins</b>	<ul style="list-style-type: none"> <li>• These as Currency are issued by the Central bank or Government.</li> <li>• They have cent per cent acceptability as a means of payment.</li> <li>• Their acceptability is based on a 'promise to pay bearer' gold and foreign exchange in exchange.</li> </ul>
<b>Demand deposit</b>	<ul style="list-style-type: none"> <li>• A bank is legally bound to pay money on demand.</li> <li>• The 'moniness' in currency and demand deposits is highest.</li> </ul>
<b>Near Money or money substitute</b>	<ul style="list-style-type: none"> <li>• The well known near money is bank cheque (savings account).</li> <li>• A bank cheque is a means of payment for transaction.</li> <li>• There is no legal compulsion behind their acceptance.</li> </ul>
<b>Term deposit</b>	<ul style="list-style-type: none"> <li>• It is less liquid than savings bank deposit.</li> <li>• They cannot be used before a fixed period.</li> </ul>
<b>Other forms of financial assets</b>	<ul style="list-style-type: none"> <li>• These are issued by non-bank financial intermediaries.</li> <li>• They are not so much liquid as bank deposits.</li> </ul>

**4.2 GRESHAM'S LAW**

The Law states that bad money drives good money out of circulation. This is true in case of bimetallism where two metal standard (gold and silver) operate side by side. In such a case one metal currency drives the other out of circulation. It also means cheap money drives out dear money. If a country uses both paper money as well as metal money, people will use the paper money and hold the metal money.

## 4.3 QUANTITY THEORY OF MONEY

Quality theory of Money can be analyzed by two different approaches:

- (1) Fisher's Theory
- (2) Cash Balance Approach

### 4.3.1 Fisher's Theory

- The theory explains the relationship between money supply and price level.
- Irving Fisher used an equation  $[MV = PT]$
- M stands for total Money Supply.
- V means velocity of circulation money which implies the average number of times that a unit of money changes hands during a particular period.
- P is Price level i.e. average price of GNP.
- T is Total National output.
- Fisher used the equation to show the relationship between money supply and price level as direct and proportional.
- The rate of change in money supply ( $dM/M$ ) is equal to rate of change in P ( $dP/P$ ).
- Graphically the curve showing the relation between M and P will be a 45 degree line passing through the origin.

#### Fisher's theory is based upon three assumptions

The relation between M and P will be proportional only when there are no changes in the value of V and T i.e. V and T are constant variables.

- (a) Velocity of circulation of money depends on the spending habit of people. Spending habit of people is, more or less, stable. Hence V will be constant normally.
- (b) T or GNP will be constant in situation of full employment when all the available factors of production are fully employed. At less than full employment, more money will lead to more output by utilizing unused factor. Hence P will not rise.
- (c) Fisher's theory assumes that money is demanded for the transaction purposes only. People spend their entire income instantly for transaction.

#### Criticisms

- (a) Fisher's equation is abstract and mathematical truism. It does not explain the process by which M affects P.
- (b) It is presumed that entire M is used up in buying T instantly. It is unreal. No one spends all money the moment he earns it. Keynes pointed out that money is demanded for transaction purposes, precautionary purpose and also speculative purpose. Fisher does not explain the last two roles of money.
- (c) The concept full employment is myth. There is natural rate of unemployment in every country.
- (d) Even with full employment, a country can rise national output by bringing those factors which are not available within economy from abroad.
- (e) It is presumed that money is used for transactions only. Hence the theory is often referred to as Cash Transaction Theory. This ignores the other roles of money.

### 4.3.2 Cash Balance Approach

- It states that it is not total money but that portion of cash balance people spend that influences price level.
- True people hold cash balance in their hands instead of spending the entire amount all at once.
- The equation is  $M = PKT$ .
- Here, M = money supply, P = price level, T = total volume of transaction, K= the demand for money the people want to held in hand.

### The Quantity Theory by Keynes

- Keynes reformulated the Quantity Theory of Money.
- In his opinion the quantity of money does not directly affect price level.
- A change in the quantity of money may lead to a change in the rate of interest.
- With a change in the rate of interest the volume of investment is quite likely to change.
- A change in investment will lead to a change in income, output and employment and also a change in cost of production.
- This will lead to the change in prices of goods and services.
- The Keynesian version of the Quantity Theory integrates monetary theory with the general theory of value

## 4.4 INFLATION

- It arises when price level of an economy goes on rising continuously.
- It is open inflation.
- An economy may also suffer from inflation without any apparent rise in prices.
- This is repressed inflation.
- According to classical writers inflation is a situation when too much money chases too few goods.
- It is an imbalance between money supply and Gross Domestic Product.
- As per Keynes inflation is an imbalance between aggregate demand and aggregate supply.
- In an economy, if the aggregate demand for goods and services exceeds aggregate supply, then prices will go on rising.

### 4.4.1 Causes

#### Primary causes:

1. When demand for a commodity in the market exceeds its supply, the excess demand will push up the price ('demand-pull inflation').



## 2. When factor prices rise, costs of production rise ('cost-push inflation')

Let us now discuss in detail the various causes that may bring about inflation —

<b>Increase in public spending</b>	<ul style="list-style-type: none"><li>• Government's spending is an important part of total spending in any modern economy.</li><li>• It is an important determinant of aggregate demand.</li><li>• In less developed economies, Government expenditure has shown an upward trend.</li><li>• This has created inflationary pressure on the economy.</li></ul>
<b>Deficit financing of Government spending</b>	<ul style="list-style-type: none"><li>• Government spending increases beyond what can be financed by taxation.</li><li>• In order to be able to incur the extra expenditure, the Government resorts to deficit financing.</li><li>• For instance, it prints money and spends it. This adds to the pressure of inflation.</li></ul>
<b>Increased velocity of circulation</b>	<ul style="list-style-type: none"><li>• Total use of money = money supply by the Government × velocity of circulation of money.</li><li>• In boom phase, people spend money at a faster rate.</li><li>• The velocity of circulation of money is increases.</li></ul>
<b>Population growth</b>	<ul style="list-style-type: none"><li>• It increases total demand in the market.</li><li>• The pressure of excess demand will create inflation.</li></ul>
<b>Hoarding</b>	<ul style="list-style-type: none"><li>• Excess demand is sometimes artificially created by hoarders.</li><li>• They stockpile commodities</li><li>• They do not release them to the market.</li><li>• This leads to excess demand and inflation.</li></ul>
<b>Genuine shortage</b>	<ul style="list-style-type: none"><li>• If the factors of production are in short supply, production will be affected.</li><li>• Supply will be less than demand, prices will rise.</li></ul>
<b>Exports</b>	<ul style="list-style-type: none"><li>• If the total output of a commodity is not sufficient to meet both domestic and foreign demand.</li><li>• Then exports will create inflation in the domestic economy.</li></ul>
<b>Trade unions</b>	<ul style="list-style-type: none"><li>• By demanding an increase in the wage rate, they increase the cost of production.</li></ul>
<b>Tax reduction</b>	<ul style="list-style-type: none"><li>• Governments sometimes reduce taxes to gain popularity.</li><li>• This leaves more money in people's hands.</li><li>• This leads to inflation if there is no corresponding increase in production.</li></ul>
<b>Imposition of indirect taxes</b>	<ul style="list-style-type: none"><li>• Government may imposes indirect taxes (such as excise duty, value-added tax etc.)</li><li>• Then producers or sellers raise the product prices to keep their profits unchanged.</li></ul>
<b>Price-rise in international market</b>	<ul style="list-style-type: none"><li>• The imported price of some commodities or factors of production may rise in the world market.</li><li>• It would lead to inflation in the domestic market.</li></ul>
<b>Non-economic reasons</b>	<ul style="list-style-type: none"><li>• For instance, at times of natural calamities (flood) crops are destroyed, reducing the supply of agricultural products.</li><li>• Prices of these commodities tend to increase.</li></ul>

#### 4.4.2 Forms of Inflation

Inflation may be of different forms, such as —

##### Demand Pull Inflation

- When in an economy aggregate demand exceeds aggregate supply.
- Aggregate demand may increase due to an increase in money supply, or money income or public expenditure.
- The idea of demand inflation is associated with full employment when supply cannot be altered.

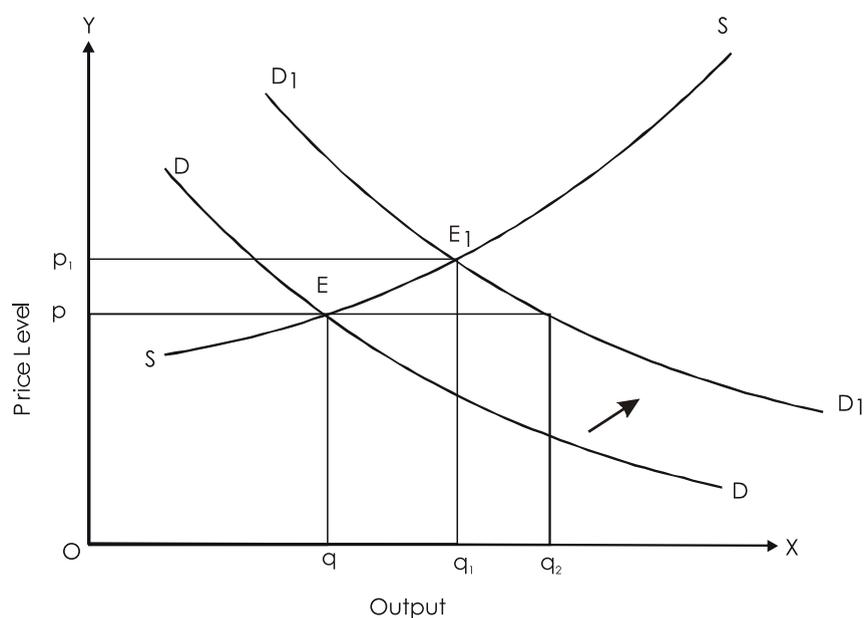


Fig 4.1

- In this graph SS and DD are aggregate supply and demand curves.
- $O_p$  and  $O_q$  are equilibrium price and equilibrium output.
- Due to exogenous causes demand curves shifts right-wards to  $D_1$   $D_1$ .
- At the current price  $O_p$ , demand increase by  $qq_2$ .
- But supply is  $O_q$ .
- Excess demand  $qq_2$  put pressure on price, which gradually rises from  $O_p$  to  $O_{p_1}$ .
- At this price a new equilibrium is achieved where Demand = Supply.
- The excess demand is eliminated by fall in demand and rise in supply arising out of rise in price.

##### Cost Push Inflation

- Inflation may originate from supply side also.
- Aggregate demand remaining unchanged, a fall in aggregate supply due to exogenous cause, may lead to increase in price level.

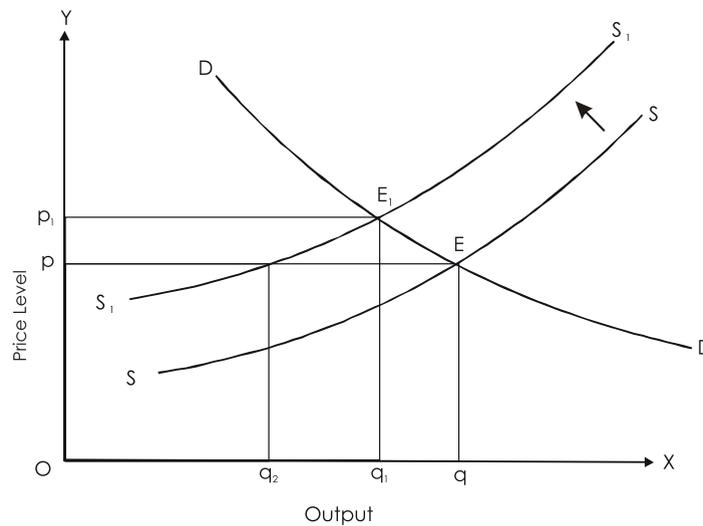


Fig 4.2

- In this graph, the starting point is the equilibrium price ( $Op$ ) and output ( $Oq$ ).
- If aggregate supply has fallen, the  $SS$  curve shifts left ward to  $S_1S_1$ .
- At price  $Op$  now supply will be  $Oq_2$  but demand  $Oq$ .
- This will push prices high till a new equilibrium is reached at  $Op_1$ .
- At the new price there will be no excess demand.
- Inflation is thus a self limiting phenomenon.

### Open inflation

- The continuous rise in price level is visible in the naked eye.
- One can see the annual rate of increase in the price level.

### Repressed inflation

- There is excess demand.
- The excess demand is prevented from increasing price level by some repressive measures.
- The measures taken by the government like price control, rationing etc.

### Hyper inflation

- The price level goes on rising at a very fast rate.
- Often there happens hourly increase in price level.
- It often leads to demonetization.

### Creeping inflation

- The price level increases very slowly over a period of time.

### Moderate inflation

- The rise in price level is neither too fast nor too slow.

### True inflation

- It takes place after full employment of all factor inputs in an economy.
- In a situation of full employment, the National output becomes perfectly inelastic.
- Here more money will lead to higher prices and not more output.

### Semi-inflation

- A country may experience inflation arising from bottlenecks, even before full employment.
- There may be inflationary price rise in some sectors of the economy.

### 4.4.3 Impacts of Inflation

Inflationary pressure in an economy may generate good effects on the economy, particularly in case of 'creeping' or 'walking' inflation.

#### Favourable impacts :

- (a) **Higher profits** : Profits of the producers are generally favourably affected by inflation, because they can sell their products at higher prices.
- (b) **Higher investment** : The entrepreneurs and investors get added incentives to invest in productive activities during inflation, since they can earn higher prices.
- (c) **Higher production** : If productive investment grows during inflation, it would lead to higher production of various goods and services in the economy.
- (d) **Higher employment and income** : Increase in the output of different goods during inflation would also mean increasing demand for various factors of production. So, it is expected that employment and income opportunities will also increase during inflation.
- (e) **Possibility of higher income for the shareholders** : During inflationary periods, if the companies earn higher profits, they can declare dividends for their share-holders. Hence, the dividend income of the shareholders may also rise during inflation.
- (f) **Gain for the borrowers** : Inflation means a decrease in the value or purchasing power of money. If the rate of interest to be paid by the borrower is less than the inflation rate, the borrower will gain. Because the real value of the money returned by the borrower is actually less than that of the money borrowed earlier.

#### Unfavourable Impacts :

- (a) **Fall in the real income of fixed-income groups** : Real income means purchasing power of money income [Real income = (money income) / (price level).] Given the money income of the fixed-income groups, the real income will fall during inflation. Hence, inflation affects workers, salaried people and pension-earners adversely.
- (b) **Inequality in the distribution of income** : The profit incomes of businessmen and entrepreneurs increase during inflation while the real income of the common salaried people declines. So, inequality in the distribution of income becomes acute during inflation.
- (c) **Upsets the planning process** : When prices of goods, materials, and factor services increase continuously, then more money has to be spent for the completion of any investment project taken up during any planning period. If more financial resources cannot be raised by the Government (through savings or taxation), plan targets are to be curtailed.
- (d) **Increase in speculative investment** : If the price level rises at a fast rate, speculative investment (say, purchasing shares, land, gems, etc., just for speculative purposes) may increase in the economy for earning quick profits. These types of investments do not help in the creation of productive capital in the economy.



- (e) Harmful impact on capital accumulation :** If the price-rise becomes chronic, people prefer goods to money (because the real value of money will fall in future). They also prefer immediate consumption to consumption in future. So, their desire to save is reduced. When both ability and willingness to save become less, a smaller amount of fund becomes available for further investment. As a result, it creates a harmful impact on capital accumulation, since capital accumulation in an economy depends on the growth of investment.
- (f) Lenders will lose :** We have already indicated that borrowers will gain during inflation. For this same reason, lenders will lose during inflation. Because, they are actually receiving an amount having lower value (or purchasing power) than before.
- (g) Harmful impact on export income :** If the prices of export items also increase during inflation, their demand in the foreign market may fall. This leads to a fall in the export income of a country.

#### 4.4.4 Control of Inflation

<b>To control demand-pull inflation</b>	<b>Monetary measures</b>	<ul style="list-style-type: none"> <li>• If the supply of money in the economy can be decreased, prices will fall.</li> <li>• If the government withdraws paper notes and coins from circulation, the money supply will decrease.</li> <li>• The lion's share of the total money supply is bank deposits or bank credit.</li> <li>• If we can reduce the rate of lending by banks, we can reduce the total supply of money significantly.</li> <li>• The Central bank of a country can reduce the lending of commercial banks by raising the bank rate and reserve requirements of banks, by open market sales of securities, etc</li> </ul>
	<b>Fiscal policy</b>	<ul style="list-style-type: none"> <li>• The policy of changing tax rates or the rate of Government expenditure.</li> <li>• An inflationary gap arises when aggregate demand exceeds the maximum potential supply in an economy.</li> <li>• To overcome, the following types of fiscal measures can be undertaken—               <ul style="list-style-type: none"> <li>• A decrease in the Government expenditure; or,</li> <li>• A decrease in the Government transfer payments; or</li> <li>• An increase in taxes imposed by the Government; or,</li> <li>• A combination of all these measures.</li> </ul> </li> <li>— These are regarded as contractionary fiscal policies.</li> </ul>
<b>To control cost-push inflation</b>	<b>Direct control</b>	such measures as wage freeze, putting upper limits on the prices of such important inputs as electricity, coal, steel, etc.
<b>Other measures</b>		These measures are: <ul style="list-style-type: none"> <li>• augmenting the supplies of commodities in the domestic market by increasing imports.</li> <li>• increasing domestic production, etc.</li> </ul>

#### 4.4.5 Effects of Inflation on Production and Distribution of Wealth

##### Effects on Production:

- Inflation may or may not result in higher output.
- Below the full employment stage, inflation has a favourable effect on production.
- In general, profit is a rising function of the price level.
- An inflationary situation gives an incentive to businessmen to raise prices of their products so as to earn higher doses of profit.
- Such a favourable effect of inflation will be temporary if wages and production costs rise very rapidly.
- Inflationary situation may be associated with the fall in output, particularly if inflation is of the cost-push variety.
- There is no strict relationship between prices and output.
- An increase in aggregate demand will increase both prices and output, but a supply shock will raise prices and lower output.

##### Effects on Distribution of Wealth:

- During inflation, usually people experience rise in incomes.
- Some people gain during inflation at the expense of others.
- Some individuals gain because their money incomes rise more rapidly than the prices
- Some lose because prices rise more rapidly than their incomes during inflation.
- The following categories of people are affected by inflation differently:

<b>Creditors and debtors</b>	<ul style="list-style-type: none"> <li>• Borrowers gain and lenders lose during inflation.</li> <li>• When debts are repaid their real value declines by the price level increase and, hence, creditors lose.</li> <li>• The borrower now welcomes inflation since he will have to pay less in real terms than when it was borrowed.</li> <li>• The borrower is given 'dear' rupees, but pays back 'cheap' rupees.</li> </ul>
<b>Bond and debentureholders</b>	<ul style="list-style-type: none"> <li>• Bondholders earn fixed interest income.</li> <li>• These people suffer a reduction in real income when prices rise.</li> <li>• Beneficiaries from life insurance programmes are also hit badly since real value of savings deteriorate.</li> </ul>
<b>Investors</b>	<ul style="list-style-type: none"> <li>• People who put their money in shares during inflation are expected to gain since the possibility of earning business profit brightens.</li> <li>• Higher profit induces owners of firms to distribute profit among investors or shareholders.</li> </ul>
<b>Salaried people and wage-earners</b>	<ul style="list-style-type: none"> <li>• Anyone earning a fixed income is damaged by inflation.</li> <li>• Wage rate increases always lag behind price increases.</li> <li>• Inflation results in a reduction in real purchasing power of fixed income earners.</li> <li>• People earning flexible incomes may gain during inflation.</li> </ul>

**Profit-earners,  
speculators and  
black marketeers**

- Profit-earners gain from inflation.
- Seeing inflation, businessmen raise the prices of their products.
- This results in a bigger profit.
- Speculators dealing in business in essential commodities usually stand to gain by inflation.
- Black marketeers are also benefited by inflation.

**4.5 INVESTMENT AND RATE OF INTEREST**

- Investment = a change in the stock of capital over a period of time.
- Investments are undertaken upto the point at which the yield from an asset cover the cost of investment.
- The rate of interest represents the cost side of investment.
- A change in the rate of interest has a direct impact on the return on a sum of money lent.
- An increase in the rate of interest leads to future incomes being discounted more heavily.
- Therefore, some investments are not undertaken, as they fail to cover the cost.
- Some less productive investment are thus abandoned.
- The level of planned investment is inversely related to interest rate, assuming other variables unchanged ( $dl/dr < 0$ ).

**4.6 MONEY SUPPLY**

- The total stock of money circulating in an economy is the money supply.
- The circulating money involves the currency, printed notes, money in the deposit accounts and in the form of other liquid assets.
- Monetary policy of a country is concerned with the supply of money.
- Narrow money supply is called  $M_1$ .
- It consists of notes and coins in circulation and demand deposits with banks and central bank.
- As they are quickly and easily used for transactions, they are called transactions money.
- Broad money supply,  $M_2$ , consists of  $M_1$  plus other deposits (savings deposits, time deposits, etc.).
- There are some differences in the definitions of money supply from country to country.
- To give the best definition of money supply, we like to refer the money supply as currency held by the public, plus deposits.
- Symbolically,  $M_s = C_p + D$ . [here,  $M_s$  = money supply,  $C_p$  = currency held by the public and  $D$  = deposits]
- RBI's has referred four measures of money supply— $M_1$ ,  $M_2$ ,  $M_3$ , and  $M_4$ .
- $M_1 = C_p +$  demand deposits + other deposits with the RBI.
- $M_2 = M_1 +$  post office savings bank deposits.
- $M_3 = M_2 +$  time deposits with banks.

- $M_4 = M_3 +$  total post office deposits (including National Savings Certificate).
- $M_1$  is considered as the most important measure of money.
- $M_1$  includes virtually all the money supplied by the RBI, the Government of India, and the commercial banks.

#### 4.7 LIQUIDITY PREFERENCE AND MARGINAL EFFICIENCY

Liquidity preference refers to the demand for money, considered as liquidity. The concept was first developed by Keynes to explain determination of the interest rate by the supply and demand for money.

The marginal efficiency of capital displays the expected rate of return from investment, at a particular given time. The marginal efficiency of capital is compared to the rate of interest. If the marginal efficiency of capital was lower than the interest rate, the firm would be better off not investing, but saving the money.

#### EXERCISE

1. What is Money? What are its functions? Is bank cheque money?
2. Explain the relation between money supply and price level.
3. Discuss the Quantity Theory of Money. What are its assumptions and limitations?
4. Define Inflation. What are its causes? How can it be controlled?
5. Distinguish between Cost push Inflation and Demand pull inflation. Consider the effects of inflation upon production, distribution and savings in an economy.

# Study Note - 5

## BANKING



### This Study Note includes

#### 5.1 Bank

#### 5.2 Central Bank

#### 5.3 Financial Institutions

### 5.1 BANK

- A bank is said to be a financial intermediary.
- It stands midway between the savers and the users of fund.
- There are different types of bank having some common and some special functions.
- Banks may be of various types such Central Bank, commercial banks, development banks, cooperative banks, rural banks etc.
- The Central Bank, the commercial banks and the development banks are of primary importance.

#### 5.1.1 Commercial Banks

- A commercial bank is a financial intermediary.
- Its central objective is commercial that is, profit making.
- It takes money from a surplus unit by paying a low rate of interest and lends the same fund to a deficit unit at a higher rate of interest and thus makes profit.
- It is said to be a dealer in credit.
- It may be organized privately or by the Government.
- The two primary functions of such a bank are Deposit function and Loan function.
- Deposits may be of three types: Demand or current, Savings and Fixed or Time deposit.
- The funds thus obtained from various classes of people are pooled together and lend to users of capital.
- Banks do not lend the entire sum of deposit. But a portion is kept in the form of cash. This is called Cash Reserve Ratio (CRR) in order to meet the unforeseen demand of some depositors.
- In its loans and advances, banks maintain a diversified portfolio in order to seek a balance between liquidity and profitability.
- Banks perform some other functions that enhance their yield. They keep valuables in their custody, collect chequable amounts, the purchase and sell of shares, debenture, they act as agents of their customers. Besides they act as trustee and executors of wills, pay bills of customers.

##### 5.1.1.1 Functions of a Commercial Bank

- Modern commercial banks perform a variety of functions and provide a number of services to their customers.

- They are regarded as departmental - store banks because they provide a wide variety of services to their customers.

Various functions performed by commercial banks are as follows:

**1. Acceptance of deposits** — People who have surplus funds with them would like to deposit these with commercial banks. Banks accept mainly three types of deposits:

<p><b>Current Account</b></p>	<ul style="list-style-type: none"> <li>• Deposits in current account are payable on demand.</li> <li>• Current accounts are also known as demand deposits.</li> <li>• These accounts are mostly held by traders and businessmen.</li> <li>• Bank does not pay any interest on these accounts.</li> <li>• Banks provide various services to the current account holders, such as making payment through cheques, collection of payment of cheques, issuing drafts on behalf of the account holders etc.</li> <li>• Banks, in fact, levy certain service charges on the customers for the services rendered by them.</li> </ul>
<p><b>Savings Bank Account</b></p>	<ul style="list-style-type: none"> <li>• Here deposits are payable on demand and money can be withdrawn by cheques.</li> <li>• Banks impose a limit on the amount and number of withdrawals during a particular period.</li> <li>• These accounts are held by households who have idle cash for a short period.</li> <li>• Deposits in this account earn interest at nominal rates.</li> </ul>
<p><b>Fixed Deposits</b></p>	<ul style="list-style-type: none"> <li>• The money is deposited for a fixed period, viz., 6 months, one year, two years, five years or more.</li> <li>• These deposits are not payable on demand.</li> <li>• These deposits are also known as time deposits since the money deposited in them cannot be withdrawn before the maturity of the period for which the deposit is made.</li> <li>• These are interest-earning deposits.</li> <li>• The rate of interest varies with the length of time for which the deposit has been made.</li> <li>• Recurring (or cumulative) deposits are one type of fixed deposits. A depositor makes a regular deposit of a given sum for a specified period.</li> <li>• Recurring deposits are designed to motivate the small savers to save a particular amount regularly.</li> </ul>

**2. Advancing of Loans** — The second primary function of the commercial banks is to extend loans and advances. Lending is the most profitable business of a bank. Banks charge interest from the borrowers which are more than the interest they pay to their depositors. Banks these days extend loans and advances to their customers in the following ways:

<p><b>Outright Loans (Term Loans)</b></p>	<ul style="list-style-type: none"> <li>• Banks provide outright loans for a fixed period.</li> <li>• The entire amount of the loan sanctioned is credited to the borrower's current account.</li> <li>• The borrower pays interest on the entire amount he has borrowed.</li> </ul>
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<b>Cash credit</b>	<ul style="list-style-type: none"><li>• The entire sanctioned amount of loan by the bank is not given to the borrower at a particular time.</li><li>• The bank opens an account of the borrower and allows him to withdraw the borrowed amount as and when he required the money.</li><li>• The bank charges interest, not on the amount of loan sanctioned, but on the actual amount withdrawn from the bank.</li></ul>
<b>Overdraft facilities</b>	<ul style="list-style-type: none"><li>• The customer is allowed to draw cheques in excess of the balance standing to his credit to the extent of the amount of overdraft.</li><li>• For a businessman, the overdraft facility is the easiest and most convenient method of borrowing from banks.</li></ul>
<b>Discounting Bills of Exchange</b>	<ul style="list-style-type: none"><li>• A bill of exchange is drawn by a creditor on the debtor specifying the amount of debt and also the date when it becomes payable.</li><li>• Such bills of exchange are normally issued for a period of 90 days.</li><li>• The creditors cannot get it encashed from the debtors before the maturity of the 90 - days period.</li><li>• If the creditor needs money before the expiry of this 90—days period, he can get it discounted from a commercial bank.</li><li>• The bank makes payment to the creditor after deducting its commission.</li><li>• When the bill matures, the bank will get payment from the debtor.</li></ul>

**3. Facilitation of payments through cheques** — Banks have provided a very convenient system of payment in the form of cheques. The cheque is the principal method of payment in business in recent times. It is convenient, cheap and safe means of making payments.

**4. Transfer of funds** — Banks help in the remittance or transfer of funds from one place to another through the use of various credit instruments like cheques, drafts, mail transfers and telegraphic transfers.

**5. Agency Functions** — Banks provide various agency functions for their customers. The banks charge commission or service charge for such functions. The main agency functions are :

- (i) The commercial banks collect cheques, drafts, bills of exchange, hundies and other financial instruments for their customers.
- (ii) They make and collect various types of payments on behalf of their customers, such as insurance premia, pensions, dividends, interest, etc.
- (iii) The commercial banks act as agents for the customers in the sale and purchase of securities. They provide investment services to the companies by acting as underwriters and bankers for new issues of securities to the public.
- (iv) They render agency services of various types, such as obtaining foreign currency for customers and sale of foreign exchange on their behalf, sale of national savings certificates and units of U.T.I.
- (v) The commercial banks act as trustees and executors. For instance, they keep the wills of their customers and execute them after their death.

**6. Miscellaneous Services** – Commercial banks provide various miscellaneous services, such as provision of locker facilities for safe custody of jewellery and other valuables, issue of travelers cheques, gift cheques, provision of tax assistance and investment advice, etc.

**7. Credit Creation** — A very important and unique function of the commercial banks is that they have the power of credit creation. In the process of acceptance of deposit and granting of loans,

commercial banks are able to create credit. This means that they are able to grant more loans than the amount of initial or primary deposits made by the customers. This function is discussed below in detail.

In short, commercial banks perform a large variety of functions in the modern economics.

#### 5.1.1.2 Principles of Commercial Banks

<b>1. Principles of liquidity</b>	Deposits are repayable on demand or after expiry of a certain period. Everyday depositors either deposit or withdraw cash. To meet the demand for cash, all commercial banks have to keep certain amount of cash in their custody.
<b>2. Principles of profitability</b>	The driving force of commercial enterprise is to generate profit. So it is true in case of commercial bank also.
<b>3. Principles of solvency</b>	Commercial bank should have financially sound and maintain a required capital for running the business.
<b>4. Principles of safety</b>	While investing the fund, banks are to be cautious because bank's money is depositor's money.
<b>5. Principles of collection of savings</b>	This is a very important principle for today's banking business. Commercial banks always seek huge amount of idle money from the clients. Now a day's banks fix up the target for their employees to generate more savings from the people.
<b>6. Principles of loan and investment policy</b>	The main earning sources of commercial banks are lending and investing money to the viable projects. So commercial banks always try to earn profit through sound investment.
<b>7. Principles of economy</b>	Commercial banks never go for any unnecessary expenditure. They always try to maintain their functions with economy that increase their yearly profit.
<b>8. Principles of providing services</b>	A better service brings great reputation for the bank.
<b>9. Principles of secrecy</b>	Commercial bank maintains and keeps the clients accounts secretly. Nobody except the legitimized person is allowed to see the accounts of the clients.
<b>10. Principles of modernization</b>	It is the age of science and technology. So to cope up with the advanced world the commercial bank has to adopt modern technical services like online banking, credit card etc.
<b>11. Principles of specialization</b>	It is an age of specialization. Here commercial banks segments their whole functions into various parts and place their human resources according to their efficiency.
<b>12. Principles of location</b>	Commercial banks choose a suitable site where the availability of customers is large.
<b>13. Principles of relation</b>	Commercial banks always try to maintain a good relation with their clients and potential customers.
<b>14. Principles of publicity</b>	It is an age of publicity. If you would like to earn more money, you have to give more advertisement through various media. In that case, commercial banks follow this kind of principles to increase their customers.

### 5.1.2 Essentials of a Sound Banking System

A sound banking system promotes all round economic development of an economy. A good bank must have the following features : —

- (a) **Adequate Liquidity** — A bank must keep sufficient cash in hand to meet the claim of depositors, otherwise they would be insolvent. A bank failure not only affects depositors but banks also. People would not more keep funds with bankers. It ensures safety of a bank. Unless a bank is safe it cannot render its social services.
- (b) **Expansion of banking** — Banking facilities should spread throughout the economy. It must also cover all sections of people in need of funds and all productive activities. The less-developed regions should get more banking facilities than others. Thus, diffusion of banking offices is essential.
- (c) **Investment and Loan policies** – A sound banking system must have a sound investment policy whereby it can optimize the twin goals of liquidity and profitability. If loan and investments are wrong, a bank suffer loss or face liquidity shortage. A prudent banker should carefully determine the composition and character of its loans and advances so as to optimize earning without endangering safety and solvency.
- (d) **Human Factor** — The soundness of a bank depends much on the quality of banker. Banking being a practical affair, rigid application of bank laws are not always fruitful. Much depends on the discretion of men piloting the ship. Sound banking thus, depends more on banking personnel than on banking laws.

### 5.1.3 Credit Creation by Commercial Bank

- A commercial bank is called a dealer of credit.
- It can create credit i.e. can expand the monetary base of a country.
- It does so not by issuing new money but by its loan operations.
- Banks create money on the basis of the cash deposits.
- The process of credit creation is that the depositors think they have so much money with banks and borrowers from bank say they have so much money with them.
- Summing the two, we find an amount more than the cash deposit.
- Suppose a bank receive a sum of ₹ 1,000 as deposit, keeps with it 20% (₹ 200) as CRR (cash reserve ratio) and lends and rest.
- Depositor will claim he has ₹ 1,000 and bank borrower too possesses ₹ 800.
- Thus total money supply appears to be ₹ 1,800 only. It is the credit creation by a single bank.
- The above example can be extended to cover the banking system as whole. Suppose ₹ 800 is deposited to another bank.
- This bank's base will now expand. It will keep 20% of ₹ 800 (₹ 160) as cash reserve and will lend ₹ 640.
- This sum is redeposited to a third bank which keeps 20% of ₹ 640 (₹ 128) and grants a loan of ₹ 512.
- This process will continue and the amount of fresh deposit will go on falling.
- A time will come when deposited sum will be equal to CRR.
- The process will then come to an end.

#### 5.1.3.1 Limitations of Credit Creation :

The multiple credit creation process depends on some factors :

- (i) Much depends on the size of the cash reserve ratio. If it is cent percent multiplier will be zero. Thus an inverse relation exists between CRR and the size of the multiplier. So credit creation is inversely related to CRR.

- (ii) Credit creation depends upon the amount of loan given. If society does not borrow, as it happens in a period of economic depression, bank can neither lend, nor can create credit. If borrowers cannot offer security against loan, bank cannot lend.
- (iii) Size of the cash deposit is also important in this context. The smaller the cash base the smaller scope a bank gets for credit creation. If people prefer physical assets or prefer to keep cash in their hand, bank deposits suffer much. So bank cannot lend much.
- (iv) A bank can lend money against acceptable securities. A borrower gets a loan from a bank only against some securities the value of which must be equal to the amount of the loan. If a bank does not get an acceptable security it cannot lend money even though it may have large amount of cash money for credit creation.
- (v) The Credit creating power of commercial banks is substantially controlled by the Central Bank. A Central Bank possesses certain instruments by the use of these it can increase or decrease the volume of credit created by banks. It can also control the purpose and direction of credit given by banks. The banks accept the Central Banks directions because the Central Bank is their lender of last resort.

## 5.2 CENTRAL BANK

Central Bank may be defined as an institution charged with the responsibility of managing the expansion and contraction of the volume of money supply for general Economic Welfare. The Central Bank is the apex institution in the banking and financial structure of the country.

### 5.2.1 Functions of Central Bank

Central Bank plays a leading role in organizing, running, supervising, regulating and developing the banking and financial structure of the country.

#### (i) Monopoly of Note Issue :

The Central Bank enjoys the exclusive power of note issue. In India the RBI issues all notes except Re 1 notes and coins. Re 1 notes are issued by the Government of India under the guidance of RBI. The currency notes issued by the Central Bank are declared unlimited legal tender throughout the country. The Central Bank has to keep reserve of Gold, Silver and foreign securities for issuing notes.

#### (ii) Banker, agent, advisor to the Government :

The Banking A/c of the government both central and state are maintained by the Central Bank as the commercial bank does for its customers. As a banker and to the government it helps the government in short term loans and advances for temporary requirements and floats public loans for the government.

#### (iii) Banker's Bank :

All commercial banks keep part of their cash balances as deposits with the Central Bank of the country. This is either because of convention or legal compulsion. The commercial banks regularly draw currency during the busy season and paying in surplus during the slack season. Part of these balances are meant for clearing purposes i.e.; all commercial banks keep deposit account with the Central Bank. The deposit balances of the Central Bank is considered as cash reserves for general purpose.

Under the Banking Regulations Act of 1949, the Central Bank of India have been empowered with the right to supervise and control the activities of various scheduled commercial banks. These powers are related to licensing, branch expansion, liquidity of assets and methods of working of the Bank.



#### (iv) Clearing House Facility :

By virtue of its unique position in dealing with domestic and foreign funds the Central Bank has a special position for conducting :

- (a) Clearing house operation;
- (b) Inter bank transfer of funds;
- (c) Settlement of accounts.

Clearing house facility means providing an opportunity to member commercial banks to settle their claims on each other mutually. E.g. : Indian Bank has to pay to SBI a sum of ₹ 2 lakh and SBI has to pay to Indian bank ₹ 1,50,000. This can be settled with a check of ₹ 50,000 by Indian Bank on the RBI in favour of SBI. As a result Indian Banks accounts will be debited and SBI's account will be credited.

#### (v) Custodian of Foreign Exchange Reserves :

Under this system the RBI controls both receipts and payments of foreign exchange. A country have in its foreign trade favourable or unfavourable balance.

Favourable balance helps to bring foreign exchange to the country while unfavourable balance means paying foreign exchange out. As custodian of Foreign Exchange, Central Bank keeps a constant watch on the same so that the value of the home currency does not rise or fall adversely in relation to foreign currency.

During times of emergency the Central Bank may impose restrictions to control on buying or selling of foreign currencies in the market.

#### (vi) Credit Control :

In order to ensure price stability and Economic growth of a country, the Central Bank undertakes the responsibility of controlling credit. The Central Bank ensures price stability and avoids inflationary and deflationary tendencies by several monetary methods such as regulation of Bank rate, open market operation, change in variable reserve ratio, etc.

#### 5.2.2 Credit Control by Central Bank

- Credit money created by commercial banks and other non-banking financial institutions constitutes a significant portion of total money supply in an economy.
- Their shortages and excesses may have profound impact upon an economy.
- The flow of credit should be regulated in such a way that they may raise or fall according to the needs of an economy. This is what we generally means by credit control.
- This is done by the central bank in its role of a banker's bank.
- The objective of credit control is generally two fold.
- A central bank may encourage member banks to expand credit, known as expansionary monetary policy, which is adopted to lift an economy out of depression and unemployment.
- It may restrict credit-creating power of banks and non-banks which is known as restrictive policy to fight inflation and to achieve financial stability
- In the context of growth with stability a central bank is to deal with both aspects - increasing credit flow for more investment and, at the same time, restrict flow of credit so that it may not generate inflation.

#### 5.2.2.1 Control Weapons

- A central bank possesses a number of instruments for controlling credit money.

- These are of two types -Quantitative and Qualitative.
- Quantitative techniques seek to regulate total quantity of credit while qualitative measures affect the availability of credit.

**A. Quantitative Methods:**

<p><b>Bank Rate Policy</b></p>	<ul style="list-style-type: none"> <li>• As a banker's bank, a central bank lends money or rediscounts the bills of commercial banks.</li> <li>• The rate of interest charged by the central bank is known as Bank Rate or Discount rate.</li> <li>• By manipulating Bank Rate central Bank can regulate the credit creating power of member banks.</li> <li>• If Bank rate is raised by the Central Bank, commercial banks are to borrow at a higher cost.</li> <li>• Then they will increase their lending rate. This rate is known as the Market Rate.</li> <li>• The difference between Market Rate and Bank Rate is the profit margin of commercial banks.</li> <li>• When bank rate rises market rate also rises and vice versa.</li> <li>• Demand for bank loan will reduce.</li> <li>• On the other hand, for credit expansion, Bank Rate is reduced.</li> <li>• The effectiveness of this technique depends on the extent to which commercial banks depend on central bank for loan and rediscounting.</li> <li>• If banks can collect funds from other sources at relatively cheaper rate, they need not depend on central bank credit.</li> <li>• Again if investment opportunities are not present, the market demand for credit will weak, a fall in the bank rate may not raise the level of bank credit.</li> </ul>
<p><b>Open market operations</b></p>	<ul style="list-style-type: none"> <li>• It implies purchase and sale of securities in the stock market.</li> <li>• When the central bank appears in the market as a seller of Government securities, people buy such securities by withdrawing money from banks or the banks themselves invest in such securities instead of granting loan to public.</li> <li>• In either case the powers of creating credit will be restricted.</li> <li>• On the other hand, if central bank buys securities money flows out thus enlarging the cash base of members banks.</li> <li>• Credit expansion depends upon external business environment and borrower's attitudes over which banks have no influence.</li> </ul>
<p><b>Variation of Reserve Ratio</b></p>	<ul style="list-style-type: none"> <li>• Commercial banks are legally bound to keep a portion of their deposits in the form of Cash Reserve.</li> <li>• It is the most liquid asset in their hand and at the same time it is zero earning assets.</li> <li>• Naturally by altering the CRR, the central bank can expand or reduce the funds bank can lend.</li> <li>• There exists an inverse relation between the size of cash reserve and the amount of credit given by a bank, assuming a given amount of deposit.</li> <li>• In underdeveloped money market this technique is more suitable than open market operation or Bank Rate policy.</li> </ul>



## B. Qualitative Credit Controls:

- A central bank also possesses certain techniques by which it can control the direction and distribution of credit — purpose wise or areas wise.
- The purpose of selective controls is the rational allocation of scarce bank credit and its economic utilization.
- Further sectorial deployment of credit and controlling in other directions serve the purpose of preventing speculative activities with the help of bank finance and favouring productive activities.
- These techniques are very helpful in a less-developed economy where overall credit restriction may hinder 'growth by preventing the flow of credit for investment'.

### 5.2.3 Moral Suasion

- Moral suasion is a qualitative technique.
- The central bank 'requests' banks to lend more or not to lend in some sectors.
- There is no legal compulsion behind their acceptance.
- Generally if a request is not carried out by the member bank, the guardian of the banking system may take such steps as banks are forced to accept.
- The central bank is often empowered to issue directives to member banks.
- Such direct orders are in the form of directional control, prohibiting loans of particular type or giving advice to grant loan to priority sectors.

### 5.2.4 Distinction between the Central Bank and the Commercial Bank –

Basis Of Distinction	Central Bank	Commercial Bank
<b>Monetary Authority Enjoyed</b>	Enjoys supreme monetary authority with wide powers	No authority, hence no such power is enjoyed
<b>Profit Motive</b>	It does not exist to make profits for its for owners	It exists and is organized for profits their owners
<b>Money supply to the economy</b>	It is the ultimate source of money supply to the economy	No such function is performed by it.
<b>Services rendered</b>	It acts as a banker to the government	It acts as a banker to private industries and institutions
<b>Chances of failure</b>	It is the lender of last resort and hence never fails	It often undertakes risky business activities and sometimes may fail.
<b>Service to the public</b>	It neither does accept deposits from public, nor lends money to the public.	Accepting deposits and lending money to the public are the most important functions of commercial banks.
<b>Ownership and Managing Authority</b>	It is generally subordinate to the state, i.e. state owned and state managed	It is mostly privately owned and privately managed.
<b>Nature of Operation</b>	It issues paper notes in fact it enjoys the monopoly power in this matter	Its nature operation is credit creation and cannot issue paper notes.
<b>Basis of operation</b>	The basis of cash money issued is gold and foreign reserve.	The basis of credit money generated is cash deposit

### 5.3 FINANCIAL INSTITUTIONS

- With the introduction of planned development in India in the early 50s, need for specialized financial institutions for supplying credit to industry, agriculture, etc. was felt essential and necessary.
- These institutions are known as Development Banks as they grant long-term development finance.
- Their spheres of activity are limited.
- They are said to be non-bank financial intermediaries as they cannot raise money in the form of demand deposits.
- These banks are owned and managed by Government.
- Through these institutions Government offers fund to private economic activities for development.
- They also underwrite or subscribe to shares and debentures of the public limited companies.
- Besides finance they offer technical and managerial advices.

#### 5.3.1 Industrial Finance Corporation of India (IFCI)

##### About:

- It was set up in July 1, 1948.
- It is the pioneer development bank in India.
- The authorized capital of the corporation as per IFCI Act, 1948 was ₹ 10 crores. It was raised to ₹ 20 crores after amendment in 1972.
- The scheduled banks, insurance companies, investment trusts, cooperative banks are its share holders.
- After the establishment of Industrial Development Bank of India (IDBI) in 1964 it became a subsidiary of IDBI.
- On 24<sup>th</sup> March, 1993 the IFC (Transfer of undertaking and repeal) bill was passed in order to privatize the IFC.
- It would now be free to raise resources from the open market.

##### Functions:

Over the years the activities of IFC have progressively increased. It is authorized to perform the following functions: -

- (a) granting loans and advances,
- (b) subscribing to the shares and debentures floated by industrial concerns,
- (c) guaranteeing loans taken from capital market,
- (d) granting loans in foreign currencies,
- (e) guarantee deferred payment in respect of imports of capital goods by approved concerns.

##### Financing Policies:

The policies pursued by the IFC in granting loans and advances show a preference to finance—

- (i) a new project,
- (ii) projects exploring new areas of technology,
- (iii) projects involved in producing inputs for agriculture,



- (iv) projects producing essential goods for consumption,
- (v) It grants assistance sector wise, industry wise, state/territory wise, and to less developed areas.

### **5.3.2 Industrial Credit and Investment Corporation of India (ICICI)**

#### **Objectives :**

The objective behind the establishment of this corporation were :-

- (a) to provide foreign currency loans
- (b) to develop underwriting facilities
- (c) to help private sector units

The ICICI differs from two other All-India development banks, mainly, the IFCI and IDBI in respect of ownership, management and lending operations. The ICICI is a private sector development bank. It provides underwriting facilities.

#### **Functions :**

The main function of the ICICI are :—

- (i) expansion of private sector industries
- (ii) to give loans or guarantee of loans either in Rupees or foreign currency,
- (iii) to underwrite shares and debentures and subscribe directly to share issues
- (iv) to encourage and promote private capital
- (v) to promote private ownership of industrial investment along with the expansion of investment markets.

### **5.3.3 Industrial Development Bank of India (IDBI)**

#### **About:**

- In July 1964 the Industrial Development Bank of India was set up.
- It was a wholly owned subsidiary of the Reserve Bank of India till 1976.
- But it was delinked from the Bank and was taken over by the Government of India.
- Since then it is working as an autonomous corporation.
- It is now managed by a separate Board of Directors.
- Its members are representatives of public sector banks, other financial institutions and experts from different fields.
- IDBI was to act as a central development institution for providing dynamic leadership in the field of institutional finance of industries.

#### **Functions:**

- (a)** IDBI is working as a central coordinating agency for establishing a harmonious relationship among the term lending agencies.
- (b)** It provides direct finance by granting loan and advances, guarantees loans taken from banks, subscribes or underwrites share, bond, and debentures. Besides it can convert its loans into equity shares of the concerned industry.
- (c)** When an industrial unit cannot procure funds in the normal course, the IDBI assists such units from a special fund known as Development Assistance Fund.

- (d) To assist in the creation, expansion and modernization of industrial units lying within private sector.
- (e) To encourage and promote private ownership of industrial investment along with the expansion of investment markets.
- (f) It provides export finance through the scheme of direct participation, overseas buyer's credit etc.

#### **5.3.4 State Financial Corporations (SFC)**

##### **About:**

- SFC was established in 1951 after three years of the establishment of IFCI.
- SFCs were set-up in various states as regional institutions to cope with the requirements of medium and small scales industries.
- The first SFC was in Punjab, set up in 1953.
- The authorised capital shall not be less than fifty lakhs of rupees, or exceed five hundred crores of rupees (as per the State Financial Corporations Act, 1951).
- The public can hold can hold 25% of the share and the rest is held by State.
- These corporations can sell bonds and debentures, and accept term deposits from public.

##### **Functions:**

Some important functions of the SFCs are -

- (i) to guarantee loans raised by industrial units to be repaid within 20 years,
- (ii) to grant loans and advances repayable within 20 years,
- (iii) to subscribe, shares bonds and debentures of industrial concerns.

#### **5.3.5 State Industrial Development Corporations (SIDC)**

- There are 24 State Industrial Development corporations in India established with the objective of rapid industrialization of the State.
- These institutions are providing assistance to small entrepreneurs and those industrial undertakings that are setup in backward regions.

#### **5.3.6 Industrial Reconstruction Bank of India (IRBI)**

##### **About:**

- Industrial Reconstruction Corporation of India (IRCI) was established to provide financial assistance as well as to revive and revitalize sick industrial units in public and private sector.
- IRCI was set up in 1971 with a share capital of ₹ 10 cores.
- In March 1985, it was converted into a statutory corporation called the Industrial Reconstruction Bank of India (IRBI).
- The authorized capital of IRBI was ₹ 200 cores.

##### **Functions:**

- (a) providing financial, managerial and technical assistance to the sick enterprises directly;
- (b) providing merchant banking services for merger, amalgamation etc
- (c) Securing finance from other institutions and government agencies for the revival of sick industries.



### 5.3.7 Board of Industrial and Financial Reconstruction (BIFR)

#### About:

- BIFR was set up In January 1987 under the Sick Industrial Companies (Special Provision) Act, 1985.
- The Board became operational on May 15, 1987.
- The Board consists of seven members.
- At the end of 1991, public sector enterprises were brought within its purview.

#### Function:

It is obligatory on the part of management of a sick unit to inform the BIFR about sickness. The Board will then enquire. If found sick, it will —

- (a) Change management or sale or leasing out of a part or the entire unit,
- (b) Take measures for merger or amalgamation with sound unit
- (c) Give the sick unit time for overcoming the problem on its own.

### 5.3.8 Unit Trust of India (UTI)

Under the Unit Trust Act, 1963, the Unit Trust of India was set up on 1<sup>st</sup> February, 1964.

#### Objectives:

The two objectives of the UTI are:—

- (a) to mobilize the savings of the relatively small investors and
- (b) to make available the benefits of equity investment to small investors through indirect holding of securities.

#### Organisation:

- The UTI is managed by a Board of Trustee.
- The chairman of the Board is appointed by the central government in consultation with the IDBI.
- The Executive Trustee is appointed by IDBI.
- RBI nominates one Trustee, and four trustees by IDBI.

Thus, the UTI occupies a pivotal position in the Indian capital market in mobilizing savings of heterogeneous investors and channeling into productive investment the savings it mobilizes, providing support to new issue market.

### 5.3.9 Export Import Bank of India (EXIM Bank)

#### About:

- The Export Import bank of India commenced operations on March 1, 1982.
- It is a non-bank financial intermediary.
- It confined its area of operations to foreign trade of India.
- It is a fully statutory company owned by the Government of India.
- It is empowered to borrow from RBI and also from foreign economies.
- It is a lead bank in the finance and promotion of exports.
- It is also an apex body for coordinating the working of similar organization engaged in promoting our export and import trade.

**Functions:**

Except export financing, the other program include –

- (a) Export Bills Re-discounting
- (b) Refinance of suppliers credit
- (c) Bulk Import finance
- (d) Foreign currency Pre shipment credit
- (e) Product equipment finance program
- (f) Business Advisory and technical Assistance (BATA).

**5.3.10 National Bank for Agriculture and Rural Development (NABARD)**

**About:**

- The NABARD was setup in July 1982.
- It is the apex body in the sphere of rural credit system.
- It took over the functions of agricultural credit department of the RBI and Agricultural Refinance and Development Corporation (ARDC).
- It has got the power to borrow from Union Government.
- It is also empowered to borrow foreign currency.
- It operates through 16 Regional offices.

**Functions:**

- (a) It provides all sorts of reference to cooperatives, commercial banks and also Regional Rural Banks (RRB).
- (b) It inspects the above three agencies and advises the government thereon.
- (c) It makes loans to State Governments to enable them to subscribe to the share capital of cooperative Banks.
- (d) It helps in prompting research in agriculture and rural development.
- (e) NABARD undertakes evaluation and monitoring projects financed by it.
- (f) It is responsible for the development operation and coordination relating to rural credit.

**5.3.11 Life Insurance Corporation of India (LIC)**

- LIC was set up in 1956 by nationalizing 245 insurance companies.
- The objectives of nationalization —
  - to protect the interest of policy holders against misuses and embezzlement of funds by private insurance companies
  - to direct investment of funds in government securities, leaving a meager part for the private sector.
- Basically LIC is an investment institution.
- Its policy holders view the LIC as a trustee of their funds, a source of emergency fund to guard against any financial misfortune and a way to accumulate funds by the time of retirement from work.
- The LIC plays an important role in the securities market in India.



- It purchases even when the market is dull (bearish) and prices are low in order to reap the benefit of future price appreciation.

### **5.3.12 General Insurance Companies (GIC)**

- The General Insurance Corporation of India (GIC) was formed as a government company in 1972 under the General Insurance Business (Nationalisation) Act 1972.
- Before nationalization a few big companies and about 100 small companies were in this business.
- All these units were merged together and reorganized into four subsidiaries of GIC. They are —
  - (i) National Insurance Company
  - (ii) New India Assurance Company
  - (iii) Oriental Fire and general Insurance Company
  - (iv) United India Fire and General Insurance Company.
- It sells insurance service against some forms of risk like loss of physical assets of various kinds from fire or accident and against personal sickness and accident.
- The insurer just purchases a service and not any financial asset.
- The companies can invest in the shares and debentures of the corporate sector. But shall not exceed 5% of the subscribed capital of a single company.
- It also participates in the underwriting of new issues and in granting term loans to industries.

### **5.3.13 Securities and Exchange Board of India (SEBI)**

SEBI was set up in 1988. It got statutory recognition in 1992.

#### **Purposes:**

- (a) Regulating the business in Stock Markets and other securities markets,
- (b) Prohibiting fraudulent and unfair trade practices relating to securities markets,
- (c) Regulating the working of collective investment schemes, improving Mutual Funds
- (d) Prohibiting insider trading in securities,
- (e) Regulating large acquisition of shares and takeover of companies

#### **Powers:**

- (1) All stock exchanges in the country have been brought under the annual inspection of SEBI for orderly growth of stock markets and also to protect the interest of investors.
- (2) To oversee the constitution as well as the operations of mutual funds of both private sector and joint sector.

### **5.3.14 The Asian Development Bank (ADB)**

- ADB started functioning in December 1966.
- It is engaged in promoting the socioeconomic progress of its member countries in Asia and Pacific.
- It is owned by the governments of 37 countries from the region and 16 from outside the region.
- It's head quarters is in Manila, Philippines.
- The bank's highest policy making body is the Board of Governors.
- Bank's activities comprise lending activities, and technical assistance.

**Objectives:**

- Poverty reduction
- promoting economic growth
- supporting human development
- protecting the environment
- improving the status of women

**Functions:**

- (a) to make loans and equity investment for the socioeconomic advancement of its member countries
- (b) to provide technical assistance for the preparation and execution of development projects, and advisory services
- (c) to promote investment of private and public capital for development purposes
- (d) to respond to requests for assistance in coordinating development plans and policies of member countries.

**5.3.15 The International Monetary Fund (IMF)**

IMF was created to secure the international monetary cooperation. It commenced operation in March, 1947.

**Objectives:**

- (a) To foster international monetary cooperation through joint action of its members
- (b) To promote foreign trade by avoiding restrictive currency practices.
- (c) To secure stability of foreign exchange rate.
- (d) To recur multilateral convertibility i.e., a borrower nation can borrow the currency of any other member nation.

**Functions:**

- (a) It provides short term credit
- (b) It functions as a leading institution in foreign exchange.
- (c) It grants loans for current transactions and not capital transaction.
- (d) It helps for the orderly adjustment of exchange rates
- (e) It acts as a store house of foreign exchange rates which is likely to improve the balance of payment position of member countries.

**Special Drawing Rights (SDR):**

- The SDR, new international money was first introduced in 1969 for two reasons.
  - to overcome the shortage of gold in the world economy leading to fall in international reserves;
  - to avoid the movement of gold across national boundaries.
- Each member of the fund was assigned an SDR quota that was granted in terms of a fixed value of gold.
- Hence they have been aptly described as "Paper Gold".
- The use of SDR would mean a reduction in the country's foreign reserve and a corresponding increase in the SDR holding of the country receiving it.



### 5.3.16 The World Bank

The World Bank has the following objectives before it :-

- (i) To help reconstruction of member countries damages due to the Second World War.
- (ii) To facilitate the investment of foreign capital for productive purpose.
- (iii) To promote balanced growth of international trade and to maintain equilibrium in the balance of payment.
- (iv) To promote private foreign investment by means of guarantee to loans and investments made by private investors. It will make loans out of its resources when private loans are not sufficient. Thus the bank supplements rather than replace private investment.

### 5.3.17 International Development Association (IDA)

- The IDA was started in 1960.
- It is affiliated to World Bank.
- The Capital Funds of the IDA come from subscription of member countries, special contribution from its richer members, transfer from the net earnings of the World Bank and general replenishment from its more industrialized members.
- The IDA loans can be used to finance both foreign exchange and local currency costs.

#### EXERCISE

1. What is a Bank?
2. What are the different types of Banks?
3. (a) 'The Process of multiplication of bank deposits through extension of loans and advances' refers to which functions of commercial Banks?  
(b) Give two factors imitating the volume of credit creation by commercial banks.
4. Explain the main functions of commercial banks.
5. Discuss the role of commercial banks in economic system.
6. Explain the main functions of commercial bank
7. Explain the role of commercial banks as the controller of credit.
8. Critically examine the process of credit creator by commercial banks.
9. Discuss the functions and activities of the Industrial Finance Corporation of India. Why was it established and when?
10. Discuss the rational behind the establishment of Industrial Development Bank of India. State the functions it is to discharge and discuss the services rendered by it.
11. Discuss the composition and functions of Asian Development Bank. Explain the objective and functions of International Monetary Fund.
12. Give an account of the structure of the World Bank. What are its objective and functions.
13. Why was the International Finance Corporation was established?
14. Write short notes on :-
  - (a) Asian Development Fund
  - (b) International Development Association
  - (c) Special Drawing Rights

## Applications

### MACRO-ECONOMICS-I (\*DENOTES ANSWERS)

1. Intermediate goods are excluded from GDP because
  - a. intermediate goods go into inventories, and hence are not sold
  - \*b. their inclusion would lead to double counting
  - c. they remain within the business sector
  - d. none of the above
2. Let us consider that in 1950 the GDP was ₹500 billion while in 1960 GDP reached ₹700 billion, both in current (nominal) dollars. If the price index was 100 in 1950, 125 in 1960, what was the change in real GDP from 1950 to 1960? \_\_\_\_\_billion.
  - a. zero
  - b. ₹15
  - c. ₹30
  - d. ₹45
  - \*e. ₹60
3. Rent and interest are used to calculate
  - a. indirect business taxes
  - b. undistributed corporate profits
  - \*c. GDP by the income approach
  - d. GDP by the expenditure approach
4. The sales tax is held to be a regressive tax because the:
  - a. sales tax is an indirect, rather than a direct, tax
  - b. tax tends to reduce the total volume of consumption expenditures
  - c. percentage of income paid as taxes is constant as income rises
  - d. administrative costs associated with the collection of the tax are relatively high
  - \*e. percentage of income paid as taxes falls as income rises
5. A common characteristic of pure public goods is that
  - a. people pay for them in proportion to the benefits received
  - b. the costs of producing them are less than if they were private goods
  - \*c. their benefits cannot be withheld from anyone, regardless of whether he pays for them or not
  - d. their benefits can be withheld from anyone who does pay for them
  - e. they are produced only by the public sector, not by the private sector
6. The best estimate of about the current natural rate of unemployment is:
  - a. 2 percent
  - b. 3 percent



- \*c. 6 percent
  - d. 9 percent
  - e. 0 percent
7. Inflation which is unexpected will most likely benefit:
- a. holders of cash
  - b. creditors who lend funds to others
  - c. those who have fixed incomes
  - \*d. people owing debts
  - e. holders of U.S. Treasury bonds
8. Wendy Clark has stopped looking for a job, feeling that there are not any jobs available for professional women television sportscasters like herself. She is
- a. frictionally unemployed
  - b. cyclically unemployed
  - \*c. a discouraged worker
  - d. a member of the labor force

Use the table below to answer question number 9

Disposable Income (₹)	Consumption (₹)
400	405
450	450
500	495
550	540
600	585

9. The MPS is:
- a. 0.05
  - b. 0.25
  - c. 0.2
  - d. 0.15
  - \*e. 0.1
10. The 45-degree line on a chart which relates consumption and income shows:
- a. the amounts households will plan to consume at each possible level of income
  - b. the amounts households will plan to save at each possible level of income
  - \*c. all the points at which consumption and income are equal
  - d. all points at which saving and income are equal
11. Assume the current equilibrium level of income is ₹200 billion as compared to the full employment income level of ₹240 billion. If the MPC is  $\frac{5}{8}$ , what change in autonomous expenditures is needed to achieve full employment?
- \*a. an increase of ₹15 billion

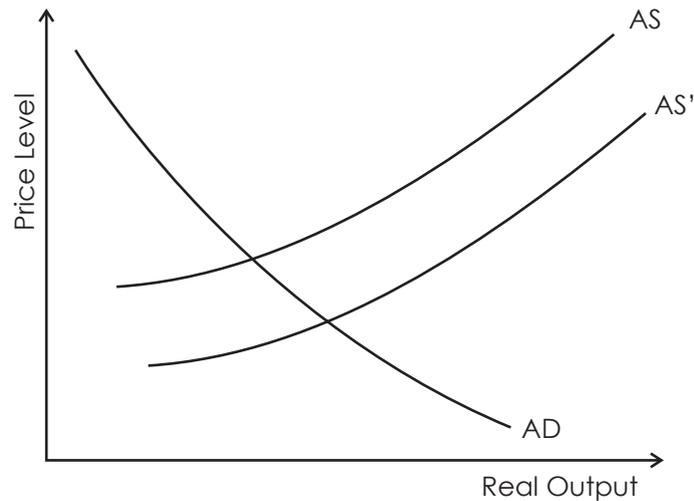
- b. an increase of ₹40 billion
  - c. an increase of ₹10 billion
  - d. an increase of ₹25 billion
  - e. a decrease of ₹12 billion
12. The inequality of intended (planned) saving and intended (planned) investment:
- a. is of no consequence because actual saving and investment will always be equal
  - b. is of no consequence because a compensating inequality of tax collections and government spending will always occur
  - \*c. may be of considerable significance because of the subsequent changes in income, employment, and the price level
  - d. is attributable to a low MPC
13. If the MPC = 2/3 and if the government lowers taxes by ₹10 and increases government expenditures by ₹5, then income would
- a. decrease by ₹5
  - b. increase by ₹5
  - \*c. increase by ₹35
  - d. decrease by ₹35
  - e. increase by ₹45
14. Keynesian economics would attack demand pull inflation by:
- a. decreasing the tax rates and/or decreasing government spending
  - b. decreasing the tax rates and/or increasing government spending
  - c. increasing the tax rates and/or increasing government spending
  - \*d. increasing the tax rates and/or decreasing government spending
15. Suppose the economy is operating far below its full employment level. Now the government increases its spending without an increase in taxes. Given time, this will most likely result in:
- \*a. output rising by a multiple of the increase in government spending and inflation may increase a little
  - b. a fall in output due to the initial position being one with idle resources
  - c. no change in output but an increase in inflation
  - d. a lowering of the rate of inflation
16. Assume Company X deposits ₹100,000 in cash in commercial bank A. If no excess reserves exist at the time this deposit is made and the reserve ratio is 20 percent, Bank A can safely increase the money supply by a maximum of:
- a. ₹100,000
  - b. ₹500,000
  - \*c. ₹80,000
  - d. ₹180,000
  - e. ₹50,000



17. If the public finds ways of making the same amount of money perform a larger amount of transactions than before
- a. the demand for money must have risen
  - \*b. velocity must have risen
  - c. incomes and prices must have risen
  - d. the supply of money must have risen
18. The "crowding-out effect" refers to possibility that
- \*a. borrowing by the federal government crowds out private borrowing
  - b. larger expenditures by the federal government simply crowd-out state and local spending
  - c. Congress has replaced the Federal Reserve System as the body mainly responsible for monetary policy
  - d. low income individuals are crowding middle income individuals out of the central city into the suburbs
19. In the equation of exchange, if  $M = ₹200$ ,  $P = ₹2$ , and  $Q = ₹400$ , then
- \*a.  $V$  must be 4
  - b.  $V$  must be one-half
  - c.  $V$  must be 1
  - d.  $V$  cannot be calculated with the available information
  - e. the value of the goods and services produced in the economy must be ₹400
20. Which of the following best describes the Keynesian cause-effect chain of an easy money policy?
- \*a. an increase in the money supply will lower the interest rate, increase investment spending, and increase GDP
  - b. an increase in the money supply will raise the interest rate, decrease investment spending, and decrease GDP
  - c. a decrease in the money supply will raise the interest rate, decrease investment spending, and decrease GDP
  - d. a decrease in the money supply will lower the interest rate, increase investment spending, and increase GDP
21. Open-market purchases of government securities by the Fed will have the tendency to
- a. increase interest rates, the money supply, and national income
  - b. increase interest rates and the money supply, but decrease national income
  - c. increase interest rates, but decrease the money supply and national income
  - \*d. decrease interest rates, but increase the money supply and national income
  - e. decrease interest rates, the money supply, and national income
22. The Federal Funds market has reference to the market where:
- a. the federal government finances its debt
  - \*b. banks borrow reserves from other banks
  - c. newly printed currency gets into circulation

- d. banks deposit the majority of their legal reserves
- e. checks are cleared

Use the graph below to answer question number 23



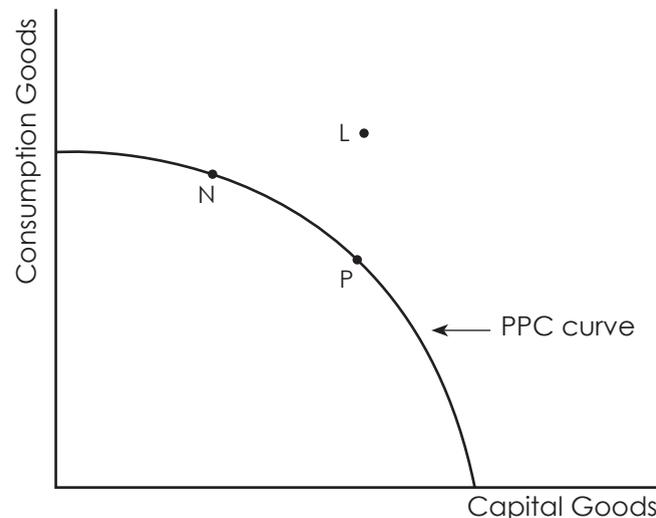
23. The shift in the Aggregate Supply curve from AS to AS' shown here, could be caused by all of the following except one. Which is the EXCEPTION?
- a. increased preference for work
  - b. development of new technology
  - c. reductions in the availability of unemployment compensation, welfare, etc.
  - d. immigration of foreign nationals into the U.S.
  - \*e. increased bargaining power of unions
24. Which of the following statements best describes the relationship between total output, total spending, and the general price level?
- a. prices are stable until full employment is reached; then any additional spending will be purely inflationary
  - b. spending, output, and prices will always increase proportionately
  - \*c. for a time increases in spending will cause large increases in output and little or no increase in prices; but as full employment is approached prices begin to rise more rapidly
  - d. spending and output are directly related; but spending and prices are inversely related
25. Which of the following is not essential for the classical model to be valid?
- a. wage-price flexibility
  - b. interest rate flexibility
  - c. long-run full employment
  - \*d. fixed money supply
26. To say that a country has a comparative advantage in the production of wine is to say that
- a. it can produce wine with fewer resources than any other country can
  - b. its opportunity cost of producing wine is greater than any other country's
  - \*c. its opportunity cost of producing wine is lower than any other country's
  - d. the relative price of wine is higher in that country than in any other

27. When India's exports exceed India's imports this has the effect of acting:
- to raise the Indian unemployment rate
  - as a net leakage
  - \*c. in a manner similar to other injections as investment and government spending
  - to weaken the rupee exchange rate - i.e. - the rupee depreciates
  - to cause Indian producers to lose profits

**MACRO-ECONOMICS-II (\*DENOTES ANSWERS)**

- The main concern of economics is
  - how to organize and run a business
  - \*b. how individuals and societies organize their scarce resources
  - how to protect the consumer
  - government spending and taxing
- The most basic institution of a market system is:
  - the existence of capital
  - \*b. private property
  - the use of money
  - production for the benefit of society, not individuals
  - democracy
- Which of the following is the primary incentive in determining WHAT to produce in a free market price system? Produce those products that
  - enjoy maximum freedom from government controls
  - are needed by the masses of people
  - are easiest to produce
  - \*d. will provide maximum profits for the producer

**Use the graph below to answer question number 4**



4. Other things being equal, society's current choice of point P on the curve will:
  - \*a. allow it to achieve more rapid economic growth than would the choice of point N
  - b. entail a slower rate of economic growth than would the choice of point N
  - c. entail the same rate of growth as would the choice of point N
  - d. be unobtainable because it exceeds the productive capacity of the economy
5. The production possibilities curve demonstrates the basic principle that
  - \*a. given full employment of all of a nation's resources, producing more of one good necessarily entails producing less of another
  - b. in a mixed capitalistic system with free markets, the economy will automatically employ all of its resources
  - c. exchange is a necessary corollary of specialization
  - d. given full employment, to produce more of one good a nation will EVENTUALLY, but not immediately, be forced to forgo production of other goods
6. The curvature in a production possibilities curve illustrates the law of
  - a. comparative advantage
  - \*b. increasing costs
  - c. constant costs
  - d. decreasing costs
  - e. of large numbers
7. If an increase in the price of product A results in an increase in the demand for product B, one may conclude that products A and B are
  - \*a. substitute goods
  - b. complementary goods
  - c. unrelated goods
  - d. inferior goods
8. Assume that Ford reduces the price of their subcompact and observes that their sales rise while sales of Chevy's subcompact falls. Which of the following statements is correct?
  - a. Both Ford and Chevy experience an increase in the demand for their cars
  - \*b. Ford experiences an increase in quantity demanded while Chevy experiences a decrease in demand
  - c. Both Ford and Chevy experience changes in quantity demanded
  - d. Ford experiences an increase in demand while Chevy experiences a reduction in quantity demanded
9. With an increase in profits in a particular industry, we might expect
  - a. firms to leave the industry
  - b. firms to produce less
  - \*c. firms to enter the industry
  - d. people to buy less
  - e. profits don't have anything to do with what firms do



10. Which of the following will NOT change the demand for a good? A change in
  - a. the number of consumers in the market
  - b. the prices of related goods
  - \*c. the price of the good itself
  - d. expectations about future prices
11. From an economic perspective, the complaint that there are not enough parking spaces in downtown areas indicates that
  - a. cities should build more parking places
  - b. everyone should ride mass transit into the city
  - c. the "market" for parking places is in equilibrium
  - \*d. the price of parking in downtown areas is below the market-clearing price
12. If supply and demand both decrease, we can say that equilibrium quantity:
  - a. and equilibrium price must both decline
  - \*b. must decline, but equilibrium price may either rise, fall, or remain unchanged
  - c. price must fall, but equilibrium quantity may either rise, fall, or remain unchanged
  - d. and equilibrium price must both increase
  - e. and equilibrium price must both decrease
13. Dairy price supports (floor) which raise milk prices received by farmers, are likely to:
  - a. lower the price of milk
  - b. result in shortages of milk
  - c. help consumers
  - \*d. cause increased production of milk
  - e. reduce inflation

### MACRO-ECONOMICS-III (\*DENOTES ANSWERS)

1. Macroeconomics is:
  - a. is concerned with details in the economy and does not generalize
  - \*b. the analysis of economic aggregates
  - c. the study of individual economic units and specific markets
  - d. is the basis for the 'after this, therefore because of this' fallacy (post hoc ergo propter hoc)
2. Which of the following is a positive, rather than a normative, statement?
  - \*a. if the price of gasoline is allowed to rise, people will buy less of it
  - b. Americans must learn to conserve energy
  - c. the government should reduce spending
  - d. the United States should reduce its dependence on Arab Oil
3. The principal economic function of price is to
  - a. make certain only worthy people get products
  - b. make people work in order to buy things they want

- \*c. allocate scarce resources in the economy
  - d. make sure all businessmen make the same amount of profit
  - e. prevent overproduction of important goods
4. Being on the production possibilities frontier for guns and butter means that:
- \*a. more guns can be produced only by doing without some butter
  - b. if society becomes more productive in producing butter, then we can have more butter, but not more guns
  - c. it is impossible to produce any more guns
  - d. it is impossible to produce any more butter
5. The law of increasing opportunity costs states that:
- a. the sum of the costs of producing a particular good cannot rise above the current market price of that good
  - \*b. if society wants to produce more of a particular good, it must sacrifice larger and larger amounts of other goods to do so
  - c. if the prices of all the resources devoted to the production of goods increase, the cost of producing any particular good will increase at the same rate
  - d. if the sum of the costs of producing a particular good rises by a specified percent, the price of that good must rise by a greater relative amount
6. An item which is not a factor of production (economic resource) is:
- a. Busch Stadium
  - b. Alan Greenspan
  - \*c. money
  - d. land
  - e. trees
7. Assuming a normal, downward sloping demand curve, one can expect a decrease in price to result in
- \*a. an increase in quantity demanded
  - b. a decrease in quantity demanded
  - c. an increase in demand for the product
  - d. a decrease in demand for the product
  - e. no change in quantity demanded
8. If an increase in the price of product A results in an increase in the demand for product B, one may conclude that products A and B are
- a. unrelated goods
  - b. inferior goods
  - \*c. substitute goods
  - d. complementary goods
9. The market demand curve represents
- \*a. the sum of the quantities demanded by all individuals at each price
  - b. a steeper curve than would be obtained by adding all the individual demands



- c. points at which the quantity supplied equals the quantity demanded  
d. none of these
10. Which of the following factors could not cause the supply curve for product X to shift?  
a. A change in technology  
b. A change in the number of suppliers of X  
c. A change in the cost of factors of production  
\*d. A change in the price of X
11. The complaint that there are not enough parking spaces in downtown areas indicates that  
a. the "market" for parking places is in equilibrium  
\*b. the price of parking in downtown areas is below the market-clearing price  
c. cities should build more parking places  
d. everyone should ride mass transit into the city
12. Given an upward sloping supply curve for lamb chops, a reduction in the price of pork chops will tend to:  
a. raise the price of lamb chops  
\*b. lower the price of lamb chops  
c. shift the demand curve for lamb chops to the right  
d. shift the demand curve for pork chops to the left
13. Dairy price supports (floor) which raise milk prices received by farmers, are likely to:  
a. help consumers  
\*b. cause increased production of milk  
c. lower the price of milk  
d. result in shortages of milk  
e. reduce inflation
14. The difference between GDP and GNP is essentially the difference between:  
a. goods that are exported and goods that are imported  
\*b. location of production and ownership of resources  
c. production of consumer goods and production of capital goods  
d. production of final goods and production of intermediate goods
15. Real income differs from money income in that real income:  
\*a. reflects constant dollar purchasing power, while money income reflects current dollar purchasing power  
b. represents the income value used in determining income taxes, while money income is the gross income actually received before taxes  
c. refers to earned income, while money income refers to unearned income  
d. refers to income minus the amount put into savings, while money income includes savings
16. In the national income accounts, the capital consumption allowances (depreciation) represents  
a. net investment minus depreciation  
b. the difference between net national product and national income

- c. income to the suppliers of capital
  - d. interest payments plus distributed corporation profits
  - \*e. repayment for capital used up in production
17. A proportional tax means that someone earning ₹20,000 would:
- a. pay a proportionally higher tax on income than someone who has a lower income
  - \*b. pay just as much tax in percentage terms as someone earning ₹10,000
  - c. pay just as much tax as someone earning ₹10,000
  - d. none of the above
18. A common characteristic of pure public goods is that
- \*a. their benefits cannot be withheld from anyone, regardless of whether he pays for them or not
  - b. their benefits can be withheld from anyone who does pay for them
  - c. people pay for them in proportion to the benefits received
  - d. the costs of producing them are less than if they were private goods
  - e. they are produced only by the public sector, not by the private sector
19. Which of the following statements is correct about unanticipated inflation?
- a. It increases the real value of savings
  - \*b. It imposes costs on or "taxes" groups with fixed incomes
  - c. It benefits creditors at the expense of debtors
  - d. It increases the purchasing power of the dollar
20. In the official statistics, a worker who is so discouraged that he has stopped looking for employment is counted as:
- a. underemployed
  - \*b. not in the labor force in exactly the same way as a spouse who works exclusively at home
  - c. unemployed
  - d. in the labor force, but not employed
  - e. none of the above
21. The relative shares of income spent on particular components of a typical consumer's market basket of commodities are used to compute
- \*a. the CPI
  - b. the IPI
  - c. the GDP deflator
  - d. the PPI
  - e. all of these
22. The inequality of intended saving and intended investment:
- \*a. may be of considerable significance because of the subsequent changes in income, employment, and the price level
  - b. is attributable to a low MPC



- c. is of no consequence because actual saving and investment will always be equal
- d. is of no consequence because a compensating inequality of tax collections and government spending will always occur
23. The unplanned accumulation of inventory is a sign that:
- a. planned investment equals planned saving
  - \*b. current national income exceeds aggregate expenditure
  - c. aggregate expenditure exceeds current national income
  - d. planned investment exceeds planned saving
24. If a family's MPC is .7, it is
- \*a. spending seven-tenths of any change to its income
  - b. operating at the "breakeven" point
  - c. spending 70 percent of its income on consumer goods
  - d. necessarily dissaving
25. Assume the current equilibrium level of income is ₹200 billion as compared to the full employment income level of ₹240 billion. If the MPC is 0.6, what change in autonomous expenditures is needed to achieve full employment?
- \*a. an increase of ₹16 billion
  - b. an increase of ₹25 billion
  - c. an increase of ₹10 billion
  - d. an increase of ₹12 billion
  - e. an increase of ₹40 billion
26. During times of unemployment, the use of full-employment fiscal policy calls for
- a. excise taxes to be raised
  - \*b. a deficit in the government's budget
  - c. a surplus in the government's budget
  - d. a decrease in government expenditures
27. Which of the following best describes the built-in (automatic) stabilizers as they function in the United States?
- a. personal and corporate income tax collections and transfers and subsidies all automatically vary inversely with the level of national income
  - b. personal and corporate income tax collections automatically fall and transfers and subsidies automatically rise as the national income rises
  - c. personal and corporate income tax collections and transfers and subsidies all automatically vary directly with the level of national income
  - \*d. personal and corporate income tax collections automatically rise and transfers and subsidies automatically decline as national income rises
  - e. the size of the balanced budget multiplier varies inversely with the level of national income
28. Suppose the economy is operating far below its full employment level. Now the government increases its spending without an increase in taxes. Given time, this will most likely result in:
- a. no change in output but an increase in inflation
  - b. a lowering of the rate of inflation

- \*c. output rising by a multiple of the increase in government spending and inflation may increase a little
  - d. a fall in output due to the initial position being one with idle resources
29. To say that money is used as the medium of exchange means that:
- a. money and total spending are the same
  - b. people can use money to carry over wealth from one time period to the next
  - c. money and income are one and the same thing
  - d. money serves as a unit of account
  - \*e. money is used in transactions, rather than goods exchanging for goods
30. One would definitely expect the quantity of money demanded to increase if:
- \*a. interest rates were decreasing and total spending was increasing
  - b. the supply of money was decreasing
  - c. interest rates were increasing and total spending was falling
  - d. everyone were paid daily instead of once or twice a month
31. According to the Classical (crude) quantity theory of money, doubling of the supply of money in a fully employed economy will cause the price level to
- a. be halved
  - b. remain unchanged
  - \*c. double
  - d. the theory makes no definite prediction in such a situation
32. Suppose that the banking system holds ₹10 lakhs in demand deposits and ₹300,000 in statutory reserves. If the required reserve ratio is 25 percent, the maximum amount by which the banking system can expand the money supply is:
- a. ₹10,00,000
  - b. ₹ 15,00,000
  - \*c. ₹ 2,00,000
  - d. ₹ 3,00,000
  - e. ₹ 20,00,000
33. Keynesians argue that when the FED uses monetary policy to stimulate the economy, it can \_\_\_\_\_ bonds in the open market which causes interest rates to \_\_\_\_\_ and \_\_\_\_\_ investment spending.
- a. buy / increase / stimulates
  - b. buy / decrease / decreases
  - c. sell / decrease / stimulates
  - \*d. buy / decrease / stimulates
34. Generally recognized as a sign of a policy favoring tighter money is a
- a. rise in the money supply
  - \*b. rise in the discount rate
  - c. reduction of the required reserve ratio
  - d. rise in government bond purchases by the Fed



35. By purchasing government securities in the open market, the Federal Reserve authorities hope ultimately to accomplish:
- a. a decrease in member-bank Reserves
  - b. an equal increase in member-bank Reserves and Federal Reserve notes
  - c. an increase in member-bank Reserves larger than the original purchases by the appropriate multiple
  - \*d. an increase in member-bank Reserves by the amount of the original purchases
  - e. an increase in Federal Reserve notes larger than the original purchases by the appropriate multiple
36. All except one of the following will cause a shift in Aggregate Demand. Which will not shift the curve?
- a. decreased investment due to higher business confidence
  - b. increased government spending due to policy changes
  - c. increased exports due to higher foreign incomes
  - d. increased imports due to perceptions of higher quality
  - \*e. reduction of government regulations of business production
37. Which of the following would result in an increase in potential GDP?
- a. A movement down the Aggregate Supply curve
  - b. A movement up the Aggregate Demand curve
  - \*c. Aggregate Supply shifts right
  - d. Aggregate Supply shifts left
  - e. none of the above
38. Which of the following is not essential for the classical model to be valid?
- a. long-run full employment
  - \*b. fixed money supply
  - c. wage-price flexibility
  - d. interest rate flexibility
39. A nation has a comparative advantage when it:
- a. finds a new way to improve existing goods
  - b. can produce a good without using up any of its capital stock
  - \*c. can produce a good at a lower opportunity cost than another nation
  - d. can produce a good with fewer resources than another nation
40. The value of net exports is:
- a. always positive
  - b. always larger than government expenditures
  - \*c. an injection into the economy if exports exceed imports
  - d. an injection into the economy if imports exceed exports



# Study Note - 6

## INDIAN ECONOMY – AN OVERVIEW



### SECTION – A

#### This Study Note includes

- (A) 6.1 Meaning of an Underdeveloped Economy
- 6.2 Basic Characteristics of the Indian Economy as Developing Country
- 6.3 Major Issues of Development
- 6.4 Natural Resources in the process of Economic Development
- 6.5 Economic Development & Environmental Degradation
- 6.6 The role of Industrialisation
- 6.7 Pattern of Ownership of Industries
- 6.8 Role & Contribution of some Major Industries in Economic Development

#### 6.1 MEANING OF AN UNDERDEVELOPED ECONOMY

India on the eve of 20th century is characterised by strong macro fundamentals & good performance. During the last 5 years (2005-06 to 2011-12) India's key strengths has been –

- Robust growth prospects;
- Economic liberalisation;
- Strong domestic demand;
- Strong external liquidity position;
- High saving & investment ratios;
- Strong & competitive private sectors;
- Steadily rising government revenues;
- Strong financial regulatory framework;
- Highly educated workforce or human capital; and
- Innovative society

As a result there has been a significant growth in the macroeconomic parameters, such as,

Key Parameters	2005-06	2011-12	Change
Real Gross Domestic Product(GDP)(INR Billion)	32,542	52,220	60 % Higher
Real Per Capita GDP(INR)	33,548	46,221	38 % Higher
Exports(US \$ Billion)	103	303	194 % Higher

Source: Reserve Bank of India data (March 2012)

But still there is a long way to go. Barring a few countries, the PCI of a n Indian is much less as compared to most of the other countries around the world, like- USA, Japan, UK, Switzerland etc.

India still has a lot of problems, like poverty, illiteracy, child mortality etc. to fight before it becomes amongst the bests in the world to be emerging economy.

In this respect before we go for an overview of Indian economic, be first need to understand India's standing in the global structure.

**(a) The concept of development:**

In chapter 3 (Article 3.4 – National Income & Economic Welfare) we have already discussed that a high national income does not always come hand in hand with economic welfare. There are other aspects also to be considered (like health, education, social & cultural prosperity, political stability etc.) coined in the term welfare. The distinction between growth & development is also similar. Growth means a quantitative improvement. Whereas development not only considers growth but also includes the aspects of human development. On this basis countries around the world can be classified in two categories – Developed Countries & Developing Countries. The term developing countries signifies that though still underdeveloped, the process of development has been initiated. Developing countries can further be subdivided into three categories as shown in the following diagram.

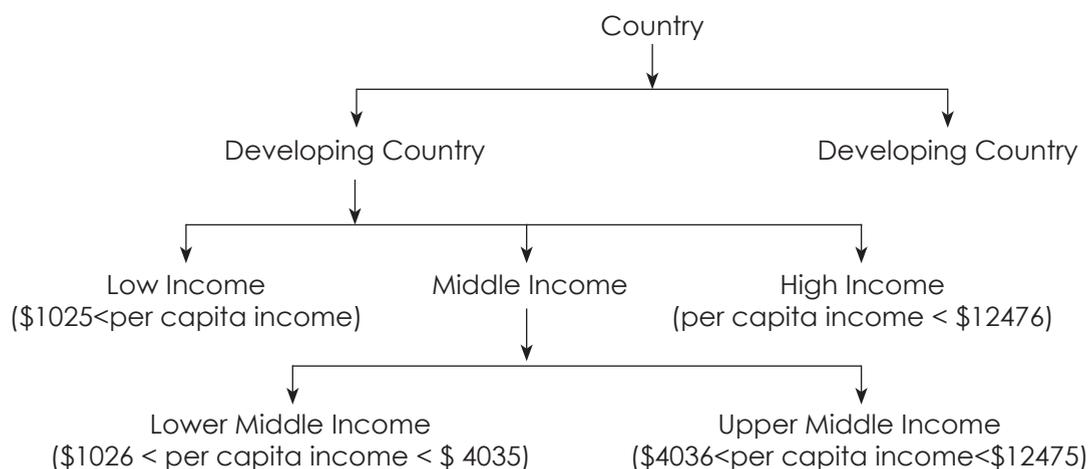


Fig 6.1

Two Asian giants marching forward on the road to development at a higher rate than the high income countries are China and India. China has already entered the upper middle income group with a GNI per capita of \$ 4940 as in 2011. India is now in the lower middle income group with a GNI per capita \$ 1410, which is growing @ 5.4%, where as that of China is @ 9.06%.

**6.2 BASIC CHARACTERISTICS OF THE INDIAN ECONOMY AS DEVELOPING COUNTRY**

India is a developing country in the lower middle income group. The basic characteristics are –

- (i) **Low per capita income:** The per capita income of an Indian in 2011 was \$ 1410. Barring a few countries, the per capita income (PCI) of the Indian people is the lowest in the world.
- (ii) **Occupational pattern - primary producing:** One of the basic characteristics of India being an underdeveloped country is that it is primary producing. A very high proportion of working population is engaged in agriculture, about 52 per cent and its contribution to national income was only 13.9 per cent in 2011-12. Since agricultural sector is a low income earning sector and also because the productivity per person engaged in it is very low.
- (iii) **Heavy Population pressure:** One of the major problems in India is the high level of birth rates which is also an evil effect of illiteracy. A positive attributive is the average life of citizen has increased which adds further to the working population. The is further identified with a falling death rate.



- (iv) **Prevalence of chronic unemployment and under-employment:** In India cheap labour force is available in abundance. It is very difficult to engage in gainful employment to the entire working population, which is the result of a deficiency of capital in the country.
- (v) **Steady improvement rate of capital formation:** In a country like India where the rate of population growth is 1.36 per cent (during 2011-12), about a high investment is needed to offset the additional burdens imposed by a rising population. Unless this balance is achieved, there is a danger that higher growth will only be obtained at the expense of unacceptable inflation.
- (vi) **Maldistribution of Wealth/Assets:** Inequality in asset distribution is the principal cause of unequal distribution of income in the rural areas. It also signifies that the resource base of 50 per cent of the households is so weak that it can hardly provide them anything above the subsistence level of income.
- (vii) **Poor quality of human capital:** Underdeveloped countries suffer from mass illiteracy. Illiteracy retards growth. A minimum level of education is necessary to acquire skills as also to comprehend social problems.
- (viii) **Prevalence of low level of technology:** In India, the most modern technique exists side by side with the most primitive in the same industry, but the majority of the productive units is produced with the help of inferior techniques as judged by the modern scientific standards. The sharp differences in productivity between developed and underdeveloped nations can be traced to a considerable degree to the application of superior techniques by the former.
- (ix) **Low level of living of the average Indian:** Failure to secure a balanced diet manifests in India in the low calorie intake and low level of consumption of protein. Another factor is that in India cereals predominate, but in contrast the diet in the advanced countries is rich in content because it includes fruits, fish, meat, butter and sugar. The protein intake is nearly less than half of the level prevalent in advanced countries. This results in developing less strength to fight diseases and is also partly responsible for the low level of efficiency of the Indian workers. The picture regarding housing is equally bleak.
- (x) **Demographic characteristics of an underdeveloped country:** Demographic characteristics associated with underdevelopment are high density of population. Besides this, the average expectation of life is low and infant mortality rates are high. The density of population in India in 2010 was 412 per sq. Km. as compared with that in USA, which is 34. Even in China density is 143 per sq. km. obviously, a higher density imposes greater burdens on land and other natural resources. The major problem for India is to harness the growing working age population in emerging areas of the economy, both in industry and services.

### 6.3 MAJOR ISSUES OF DEVELOPMENT

India is an underdeveloped though a developing economy. It is in this context that an understanding of the major issues of development should be made. The following are the major development issues in India.

- (i) Low per capita income and low rate of economic growth.
- (ii) High proportion of people below the poverty line.
- (iii) Low level of productivity efficiency due to inadequate nutrition and malnutrition.
- (iv) Imbalance between population size, resources and capital.
- (v) Problem of unemployment.
- (vi) Instability of output of agriculture and related sectors.
- (vii) Imbalance between heavy industry and wage goods.
- (viii) Imbalance in distribution and growing inequalities.

## 6.4 NATURAL RESOURCES IN THE PROCESS OF ECONOMIC DEVELOPMENT

The existence or the absence of favourable natural resources can facilitate or retard the process of economic development. Underdeveloped countries, embarking on programmes of economic development, "usually have to begin with and concentrate on the development of locally available natural resources as an initial condition for lifting local levels of living and purchasing power, for obtaining foreign exchange with which to purchase capital equipment, and for setting in motion the development process."

Natural resources include land, water resources, fisheries, mineral resources, forests, marine resources, climate, rainfall and topography. Some of these resources are known to man. With the growth of the knowledge about the unknown resources and their use, the natural endowment of a country is materially altered.

### 6.4.1 Land Resources

The total geographical area of India is about 329 million hectares, but statistical information regarding land classification is available of only about 306 million hectares; this information is based partly on village papers and partly on estimates.

### 6.4.2 Forest Resources

Forests are important natural resources of India. They supply timber, fuel wood, fodder and a wide range of non-wood products and thus, play an important role in environmental and economic sustainability.

### 6.4.3 Water Resources

Indian is one of the wettest countries in the world, with average annual rainfall of 1100 m.m.

### 6.4.4 Fisheries

India has a vast and diverse potential of fishing resources comprising 2 million sq. kms. of Exclusive Economic Zone for deep sea fishing, 7,520 kms. of coastline, 29,000 kms. of rivers, 1.7 million hectares of reservoirs, nearly 1 million hectares of brackish water area and 0.8 million hectares of tanks and ponds for inland and marine fish production. All these resources are waiting to be exploited fully.

### 6.4.5 Mineral Resources

"The development and management of mineral resources plays a major role in the industrial growth of a nation." Coal and iron, for instance, are the basic minerals needed for the growth of iron and steel industry which in turn, is vitally necessary for the country's development. There are other minerals also which are of economic importance. Then, we have mineral fuels like petroleum, coal thorium and uranium which are of national importance.

## 6.5 ECONOMIC DEVELOPMENT AND ENVIRONMENTAL DEGRADATION

After Independence, India launched a series of economic plans for rapid expansion in agriculture, industry, transport and other infrastructure, with a view to increase production and employment, to reduce poverty and inequality of incomes and wealth and to establish a socialist society based on equality and justice.

At the same time, because of growing population and high degree of mechanization, mindless and ruthless exploitation of natural resources. We have degraded our physical environment. Rapid economic development is actually turning India into a vast wasteland. In the following areas India is witnessing a very high level of environmental degradation caused by economic development.

- (i) Deforestation caused land degradation & soil erosion.
- (ii) Overgrazing ecological degradation.



- (iii) Adverse environmental effects of faulty utilization of water resources.
- (iv) Environmental problems arising out of mining
- (v) Industrialization and atmospheric pollution.

## 6.6 THE ROLE OF INDUSTRIALISATION

Industrialization has a major role to play in the economic development of the underdeveloped countries. The gap in per capita incomes between the developed and underdeveloped countries is largely reflected in the disparity in the structure of their economics; the former are largely industrial economics, while in the latter production is confined predominantly to agriculture. Undoubtedly, some countries have achieved relatively high per capita incomes by virtue of their fortunate natural resources endowments. Petroleum exporting countries like Saudi-Arabia, Kuwait, and UAR have achieved higher per capita income by exploiting the strong advantage that they enjoy in international trade. But these countries are a rather special case.

In industry, the scope for internal as well as external economies is greater than in other sectors and certainly greater than in agriculture. As industrialization proceeds, economies of scale and inter-industrial linkages (complementarity) become more pronounced. It also leads to the creation of economic surplus in the hands of industrial producers for further investment.

The industrial sector which possesses a relatively high marginal propensity to save and invest contributes significantly to the eventual achievement of a self-sustaining economy with continues high levels of investment and rapid rate of increase in income and industrial employment. Besides, the process of industrialization is associated with the development of mechanical knowledge, attitudes and skills of industrial work, with experience of industrial management and with other attributes of a modern society which in turn, are beneficial to the growth of productivity in agriculture, trade, distribution and other related sectors of the economy. As a consequence of these factors, any successful transfer of labour from agriculture to industry contributes to economic development. Industrialization is thus inseparable from substantial, sustained economic development because it is both a consequence of higher incomes and a means of higher productivity.

## 6.7 PATTERN OF OWNERSHIP OF INDUSTRIES

The progress of industrialisation during the last 50 years since 1951 has been a striking feature of Indian economic development. The progress India has made in the field of industrialization is clearly reflected in the commodity composition of India's foreign-trade in which the share of imports of manufactured goods has steadily declined; on the other hand, industrial products, particularly engineering goods, have become a growing component of India's exports. Finally, the rapid stride in industrialization has been accompanied by a corresponding growth in technological and managerial skills for efficient operation of the most sophisticated industries and also for planning, designing and construction of such industries.

The Annual Survey of Industries has classified data about the ownership pattern for industries into three categories. In the non-corporate sector are included industrial units which are owned by individuals proprietorships, joint families (Hindu Undivided families –HUF) and partnerships. Secondly, the corporate sector is sub-divided into two sectors – (a) private corporate includes public and private limited companies; and (b) public corporate sector includes Government Departmental Enterprises and public corporations. There is third category 'others' comprising of khadi & village Industrial units e.g. sugar mills run by co-operative societies in Maharashtra etc.

## 6.8 ROLE & CONTRIBUTION OF SOME MAJOR INDUSTRIES IN ECONOMIC DEVELOPMENT

Now we shall consider the problems relating to the growth of six major traditional industries, namely, Iron and Steel, cotton Textiles, Jute, Sugar, Cement and Paper and 4 new industry viz. Petro-Chemicals, Automobile, Information Technology (IT) industry, and Banking & Insurance. These industries occupy an important position in the country. Their production ranges from basic producer goods, to the most important consumer goods. Thus, the growth of these industries provides a fair understanding of industrial growth on the one hand and the relationship between government policies and their growth on the other.

### 6.8.1 Steel Industry

From the point of view of total investment, iron and steel industry is the most important industry. Major portion of this investment is in the public sector plants. The industry provides direct employment to 2.5 lakh workers. In spite of the tremendous importance given to the iron and steel industry and the heavy investment made, our country had to import increasingly large amount of steel.

According to World Steel Association, India has been ranked among the world's top 10 producers to crude steel.

### 6.8.2 The (Cotton and Synthetic) Textile Industry

The structure of the textile industry is extremely complex with the modern, sophisticated and highly mechanised mill sector on the one hand and the hand spinning and hand-weaving (handloom) sector on the other; in between falls the decentralized small scale powerloom sector. If we include all the three sectors, the cotton and synthetic textile industry in India is the largest industry in the country, accounting for about 20 per cent of the industrial output, providing employment to over 20 million persons and contributing around 33 per cent of the total export earnings. The textile industry is one in which India has an opportunity for success on a global scale, given the low cost of labour.

### 6.8.3 The Jute Industry

The jute industry was started in 1885. Its importance to the economy lies in its capacity to earn foreign exchange. The total number of looms installed in 69 units was about 44,900 and the industry accounts for 30 per cent of the world output of jute. Besides providing direct employment to about 2.5 lakh persons, nearly 40 lakh families derive their living from jute cultivation.

Production of jute textiles was stagnant for many years despite all types of measures and incentives given by the Government. The jute industry is now modernizing its post-spinning equipment by new high speed machines and the installation of broadlooms for the manufacture of carpet backing. The industry has also taken advantage of the phenomenal growth of the demand for carpet backing cloth in the U.S. market in recent years. The entire production is exported and the principal export market is the United States. Thus, the discovery of new uses and new products should be the strategy of development in the jute industry. Some of the other specialities which are manufactured now are cotton bagging, jute tarpaulins, paper lined hessian, jute carpets and jute webbing.

### 6.8.4 The Sugar Industry

India was the fourth major sugar producing country in the world, the first three being Russia, Brazil and Cuba in the order. India has now emerged as the largest sugar producing country in the world, with a 22 per cent share of the world's sugar production. Sugar industry is the second largest agro-based industry in the country. It ranks third largest industry in terms of its contribution to the net value added by manufacture and employs nearly 3.25 lakh workers, besides creating extensive indirect employment for 45 million farmers of sugarcane, the various agencies of distributive trade and through subsidiary industries such as confectionary. Sugarcane cultivation accounts for 3 per cent of total cultivated area and contributes 7.5 per cent of the gross value of agricultural production. It is also an important source of excise duty for the Central Government. There are now 571 sugar factories in India with a total installed capacity of 19.2 million tonnes. Against this, 500 factories were in operation.



### **6.8.5 The Cement Industry**

The foundation of a stable Indian cement industry was laid in 1914 when the Indian Cement Company Ltd. manufactured cement at Porbunder in Gujarat. There are 148 large cement units and 365 mini-cement plants with a total installed capacity of 230 million tonnes and actual production of nearly 200.7 million tonnes (for the year 2009-10). Over two lakh persons are employed in the industry. India is the seventh largest cement producer in the world, the first six being Russia, Japan, USA, Italy, West Germany and France.

### **6.8.6 The Paper Industry**

The first paper mill was set up in India more than 100 years ago. The industry operated under a protective tariff since 1925. Attracted by high profits under the protective tariff umbrella, many new paper mills were set up. During the period of planned development, the paper industry made rapid progress, India's forests providing abundant raw materials for its smooth working. Production rose from 3.5 lakh tonnes in 1960-61 to 49.6 lakh tonnes in 2009-10. The production of newsprint rose from 0.4 lakh tonnes to 10.3 lakh tonnes between 1961 and 2008-09.

The industry should be helped to optimize capacity utilization through renovation and modernization of existing large mills. In this connection, the prices fixed by the Government for various types of paper were unrealistic and did not provide for reasonable returns on capital.

### **6.8.7 Petrochemical industry**

The development of petrochemical industry in India had its origin in and with petroleum development. The initial efforts were made through the naphtha crackers of National Organic Chemical Industries Ltd. (NOCIL) and Union Carbide of India Ltd. in the sixties. The real thrust came with the setting up of the large size unit of Indian Petrochemicals Corporation Ltd. (IPCL) at Baroda in the late seventies in the public sector. The discovery of crude oil and natural gas in the offshore region in the western coast of India has provided a new dimension to the possibility of petrochemicals expansion from the Sixth Plan onwards.

### **6.8.8 Automobile Industry**

With the liberalization of the economy, the automobile sector witnessed robust growth. The established manufacturers were phased out and the sector witnesses the entry of new manufacturers with state-of-the-art technology. This provided confidence to manufacturers to face international competition. Competition in the market along with safety regulations on emissions have led to improvement in standards.

The automobile industry consists of passenger cars, multi-utility vehicles, commercial vehicles two wheelers and three wheelers.

### **6.8.9 Information Technology (IT) Industry**

Information technology is of recent origin, but it is spreading fast in India. However, India has a long way to go before it can catch up with the developed countries.

In the information technology (IT) sector, outsourcing has acquired an international dimension. US firms find it more profitable to contract IT software and services in developing countries like India and China. The costs for these services in developing countries are much less than in the developed world. A recent study by McKinsey has estimated that every dollar spent on off-shoring (outsourcing) implies a cost reduction of 58 cents to US business. Thus, US firms and those in the European Union regularly carry out contracts with IT firms in India.

### **6.8.10 Banking Sector in India**

Banking in India originated in the last decades of the 18th Century. The first banks were The General Bank of India, which started in 1786, and Bank of Hindustan, which started in 1770; both are now defunct. The oldest bank in existence in India is the State Bank of India, which originated in the Bank

of Calcutta in June 1806, which almost immediately become the Bank of Bengal. This was one of the three presidency banks, the other two being the Bank of Bombay and the Bank of Madras, all three of which were established under charters from the British East India Company. For many years the Presidency banks acted as quasi-central banks, as did their successors. The three banks merged in 1921 to form The Imperial Bank of India, which upon India's independence, became the State of India in 1955.

In 1969, The Government of India issued an ordinance ('Banking Companies (Acquisition and Transfer of Undertakings) Ordinance, 1969') and nationalized the 14 largest commercial banks with effect from the midnight of July 19, 1969. These banks contained 85 per cent of bank deposits in the country.

The IT revolution had a great impact in the Indian banking system. The use of computers had led to introduction of online banking in India.

In 1994, Committee on Technology issues relating to Payment System, Cheque Clearing and Securities Settlement in the Banking Industry (1994) was set up with chairman Shri WS Saraf, Executive Director, Reserve Bank of India. It emphasized on Electronic Funds Transfer (EFT) system, with the BANKNET communications network as its carrier. It also said that MICR clearing should be set up in all branches of all banks with more than 100 branches.

Committee for proposing Legislation on Electronic Funds Transfer and other Electronic Payment (1995) emphasized on EFT system. Electronic banking refers to Doing Banking by using technologies like computers, internet and networking, MICR, EFT so as to increase efficiency, quick service, productivity and transparency in the transaction.

Apart from the above mentioned innovations the banks have been selling the third party products like Mutual Funds, insurances to its clients. Total numbers of ATMs installed in India by various banks as on end March 2005 is 17,642.

### **Different Types of Banks:**

#### **Type 1. Saving Banks**

Saving banks are established to create saving habit among the people. These banks are helpful for salaried people and low income groups. The deposits collected from customers are invested in bonds, securities, etc. At present most of the commercial banks carry the functions of savings banks. Postal department also performs the functions of saving bank.

#### **Type 2. Commercial Banks**

Commercial banks are established with an objective to help businessmen. These banks collect money from general public and give short-term loans to businessmen by way of cash credits, overdrafts, etc. Commercial banks provide various services like collecting cheques, bill of exchange, remittance money from one place to another place.

In India, commercial banks are established under Companies Act, 1956. In 1969, 14 commercial banks were nationalised by Government of India. The policies regarding deposits, loans, rate of interest, etc. of these banks are controlled by the Central Bank.

#### **Type 3. Industrial Banks / Development Banks**

Industrial / Development banks collect cash by issuing shares & debentures and providing long-term loans to industries. The main objective of these banks is to provide long-term loans for expansion and modernisation of industries.

In India such banks are established on a large scale after independence. They are Industrial Finance Corporation of India (IFCI), Industrial Credit and Investment Corporation of India (ICICI) and Industrial Development Bank of India (IDBI).



#### **Type 4. Land Mortgage / Land Development Banks**

Land Mortgage or Land Development banks are also known as Agricultural Banks because these are formed to finance agricultural sector. They also help in land development.

In India, Government has come forward to assist these banks. The Government has guaranteed the debentures issued by such banks. There is a great risk involved in the financing of agriculture and generally commercial banks do not take much interest in financing agricultural sector.

#### **Type 5. Indigenous Banks**

Indigenous banks means Money Lenders and Sahukars. They collect deposits from general public and grant loans to the needy persons out of their own funds as well as from deposits. These indigenous banks are popular in villages and small towns. They perform combined functions of trading and banking activities. Certain well-known Indian communities like Marwaries and Multani even today run specialised indigenous banks.

#### **Type 6. Central / Federal / National Bank**

Every country of the world has a central bank. In India, Reserve Bank of India, in U.S.A, Federal Reserve and in U.K, Bank of England. These central banks are the bankers of the other banks. They provide specialised functions i.e. issue of paper currency, working as bankers of government, supervising and controlling foreign exchange. A central bank is a non-profit making institution. It does not deal with the public but it deals with other banks. The principal responsibility of Central Bank is thorough control on currency of a country.

#### **Type 7. Co-operative Banks**

In India, Co-operative banks are registered under the Co-operative Societies Act, 1912. They generally give credit facilities to small farmers, salaried employees, small-scale industries, etc. Co-operative Banks are available in rural as well as in urban areas. The functions of these banks are just similar to commercial banks.

#### **Type 8. Exchange Banks**

Hong Kong Bank, Bank of Tokyo, Bank of America are the examples of Foreign Banks working in India. These banks are mainly concerned with financing foreign trade.

Following are the various functions of Exchange Banks :-

1. Remitting money from one country to another country,
2. Discounting of foreign bills,
3. Buying and Selling Gold and Silver, and
4. Helping Import and Export Trade.

#### **Type 9. Consumers Banks**

Consumers bank is a new addition to the existing type of banks. Such banks are usually found only in advanced countries like U.S.A. and Germany. The main objective of this bank is to give loans to consumers for purchase of the durables like Motor car, television set, washing machine, furniture, etc. The consumers have to repay the loans in easy installments.

#### **Commercial Banks in India**

Commercial banks form a significant part of the country's Financial Institution System. Commercial Banks are those profit seeking institutions which accept deposits from general public and advance money to individuals like household, entrepreneurs, businessmen etc. with the prime objective of earning profit in the form of interest, commission etc. The operations of all these banks are regulated by the Reserve Bank of India, which is the central bank and supreme financial authority in India. The

main source of income of a commercial bank is the difference between these two rates which they charge to borrowers and pay to depositors. Examples of commercial banks – ICICI Bank, State Bank of India, Axis Bank, and HDFC Bank.

### Classification of commercial banks

- 1. Scheduled banks :** Banks which have been included in the Second Schedule of RBI Act 1934. They are categorized as follows:
  - **Public Sector Banks :** are those banks in which majority of stake is held by the government. Eg. SBI, PNB, Syndicate Bank, Union Bank of India etc.
  - **Private Sector Banks :** are those banks in which majority of stake is held by private individuals. Eg. ICICI Bank, IDBI Bank, HDFC Bank, AXIS Bank etc.
  - **Foreign Banks :** are the banks with Head office outside the country in which they are located. Eg. Citi Bank, Standard Chartered Bank, Bank of Tokyo Ltd. etc.
- 2. Non scheduled commercial banks :** Banks which are not included in the Second Schedule of RBI Act 1934.

#### 6.8.11 Insurance sector in India

Insurance is a subject listed in the Union list in the Seventh Schedule to the Constitution of India where only centre can legislate. The insurance sector has gone through a number of phases by allowing private companies to solicit insurance and also allowing foreign direct investment of up to 26%, the insurance sector has been a booming market. However, the largest life-insurance company in India is still owned by the government.

Currently India is a US\$41 billion industry. Currently, in India only two million people (0.2% of the total population of 1 billion) are covered under Mediclaim, whereas in developed nations like USA about 75% to the total population are covered under some insurance scheme. With more and more private companies in the sector, the situation may change soon.

ECGC, ESIC and AIC provide insurance services for niche markets. So, their scope is limited by legislation but enjoy some special powers.

The insurance sector went through a full circle of phases from being unregulated to completely regulated and then currently being partly deregulated. It is governed by a number of acts.

The Insurance Act of 1938 was the first legislation governing all forms of insurance to provide strict state control over insurance business.

Life Insurance in India was completely nationalized on January 19, 1956, through the Life Insurance Corporation Act. All 245 insurance companies operating then in the country were merged into one entity, the Life Insurance Corporation of India.

## SECTION – B

### INDIAN ECONOMY – AN OVERVIEW



#### This Study Note includes

- (B) 6.9 Infrastructure & Economic Development
- 6.10 Energy
- 6.11 Transport System in India's Economic Development
- 6.12 Communication System of India
- 6.13 Public Private Partnership (PPP) model

#### 6.9 INFRASTRUCTURE AND ECONOMIC DEVELOPMENT

The prosperity of a country depends directly upon the development of agriculture and industry. Agriculture and industrial production requires not only machinery and equipment but also skilled manpower, management, energy, banking and insurance facilities, marketing facilities, transport services, which include railways, roads and shipping, communication facilities, etc. all these facilities collectively constitute the infrastructure of an economy.

Infrastructural facilities – often consist of Irrigation, Energy, transport, Communications, Banking, finance and insurance, Science and technology, Social overheads.

Some of these have been discussed in this chapter:

##### 6.9.1 Private investment in infrastructure: Outlook and prospects

The Government of India has increasingly realized that infrastructure need not be a public sector monopoly. In the past, the responsibility for providing infrastructure services was vested with the Government – the reasons being : heavy capital investments, long gestation periods, externalities, high risks and low rates of return on investment. The infrastructure under government ownership and management has, however, proved thoroughly inefficient and corrupt. The demand for infrastructure facilities and services has always outpaced supply, besides, the quality of the existing supply is extremely poor.

Since 1991, Government strategy attaches high priority towards creating an enabling environment for private participation in the infrastructure sector. Besides, public – private partnership can also encourage better risk sharing, accountability, cost recovery and management of infrastructure. Some of the important steps in this direction are:

- (a) The Government set up the Infrastructure Development finance Company (IDFC) in January 1997, under the Indian Companies Act, with an authorized capital of ₹ 5,000 crores.
- (b) The Government has announced a tax holiday to companies developing, maintaining and operating infrastructure facilities, such as roads, bridges, new airports, ports and railway projects and also those dealing with water supply, sanitation and sewerage projects.
- (c) The Government has permitted income tax exemption on dividend, interest or long term capital gains earned by funds or companies set up to develop, maintain and operate an infrastructure facility.
- (d) The Government has raised the corpus of the National Highways Authority of India Ltd. (NHAI) by ₹ 200 crores to enable it to leverage funds from the domestic and international capital markets.

- (e) The Government has enhanced tax rebate limits for investments in shares and debentures offered by infrastructure companies; this is to channelize domestic savings into such investments.

### 6.9.2 Public Private Partnership (PPP) and Infrastructure

Though the Government has been emphasizing the importance of infrastructure for the development of the economy, we witness a cut back in the investment by the government in the infrastructure. In the last few years, public private partnership in the infrastructure sector is gaining importance.

Economic Survey 2009-10, underlines the importance of PPP projects and says, “PPPs offer a number of advantages in terms of leveraging public capital to attract private capital and undertake a larger number of infrastructure projects, introducing private-sector expertise and cost-reducing technologies as well as bringing in efficiencies in operation and maintenance.

## 6.10 ENERGY

India is both a major energy producer and consumer. Currently, India ranks as the world's seventh largest energy producer and fifth largest energy consumer. There is a direct correlation between the degree of economic growth, the size of per capita income and per capita consumption of energy.

### Renewable Energy Sources:

Conventional energy resources show clearly that they alone cannot solve India's energy crisis triggered by hike in oil prices. This has led to a search for non-conventional and renewable sources of energy in the form of biogas, solar energy, small hydro-power, wind power etc. NIRs particularly are taking up projects such as wind farms and solar plants in the states of Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh and Kerala.

### Power:

Electric power, which is one form of energy, is an essential ingredient of economic development and, it is required for commercial and non-commercial uses. Commercial uses of power refer to the use of electric power in industry, agriculture and transport for domestic lighting, cooking, use of domestic mechanical gadgets like the refrigerators, air conditioners, etc.

There are three main sources of generation of electric power, viz., hydel power thermal power, and nuclear power.

## 6.11 TRANSPORT SYSTEM IN INDIA'S ECONOMIC DEVELOPMENT

The transport system helps to broaden the market for goods. It is also essential for the movement of raw materials, fuel, machinery etc. , to the places of production. Transport development helps to open up remote regions and resources for production. Finally, expansion of transport facilities, in turn, helps industrialization directly. The demand for locomotives, motor vehicles, ships etc. leads to the start of industries which specialize in the production of these goods.

### Indian Railways:

Originally, the Railways were operated by private companies owned by Englishmen. But now it has become a unified State-enterprise. It is the country's biggest nationalized, enterprise and one of the largest railway systems of the world. The Railways are now taking a major initiative in shifting to Public Private Participation (PPP) for building and operation of selected railway infrastructure. The Railways, being a public utility undertaking, have to bear a mounting social burden in the form of loss on coaching services (as for example, suburban passenger traffic) and loss on lower than cost freight rates for food grains, coal, fodder, fruits and vegetables salt, ores, etc.



### **Roads and Road Transport System in India:**

Indian roads are classified into three types – national highways, State highways, District and rural roads. The National Highways encompass a road length of only 66.8 thousand Kms or 1.5 per cent of the length of the total road system but they carry nearly 40 per cent of the goods and passenger traffic. The national highway system is the primary road grid and is the direct responsibility of the Central Government.

The state highway account for nearly 154.5 kms. or about 3.8 per cent of the total length of roads. The construction and maintenance of these roads are the responsibility of the states.

Besides, there are rural roads constructed under Minimum needs programme (MNP), Rural Landless Employment Guarantee Programme (RLEGP), National Rural Employment programme (NREP) and command area Development (CAD). In all these cases, the objective of road construction is linking villages in the country.

### **Water Transport in India:**

There are two kinds of water transport – inland water transport or river transport and coastal or marine transport. Inland water transport (IWT) comprising a variety of rivers, canals, backwaters, creeks etc. is the cheapest mode for certain kinds of traffic, both over long and short levels.

### **Civil Aviation of India:**

Air transport helps optimize technological, managerial and administrative skills in a resource scarce economy. There are a number of agencies which are involved in providing civil aviation services in India.

## **6.12 THE COMMUNICATION SYSTEM OF INDIA**

The communication system comprises posts and telegraphs, telecommunication systems, broadcasting, television and information services.

Since 1950-51, the postal network has been expanded throughout the country, and in recent years, with special emphasis on the rural, hilly and remote tribal areas. With more than 1.5 lakh post offices, the postal network in India is the largest in the whole world. The postal department has given a new thrust to its programme of modernization for providing new value-added services to customers. This includes:

- (a) A programme of computerized services of such postal operations as mail processing, savings bank and material management;
- (b) Introduction of Metro Channel Service linking 6 metros;
- (c) Introduction of Rajdhani Channel linking Delhi with most of the State Capital; and
- (d) A business channel with exclusive treatment to pin coded business mail.

### **Telecommunications:**

There has been phenomenal growth in the telecommunication sector after 1995. The telecommunications network of the public sector BSNL and MTNL.

The Government of India has set up the Telecom Regulatory Authority of India (TRAI) to determine and regulate telecom tariff.

The telecom sector has kept two important goals to deliver:

- (a) Low cost voice telephony of the largest possible number of individuals; and
- (b) Low-cost high speed computer networking to the largest number of firms. The progress of the telecom sector in India since 1995 has been quite impressive.

### **Urban Infrastructure:**

Urban infrastructure includes water supply and sanitation which are important basic needs for improvement of the quality of life and enhancement of the productive efficiency of citizens. Most urban infrastructure services are provided by Municipal Corporations and Municipalities who fund their requirements largely by loans and grants from Central and State Governments. In order to supplement the efforts of urban development, the Government of India has depended upon the following agencies:-

- (a) Life Insurance Corporation of India (LIC) which invests in urban infrastructure projects – like water supply, drainage, housing, power and transport – as a part of its statutory requirements;
- (b) The Housing and Development Corporation Ltd.(HUDCO) is given the task of financing urban infrastructure. HUDCO provides infrastructure loans to State Urban Finance Corporations, Water Supply and Sewerage Boards, Municipal Corporations, Improvement Trusts, etc; and
- (c) The Infrastructure Leasing and Financial Services Ltd. which also finances urban infrastructure projects.

### **Science and Technology:**

For rapid economic progress, the application of science and technology (S and T) to agriculture, industry, transport and to all other economic and non-economic activities has become essential.

The rapid growth of engineering consultancy organizations to provide design and consultancy services and act as the bridge between research institutions and industry is really commendable. India's stock of technical manpower has been growing at the rate of about 9 per cent per year for the last 20 years and is now estimated to be about 2.5 million. After USA, India today ranks second in the world as records qualified science and technology manpower.

## **6.13 PUBLIC PRIVATE PARTNERSHIP (PPP) MODEL**

The state of infrastructure in India has been a source of concern for local and foreign investors interested in tapping its potential as a business destination. The creation of world class infrastructure would require large investments in addressing the deficit in quality and quantity. Therefore, it is necessary to explore the scope for plugging this deficit through Public Private Partnerships (PPPs) in all areas of infrastructure like roads, ports, energy, etc.

Recently, legal and regulatory changes have been made to enable PPPs in the infrastructure sector, across power, transport, and urban infrastructure.

Public Private Partnership is a joint collaboration between public and private sectors so as meet the paucity of capital investment to fulfill the requirement of infrastructural development. It has been observed worldwide that it is difficult for the private sector to meet the financial requirements of infrastructure in isolation at the same time tackling the risks inherent to building infrastructure. Therefore, the PPP model has come to represent a logical, viable and necessary option for the Government and the private sector to work together.

Public Private Partnership (PPP) project as per Government of India means a project based on a long term contract or concession agreement, between a Government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges.

Indian infrastructure growth has reached massive heights. Most PPPs have been restricted to the roads sector. And the sector still has lot of scope and the measures are taken also by the PPPs to achieve it. Government has taken various steps to accomplish the projects successful.

# Study Note - 7

## EVOLUTION OF MANAGEMENT THOUGHT



### This Study Note includes

- 7.1 Evolution of Management Thought - Introduction
- 7.2 Fredrick Taylor : Principles of Scientific Management
- 7.3 Henri Fayol : Principles and Techniques of Management
- 7.4 Bureaucratic Management: Max Weber
- 7.5 Organisation Theory

### 7.1 EVOLUTION OF MANAGEMENT THOUGHT - INTRODUCTION

"The conventional definition of management is getting work done through people, but real management is developing people through work".

- Agha Hasan Abedi

Management has developed and grown in leaps and bounds from a nearly insignificant topic in the previous centuries, to one of the integral ones of our age and economy. Management has evolved into a powerful and innovative force on which our society depends for material support and national well-being. The period between 1700 and 1850 is highlighted by the industrial revolution and the writings of the classical economists.

- Hicks define management as "the process of getting things done by and through others.
- Massie defines management as "the process by which cooperative group directs actions toward common goals. This process involves techniques by which a distinguishable group of people (managers) co-ordinates activities of other people; managers seldom actually perform the activities themselves".
- Koontz and O'Donnell state that management means getting things done through and with people".
- We may define management as a process by which responsible people (managers) in an organisation get things done through the efforts of other people in grouped activities.

In recent times, management has become a more scientific discipline having certain standardised principles and practices.

The following is a breakdown of the evolution of management thought during its developmental period :

- Early management approaches which are represented by scientific management, the administrative management theory and the human relations movement.
- Modern management approaches which are represented by scientific management, the administrative/ management science approach, the systems approach and the contingency approach.

#### **Management - science, art, profession**

According to the nature of management, there is a controversy that whether management is a science or an art. This controversy is very old & is yet to be settled.

### Management as a Science

1. **Universally accepted principles:** Scientific principles represent basic truth about a particular field of enquiry. These principles may be applied in all situations, at all time & at all places.

Management also contains some fundamental principles which can be applied universally like the Principle of Unity of Command i.e. one man, one boss. This principle is applicable to all type of organization – business or non business.

2. **Experimentation & Observation:** Scientific principles are derived through scientific investigation & researching i.e. they are based on logic.

Management principles are also based on scientific enquiry & observation and not only on the opinion of Henry Fayol. They have been developed through experiments & practical experiences of large no. of managers, e.g. it is observed that fair remuneration to personal helps in creating a satisfied work force.

3. **Cause & Effect Relationship:** Principles of science lay down cause and effect relationship between various variables. e.g. lack of parity (balance) between authority & responsibility will lead to ineffectiveness.

4. **Test of Validity & Predictability:** Validity of scientific principles can be tested at any time or any number of times i.e. they stand the time of test. Each time these tests will give same result. Moreover future events can be predicted with reasonable accuracy by using scientific principles.

E.g. principle of unity of command can be tested by comparing two persons – one having single boss and one having 2 bosses. The performance of 1st person will be better than 2nd.

### Management as an Art

1. **Practical Knowledge:** Every art requires practical knowledge therefore learning of theory is not sufficient. It is very important to know practical application of theoretical principles. E.g. A manager can never be successful just by obtaining degree or diploma in management; he must have also known how to apply various principles in real situations, by functioning as a manager.

2. **Personal Skill:** Although theoretical base may be same for every artist, but each one has his own style and approach towards his job. That is why the level of success and quality of performance differs from one person to another. E.g. Every manager has his own way of managing things based on his knowledge, experience and personality, that is why some managers are known as good managers (like Aditya Birla, Rahul Bajaj) whereas others as bad.

3. **Creativity:** Every artist has an element of creativity in line. That is why he aims at producing something that has never existed before which requires combination of intelligence & imagination. Management is also creative in nature like any other art. It combines human and non-human resources in an useful way so as to achieve desired results. It tries to produce sweet music by combining chords in an efficient manner.

4. **Perfection through practice:** Practice makes a man perfect. Every artist becomes more and more proficient through constant practice. Similarly managers learn through an art of trial and error initially but application of management principles over the years makes them perfect in the job of managing.

5. **Goal-Oriented:** Every art is result oriented as it seeks to achieve concrete results. In the same manner, management is also directed towards accomplishment of pre-determined goals. Managers use various resources like men, money, material, machinery & methods to help in the growth of an organization.

### Management as both Science and Art

Management is both an art and a science. The above mentioned points clearly reveal that management combines features of both science as well as art. It is considered as a science because it



has an organized body of knowledge which contains certain universal truth. It is called an art because managing requires certain skills which are personal possessions of managers. Science provides the knowledge & art deals with the application of knowledge and skills.

### **Management as Profession:**

Any specialized activity becomes a profession provided it satisfies the following characteristics:

1. There must be a systematized body of knowledge which is used either in instructing, advising or guiding others,
2. Existence of a formal method and system for teaching and training people with that knowledge and skill,
3. A scope for creating posts of consultants for that skill,
4. Formation of an association by such consultants,
5. Existence of a code of conduct among such professional men and
6. Readiness to respond to the needs of man.

By closely studying the position of management we find that it does not satisfy all the characteristics in full although attempts are going on to develop it into a fully fledged profession.

## **7.2 PRINCIPLES OF SCIENTIFIC MANAGEMENT : FREDRICK TAYLOR**

Fredrick Winslow Taylor has been accepted as the father of scientific management, who, for the first time proved through experiments that scientific methodology can be applied to the field of management.

A scientific process consists of observation, analysis, experimentation and generalisation. Taylor wanted to introduce these elements into management also to establish a casual relationship between efforts and results.

To be precise, scientific management is not any system to increase production or to pay wages, or to figure costs nor it is merely a time study or motion study, but it is a mental revolution both for the employer and for the employees. Such a mental revolution has the following objectives in view :

- (a) Rule of thumb to be replaced by rule of science to improve the standard of performance.
- (b) There should be perfect harmony among the activities of different individuals and not discord.
- (c) An atmosphere of perfect cooperation among different workers has to be created for mutual interest sublimating personal interests.
- (d) Production has to be maximised and not restricted output.
- (e) There should be encouragement to greatest efficiency and prosperity of every individual, both employer and employees.
- (f) Proper selection and training of workers.
- (g) Equitable division of work and responsibility between the management and the employees.

Taylor was criticised by people of different sectors including both the employers and the employees. The main points of criticism are as follows :-

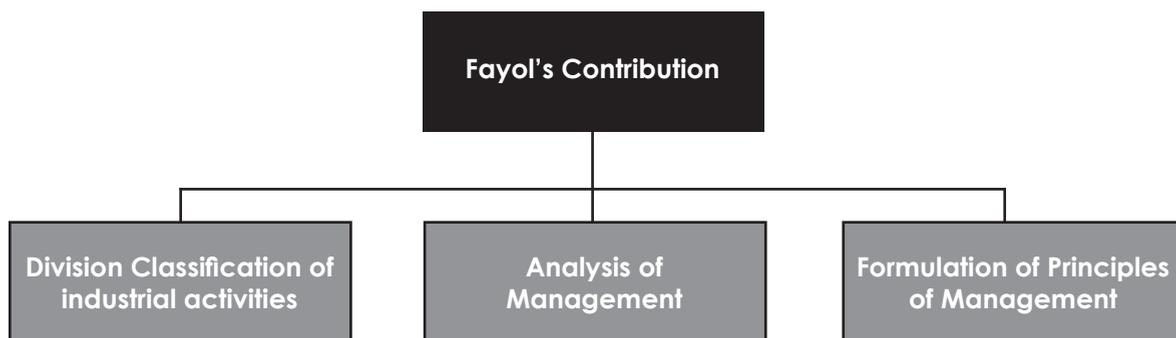
- (i) It deals with factory management only.
- (ii) Separation of planning from doing is a misleading concept.
- (iii) It lays too much emphasis on engineering side ignoring the importance of human aspect in production.

- (iv) Functional foremanship is not a direct improvement on the concept of line theory of organization.
- (v) He considered human elements as cogs of a machine.
- (vi) It created condition of industrial autocracy.
- (vii) It creates unfair distribution of benefits between the employers and the employees.
- (viii) It is doubtful whether standard of work can be really measured.
- (ix) It is antisocial because it is aimed at efficient workers only.
- (x) It is not possible to find out 'one best way' to do a job. What is true for one, may not be true for another.
- (xi) It is not really scientific management but scientific approach to management.

### 7.3. PRINCIPLES AND TECHNIQUES OF MANAGEMENT : HENRI FAYOL

The name of Henri Fayol can perhaps be unhesitatingly mentioned as the pioneer of comprehensive thinking on the philosophy of management.

Fayol focussed on principles that could be used by managers to co-ordinate the internal activities of organizations. His contribution can be diagrammatically represented as below:-



#### 7.3.1 Fayol's fourteen Principles of Management

In order to put into practice the elements of management, Fayol enunciated fourteen principles which should be applied carefully and selectively. They are explained below :-

- (1) **Division of work** – Division of work is necessary to enjoy the benefits of specialisation.
- (2) **Authority and responsibility** – Authority means the power to give orders and to ask for obedience. Responsibility means the sense of dutifulness which is correlated with authority. There must be a parity between the two.
- (3) **Discipline** – The three requisites are necessary for maintaining discipline – (a) good supervisors, (b) clear and fair agreements and (c) proper application of sanctions or penalties.
- (4) **Unity of Command** – It means that one individual employee must receive orders from one individual superior only.
- (5) **Unity of direction** – One and same objective for the whole unit of organization and for that there should be one leadership and one plan.
- (6) **Subordination of individual interest to general interest** – Individual or group interest must be surrendered to general interest.



- (7) **Remuneration** – Remuneration should be fair and satisfactory to both the employees and the employer.
- (8) **Centralization** – By centralization there is optimum utilisation of the available resources.
- (9) **Scalar chain** – It is the chain of superior existing from the highest authority to the lowest ranks.
- (10) **Order** – It means that inside an organization there should be a place for everything and everything in its place.
- (11) **Equity** – The sense of equity must prevail throughout all the levels of the organization and the management should see to it.
- (12) **Stability of tenure of personnel** – An employee needs time to get himself accustomed to a line of work and then he can show his ability. Therefore the personnel are stable.
- (13) **Initiative** – The initiative of the personnel must be roused at every level even by sacrifice of vanity by the managers.
- (14) **Esprit de Corps** – Teamwork is essential for the success of an organization.

#### 7.4. BUREAUCRATIC MANAGEMENT: MAX WEBER

According to German Scientist, Max Weber, a bureaucracy is a highly structured, formalised and impersonal organisation. He instituted the regorous belief that an organisation should have a defined hierarchical structure governed by a clearly defined rules, regulations and lines of authority. Weber's ideal bureaucracy possesses the following distinct characteristics :

- Specialisation of labour
- Formal rules and regulations
- Well defined heirarchy
- Impersonality in application of rules.

#### **Bureaucratic Theory by Max Weber**

Bureaucratic structures evolved from traditional structures with the following changes:

1. Jurisdictional areas are clearly specified, activities are distributed as official duties (unlike traditional form where duties delegated by leader and changed at any time).
2. Organization follows hierarchical principle — subordinates follow orders or superiors, but have right of appeal (in contrast to more diffuse structure in traditional authority).
3. Abstract rules govern decisions and actions. Rules are stable, exhaustive, and can be learned. Decisions are recorded in permanent files (in traditional forms few explicit rules or written records).
4. Means of production or administration belong to office. Personal property separated from office property.
5. Officials are selected on basis of technical qualifications, appointed not elected, and compensated by salary.
6. Employment by the organization is a career. The official is a full-time employee and looks forward to a life-long career. After a trial period they get tenure of position and are protected from arbitrary dismissal.

#### **Bureaucratic Form According to Max Weber — His Six Major Principles**

Max Weber's principles spread throughout both public and private sectors. Even though Weber's writings have been widely discredited, the bureaucratic form lives on. Weber noted six major principles.

1. **A formal hierarchical structure** - Each level controls the level below and is controlled by the level above. A formal hierarchy is the basis of central planning and centralized decision making.
2. **Management by rules** - Controlling by rules allows decisions made at high levels to be executed consistently by all lower levels.
3. **Organization by functional specialty** - Work is to be done by specialists, and people are organized into units based on the type of work they do or skills they have.
4. **An “up-focused” or “in-focused” mission** - If the mission is described as “up-focused,” then the organization’s purpose is to serve the stockholders, the board, or whatever agency empowered it. If the mission is to serve the organization itself, and those within it, e.g., to produce high profits, to gain market share, or to produce a cash stream, then the mission is described as “in-focused.”
5. **Purposely impersonal** - The idea is to treat all employees equally and customers equally, and not be influenced by individual differences.
6. **Employment based on technical qualifications** - Selection and Promotion is based on Technical qualifications.

**Bureaucratic organisation is criticised because of the following reasons:-**

1. Too much emphasis on rules and regulations. The rules and regulations are rigid and inflexible.
2. No importance is given to informal groups. Nowadays, informal groups play an important role in all business organisations.
3. Bureaucracy involves a lot of paper work. This results in lot of wastage of time, effort and money.
4. There will be unnecessary delay in decision-making due to formalities and rules.
5. Bureaucratic model may be suitable for government organisations. But it is not suitable for business organisations because business organisations believe in quick decision making and flexibility in procedures.
6. Too much importance is given to the technical qualifications of the employees for promotion and transfers. Dedication and commitment of the employee is not considered.
7. There is difficulty in coordination and communication.
8. There is limited scope for Human Resource (HR).

## 7.5. ORGANISATION THEORY

### 7.5.1. Meaning of Organisation Theory

According to D.S. Pugh, “Organisation theory is the study of functioning and performance of organisations and of the behaviour of groups and individuals working in them.”

### 7.5.2. Rationale of Organisation Theory

- The basic objective is to explain and predict the process and behaviour patterns in organizational settings.
- It focuses attention on social or human grouping and provides a framework for understanding and explaining human behaviour in organization.
- It provides a scientific basis for managerial actions designed to improve organisational effectiveness.
- It seeks to analyse inner processes in organisations with a view to discover the important variables governing organisational behaviour.
- Organisation theory provides the practising managers guidelines as to how they should work in different situations.



- Managers can achieve efficiency and effectiveness without going through the costly trial-and-error methods.
- It helps a researcher by providing a mechanism for testing hypotheses about organisations and to improve the theory further.

### 7.5.3. Different Theories of Organisation

The different theories of organisation may be divided into four broad categories:

1. Classical organisation theory,
2. Neo-classical or Behavioural theory,
3. Modern Organisation Theory
  - (a) System Theory
  - (b) Contingency Theory

### 7.5.4. Classical Organisation Theory

The classical theory is the beginning of a systematic study of organisations. This theory has dealt mainly with anatomy of formal organisations. Organisation is viewed as a machine and human beings as different components of that machine. Therefore, efficiency can be increased by making each individual working in organisation efficient.

The main pillars or elements of classical organisation theory are as follows :

1. **Division of labour.** It implies that work must be divided to obtain a clear-cut specialisation with a view to improve the performance of workers.
2. **Departmentalisation.** This requires grouping of various activities and jobs into departments so as to minimise costs and to facilitate administrative control.
3. **Coordination.** Orderly arrangement of group effort is necessary to provide unity of action in pursuit of common purpose. There should be harmony among diverse functions.
4. **Scalar and functional processes.** Scalar chain refers to a series of superior-subordinate relationships from the top to the bottom of the organisation. It serves as a means of delegation of authority (command), communication (feedback) and remedial action (decision).
5. **Structure.** Structure implies the logical relationship of functions in an organisation arranged to accomplish its objectives efficiently.
6. **Span of control.** This implies the number of subordinates a manager can effectively supervise.

The Classical Organisation Theory has been criticised on the following grounds:

1. Classical theory takes a static and rigid view of organisations.
2. Classical theorists view an organisation as a closed system having no interaction with its environment.
3. Classical writers have focused attention on technological and structural aspects of organisations.
4. Classical theory is based on oversimplified and mechanistic assumptions.

The focus of Classical theory is on 'organisation without people'. Therefore, this theory is considered inadequate in dealing with the complexities of organisation structure and functioning. It provides an incomplete explanation of human behaviour in organisations.

### 7.5.5. Neo-classical Theory (Behavioural Theory)

The neo-classical organisation theory is commonly identified with the human relations movement pioneered by Elton Mayo. The foundations of this theory were laid down by the Hawthorne Experiments conducted by Mayo and his associates. These experiments revealed that informal organisation and socio-psychological factors exercise much greater influence on human behaviour than physiological variables. These findings, focused attention on human beings and their behaviour in organisations. Therefore, Neo-classical theory is popularly known as 'Behavioural theory of organisation' or 'Human relations approach'.

The main propositions of Neo-classical theory are as follows :

1. The organisation in general is a social system composed of several interacting parts.
2. Within a formal organisation there exists an informal organisation. The two affect each other.
3. Human beings are interdependent. Their behaviour can be predicted in terms of social and psychological factors at work.
4. Motivation is a complex process. Many socio-psychological factors operate to motivate people at work.
5. Human beings do not always act rationally. They often behave irrationally in terms of the rewards they seek from the work.
6. A conflict between organisational and individual goals often exists. There is, therefore, a need to reconcile the goals of the individual with those of the organisation.
7. Team work is essential for efficient functioning of organisations. But this is not automatic and has to be achieved.

Neo-classical writers gave an organisational design which is a modification of classical structure in the following ways:

- (a) **Flat structure** - In a flat structure, the scalar chain is shorter. As a result communication and motivation tend to be more effective.
- (b) **Decentralisation** - Decentralised structure allows initiative and autonomy at lower levels.
- (c) **Informal Organisation** - Formal organisation represents deliberate or official channels of interactions. But it suffers from several weaknesses. Therefore, informal organisation is created to plug its loopholes and to satisfy the social and psychological needs of people.

Weakness of Neo-classical theories:

1. The various structures of organisation provided by the Neo-classical theory cannot be applied to all situations. No particular structure will serve the purposes of all organisations.
2. Neo-classical theory lacks a unified approach. It is simply a modification of the Classical model. The Neo-classical theory has been called bankrupt.
3. Many of the assumptions on which Neo-classical theory is based are not true. For instance, the assumption that it is always possible to find out a solution that satisfies everybody is not true.

### 7.5.6. Modern Organisation Theory

Modern Organisation theories may be classified as (1) Systems Theory (2) Contingency Theory. These are analysed below:-

#### 7.5.6.1 Systems Theory

The systems organisation theory is of recent origin having developed in early sixties. It has a conceptual, analytical base and places a great reliance on empirical research data. It considers organisations as

a system. A system is defined as an organised or complex whole; an assemblage or combination of things or parts forming a complex unitary whole. Parts of a system are known as sub-systems. The various sub-systems are interrelated and they are arranged according to some scheme so that the whole system is more than the sum of the parts. This is done to ensure the efficient functioning of the system as a whole. A system has a boundary which maintains proper relationship between the system and its environment.

Systems are broadly of two types: (1) open systems, and (2) closed systems.

An open system interacts with its environment whereas a closed system has no interaction with the environment. All living systems are open systems but all non-living systems are closed systems. Organisation being an open system continuously interacts with its environment. Therefore, to understand organisation, its boundary must be identified. Organisation in interaction with its environment can be understood as input-output model. Inputs are information, energy and materials which organisation takes from its environment. It transforms them with the help of men and machines and supplies the outputs to the environment. Reaction of environment to the outputs is called feedback mechanism with which the organisation can evaluate and correct itself. Organisation as a system has multiple objectives. It comprises various sub-systems, e.g., technical subsystem, social sub-system, power subsystem, etc. These sub-systems are interdependent and there is a need for interlinking them through some processes.

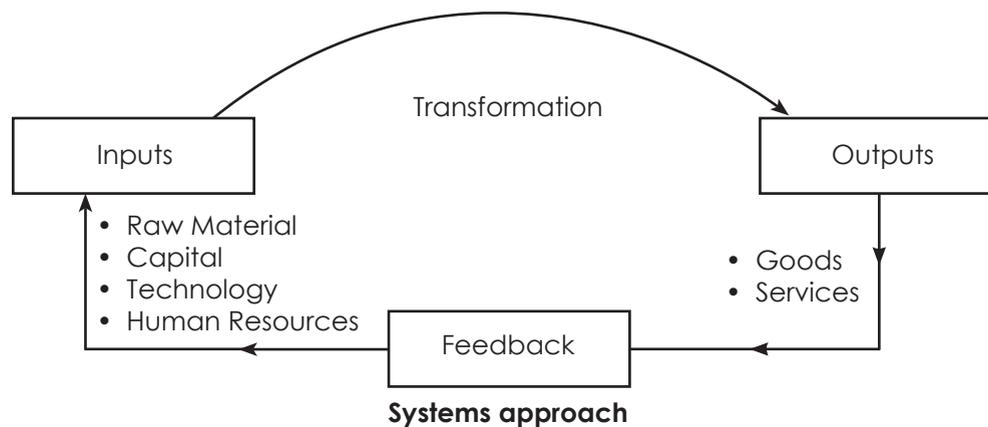


Fig. 7.1

Thus, systems organisation theory involves study of an organisation by identifying :

- its strategic parts,
- the nature of their mutual dependency,
- the processes in the system which link the parts together and make for their adjustments to one another, and
- the goals sought to be accomplished by the system.

The main parts of the organisation system are given below :

- 1. Individual.** Individual and his personality structure is the basic part of the system. The motives and attitudes of an individual decide what he expects to achieve by participating in the organisation system.
- 2. Formal organisation.** It is the inter-related pattern of jobs designed to regulate the actions of individuals and other resources in the organisation. It requires the individual to perform his job

and the individual demands fulfilment of his expectations by performing the job. There is often an incongruency between the goals of the organisation and those of its members.

3. **Informal organisation.** There is significant interaction between the individual and the informal group to which he belongs. The informal group demands the individual to conform to the behaviour pattern laid down by it. The individual in turn seeks to accomplish his goals by associating with the informal group. Both these sets of expectations interact resulting in modifying the behaviour of each other.
4. **Status and roles.** Every organisation has a prescribed pattern of roles the individuals are expected to play. These roles determine their status. When the demands on an individual made by the formal and informal organisations are contradictory, a role conflict arises. A fusion between the two roles becomes necessary. The fusion process is a force which acts to weld divergent elements together in order to preserve the organisational integrity.
5. **Physical setting.** The physical surroundings in which a job is performed are an important component. Interaction present in the complex man-machine system need to be carefully examined. The human engineer cannot approach the problem in a purely technical fashion. The psychological, social and physiological conditions of organisation members should be considered so as to fit machines to men.

The various parts of a system are interconnected. The processes through which they are interlinked are as follows :

- (i) **Communication.** It is an effective mechanism that links all the organisational segments together. It involves receiving messages from the external environment and exchanging such information among the individuals. It is also a control and coordination mechanism for linking the decision centres in the system.
- (ii) **Decision-making.** Decision-making is another process for linking various parts in the organisation. According to March and Simon, the decision to produce depends on the interaction between individuals and demands of the organisation. On the other hand, decision to participate depends on the demands and rewards of the organisation.
- (iii) **Balance.** According to W.G. Scott, balance refers to an equilibrating mechanism whereby various parts of the system are maintained in harmoniously structured relationship with each other. Balance helps to ensure integrity in the face of rapidly changing environment.

The main contributions of systems organisation theory are as follows :

1. It provides an open systems view of organisation and recognises the organisation environment interface.
2. It is dynamic and adaptive.
3. It adopts a multi-level and multi-dimensional approach wherein both macro and micro-aspects are considered.
4. It is multi-disciplinary as it draws concepts from several disciplines, e.g., economics, sociology, psychology, anthropology, engineering, etc.
5. It is descriptive rather than prescriptive or normative. It is also probabilistic, not deterministic. It places emphasis on lateral rather than vertical relationships.
6. Another important contribution of systems organisation theory is cybernetics, *Le.*, the science of communication and control in man-machine system.

The systems organisation theory has been criticised on several counts.

- First, it is not a single unified theory but an amalgam of several ones, e.g., systems theory, contingency theory, decision theory, etc.
- Secondly, It is not really modern as it is simply a synthesis of the research contributions of earlier theories.

- Thirdly, Systems theory is too abstract to be of much use to practising managers. It does not spell out the precise relationships among the organisation and social system.
- Lastly, It does not provide a framework applicable to all types of organisations particularly smaller organisations.

### 7.5.6.2 Contingency Theory

The contingency theory is an extension of the systems theory of organisation. The basic idea of the contingency theory is that there is no particular managerial action or organisational design that is appropriate for all situations. Rather the design and managerial action depends on the situation. It is contingent on the situation and circumstances. Therefore, contingency theory is also known as situational theory.

Like the systems approach contingency theory considers organisation as a system consisting of sub-systems. Both the theories emphasise maintenance and adaptation activities for the survival and growth of the system. They deal with patterns of relationships and interdependence among the elements of the system. However, there are important differences between the two theories. As against the internal dynamics of the systems theory, contingency theory focuses on external determinants of organisation structure and behaviour. While the systems theory lays down universal principles for application in all situations, the prescription of the contingency theory is that “it all depends.”

Contingency theory fills an important lacuna of systems theory by spelling out the relationship between organisation and its external environment. It provides a more explicit understanding of relationship among various environmental variables. It is action-oriented and directed towards the application of the system concepts. Therefore, It provides something more useful to the practising managers in a turbulent environment. The contingency theory emphasises the multivariate nature of organisations and attempts to understand how organisations operate under varying conditions in specific circumstances. Contingency views are ultimately directed towards suggesting organisational designs and managerial actions most appropriate for specific situations. The theory suggests that the suitable organisation design depends upon environmental variables like size, technology, people, etc.

### Comparative View of Organisation Theories

Basis	Classical	Behavioural	Systems	Contingency
<b>Focus</b>	Work and economic needs of workers	Small groups and human behaviour	Interrelationships	Situational variables
<b>Structure</b>	Mechanical and impersonal	Organisation as a social system	Open systems view of organisation	Environmental determinants of organisation
<b>Means</b>	Empirically derived principles	Group participation	Conceptual skills	Environmental scanning
<b>Results</b>	Work alienation and dissatisfaction	Satisfied and efficient employees	Systems theory and design	Dynamic management style
<b>Practices</b>	Authoritarian and bureaucratic	Democratic and participative	Systems concepts	Business environment interface
<b>Main Exponents</b>	F. W. Taylor, Henri Fayol, Max Weber	Elton Mayo, A.H. Maslow, Douglas MrGreor	F.E. Kast, J.E. Rosen-zweig, R.A. Johnson	P.R. Lawrence, J.W. Lorsch, J. Woodward



# Study Note - 8

## MANAGEMENT PROCESS



### This Study Note includes

- 8.1 Management - Introduction
- 8.2 Planning - Introduction
- 8.3 Forecasting
- 8.4 Decision-Making
- 8.5 Organising
- 8.6 Staffing
- 8.7 Directing
- 8.8 Supervision
- 8.9 Communication
- 8.10 Controlling
- 8.11 Co-ordination

### 8.1 MANAGEMENT - INTRODUCTION

**Definition of Management** – In management literature, large number of definitions of the term “management” exist as covered by different experts from time to time. Some of the popular definitions of management are; According to Dalton E. McFarL and ‘Management is that process by which managers create, direct, maintain and operate purposive organization through systematic, co-ordinated and co-operative human effort.’”

Harold koontz defined management as “The art of getting things done through others, and with people in formally organized groups. It is the art of creating and environment in which people can perform as individuals, and yet co-operate towards attainment of group goals.”

In the words of George Terry, “Management is a distinct process performed to determine and accomplish stated objectives by the use of human beings and other resources.”

Henry Fayol, the pioneer of Administrative Management viewed management as a process consisting of five functions which every manager performs, “To manage is to forecast and plan, to organize, to command, to co-ordinate, and to control.” Though modern authors do not consider co-ordination as a separate function of management, but the essence of managing.

**Management : Meaning** – Ordinarily, the term management denotes utilisation of available resources to achieve some objectives. Every individual person has to manage his individual problems. It is more common in group life, as we find it in the business, factory, school, hospital, trade union, etc., as well as in the Government. It started to exist in human life since man started his sedatory habits and forming into a society.

Management is a distinct function and so it can be separately studied. It consists of some basic and interrelated activities. It is a way or a discipline, which adds effectiveness to human efforts and brings order to them. As a process it has a dynamic aspect. It is developing as a distinct branch of sociology. But there are some difficulties with regard to the terminology. The people who perform management

are also known as 'the management.' It is perhaps better to use the word 'managing' to denote the function of management.

Peter Drucker, a modern exponent of management thoughts goes a step further and considers management "as an essential, a distinct and a leading institution" which has a pivotal position in social history. Drucker says "Management, which is the organ of society specifically charged with making resources productive, therefore reflects the basic spirit of the modern age."

Lawrence Appley has written that "Management has been defined in very simple terms as 'getting things done through the efforts of other people' and that function breaks down into at least two major responsibilities, one of which is planning, the other control."

Common to all these definition is the contention that management involves activities that are directed towards determination and accomplishment of organizational goals. From these definition emerge the functions of management which are namely :-

- (i) Planning
- (ii) Organising
- (iii) Staffing
- (iv) Leading
- (v) Controlling

- Planning involves precisely determining the objectives, ie. deciding in advance what is to be done, when it is to be done, and how it is to be done.
- Organising refers to the identification of activities and creation of departments. Thus, it also leads to creation of authority and responsibility relationships throughout the enterprise.
- Staffing involves manpower planning, employment of personnel through recruitment and selection, placement, induction, orientation, training, development, performance appraisal, industrial relations etc.
- Leading or leadership is an indispensable activity which every manager has to perform for directing the people under him towards accomplishment of common goals. it includes communication, supervision, motivation etc.
- Controlling involves setting standards of performance, comparing actual performance against these standards, identifying deviation and taking corrective actions to ensure that activities are carried out in conformity with the plans. Thus, control is a comparison and verification process.

## 8.2 PLANNING - INTRODUCTION

Planning is an important function of management. Planning is an activity by which managers analyze present conditions to determine ways of reaching a desired future state. Planning is both an organisational necessity and a managerial responsibility. Through planning, organizations choose goals based on estimates or forecasts of the future. Concern for future is intensified by the fact of relentless, unremitting change. The purpose of planning, in the words of Dalton McFarland, is two fold: to determine appropriate goals, and to prepare for adoptive and innovative change.

### 8.2.1. Definition and Characteristics

Planning is an intellectual process, the conscious determination of course of action, basing of decisions on purpose, facts and considered estimates. (Harold Koontz and Cyril O'Donnell).

The plan of action is, at one and the same time, the line of action to be followed, the stages to go through, and methods to use. It is a kind of future picture wherein approximate events are outlined



with some distinctness, whilst remote. According to George Terry, "Planning is the foundation of most successful actions of all enterprises".

Planning is defined as the activity by which managers analyse present conditions to determine ways of reaching a desired future stage. It embodies the skills of anticipation, influencing, and controlling the nature and direction of change. (Dalton McFarland)

Planning is the function that determines in advance what should be done. It consists of selecting the enterprise objectives, policies, programmes, procedures, and other means of achieving the objectives. In planning, the manager must be able to manipulate abstract ideas and anticipate the impact of the many possible outcomes as they affect the enterprise as a whole. (Theo Haimann).

### Characteristics or Features of Planning

- (i) **Planning is a primary function of management:** When planning, the manager decides which of the alternatives should be followed, which policies, procedures, programmes, projects and so on would be set up.
- (ii) **Planning is goal oriented :** Planning is aimed at defining the organisational goals and design appropriate action plans in order to achieve these goals.
- (iii) **Planning is an intellectual process :** In the words of Theo Haimann, "Planning requires a mental predisposition to think before acting, to act in the light of facts rather than of guesses, and generally speaking to do things in an orderly way".
- (iv) **Planning is pervasive :** Planning is all pervasive and it embraces all segments and levels in the organisation.
- (v) **Planning is continuous function:** To keep the organisation as a going concern, it is essential that planning must be done continuously.
- (vi) **Planning involves choice between alternatives :** Planning involves choice among alternatives courses of action. If there is only one course, objective, policy, programme or procedure, perhaps then there exists no need for planning.
- (vii) **Planning is concerned with the accomplishment of group objectives:** Planning is thus aimed at setting group goals and organisational goals rather than concentrating on individual goals.
- (viii) **Planning is flexible :** No plan is rigid. When a plan is adopted, it chalks out a definite course of action. But the future assumptions upon which the planning is based may force managers to change the original plan.

### 8.2.2. Utility of Planning

- (i) **Planning enables a manager or organisation to affect rather than accept the future.** Planning enables the managers to influence the future productivity for the benefit of the enterprise, by setting objectives and adopting a course of action.
- (ii) **Planning makes way for orderly activities.** Planning enables coordination of the activities. In this process, unproductive work is minimized.
- (iii) **Planning results in healthy organisational climate.** Involvement of people in planning process enhances the behavioural climate because it results in increased understanding themselves and the organisation as a whole. Positive attitudes are developed.
- (iv) **Planning provides unifying framework.** Planning enables people within an enterprise to work effectively and harmoniously for the accomplishment to the common goals.
- (v) **Planning provides direction and a sense of purpose for the organisation.** Planning involves logical thinking, as well as rational decision making. Planning helps in uncovering and recognizing opportunities and threats at the earliest.

- (vi) **Planning provides a basic for control in an organisation.** Planning channelises the behaviour in the right direction and helps in evaluating the performance.

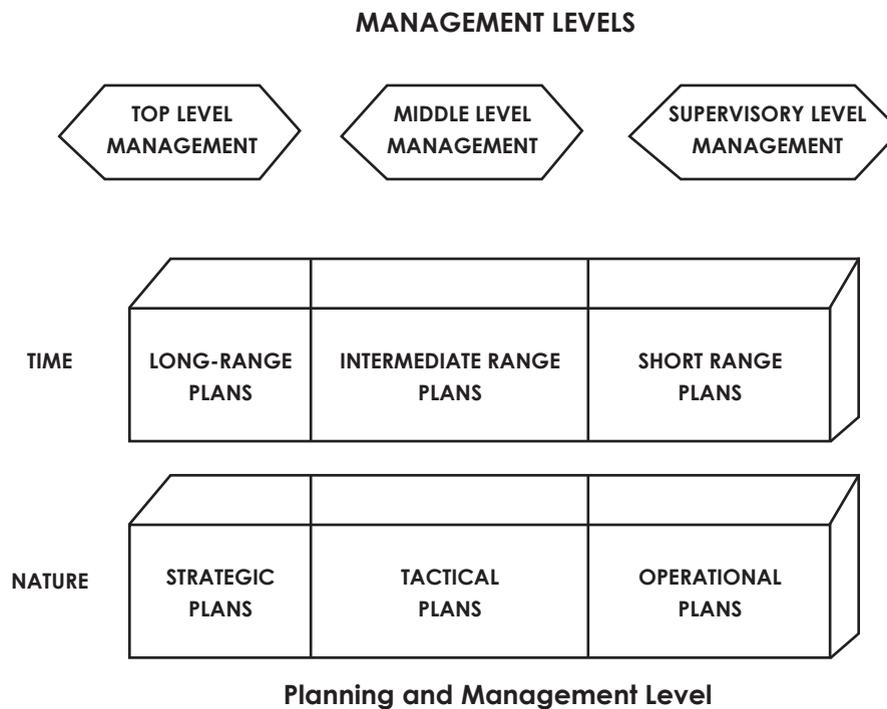


Fig. 8.1

### 8.2.3. Limitations of Planning

- (i) **Inaccuracy:** Formulation of future plans on the basis of wrong forecasts may not lead to the desired results.
- (ii) **Time-consuming:** Planning involves determination of the major goals to be achieved. It is time consuming and it involves energy, time and mobilization of different kinds of resources.
- (iii) **Rigidity:** Planning often gives some amount of rigidity to its policies, procedures, programmes and methods. A balance between stability and flexibility in planning is to be maintained.
- (iv) **Costly:** Planning is costly because it requires money, time and information.
- (v) **Attitudes of Management:** Good planning is an agonizing process - it is an intellectual activity. It requires tremendous amount of paper work and time. Most managers would not like to undergo such a painful process and prefer to become doers rather than thinkers.
- (vi) **Faulty design of planning system:** Some of the limitations due to the design of planning system can be listed as under :
  - *Lack of reward* : Planning system may not have reward mechanism and as such managers tend to address their attention to short run results of their performance which carried reward.
  - *Lack of participation* : When planning is imposed from the authorities, it may lead to resentment and resistance among those who are forced to execute.
  - *Lack of specific activities* : Planning cannot be effective unless the goals are specific and clear.
  - *Competence of the planner* : A planner must possess not only skill, but intelligence and breadth of vision, and for long-range master planning must have the ability to forecast.



- (vii) Planning prevents innovation:** Planning demands total commitment to written policies, procedures, rules etc. It restricts a manager unnecessarily to defined areas.
- (viii) Lack of orientation and training for managers:** For most of the managers planning is easy to put off, as it is not at all exciting or action-oriented.
- (ix) Uncertainty:** Planning has to 'reckon with numerous uncertainties in the environment. Finally, planning is a mere ritual in a fast changing environment. The sudden and dramatic changes in technology, competition, government regulations, political, legal, ethical and social changes reduces the effectiveness of the planning effort.

#### 8.2.4. Prerequisites of Effective Planning

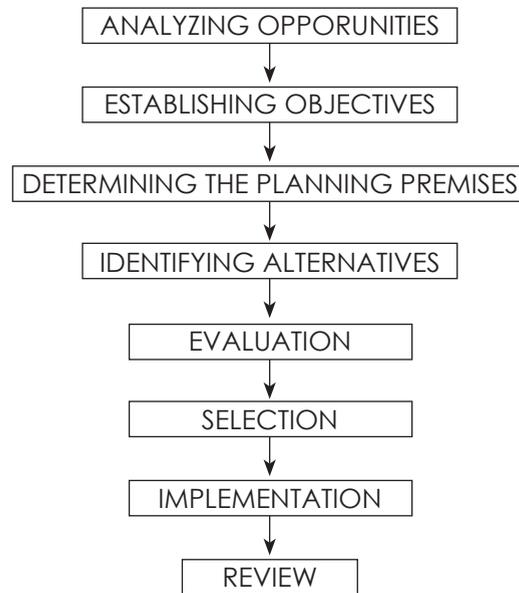
Planning does not substitute facts for judgment. It does not substitute science for the manager. However, some general principles can be followed to make planning effective.

- Make plans simple and easy to understand. When the plan itself is complicated, it invites misunderstandings among the members of organisation.
- Be selective in the plan. Successful managers never try to cover too much territory.
- Plan should be geared to meet, the needs of those who implement it.
- A plan should be thorough, it should not omit any function or sub-function and should not overlook any necessary details. At the same time, controversial statements should be avoided/ignored.

According to Gary Dessler, to plan effectively the managers should consider the following points:

- (i) Develop accurate forecasts :** Forecasting can be made accurate by educating the forecasting users in the art of relating the forecasting techniques to practical problems and also encouraging the people who are entrusted with the forecasting job to look into the informational needs of managers.
- (ii) Gain acceptance for the plan:** It is necessary to secure the acceptance and commitment from them. This can be done by soliciting the subordinate's participation in the planning process itself.
- (iii) Plan must be sound one:** To increase the efficiency of plans, managers are advised to follow an open-system approach where they recognize and pay concentration to the complex environment in which their organisation is functioning, apart from judging pros & cons of a plan.
- (iv) Develop an effective planning organisation:** Planning involves answers to several questions. The solution for these questions requires a blueprint for planning and a 'planning organisation' as such.
- (v) Be objective:** The managers should, not hesitate to verify the truth behind the pessimistic notions or beliefs. To see that planning is successful, managers must be objective.
- (vi) Measure firm's market value:** One of the primary responsibilities of a manager is to measure the total market and see that the organisation's share in the market is as large as possible. For this the manager should estimate the firm's share in the market.
- (vii) Decide in advance the criteria for abandoning a project:** A plan should always include a specification, agreed on in advance for abandoning the plan. Managers should least hesitate in disconnecting the unproductive connections in the product/ project structure.
- (viii) Set up a monitoring system:** Plans should preferably be subjective to regular appraisal and review. Every plan should be refined and restructured on the basis of accurate and timely information.
- (ix) Revise the long-term plans every year:** Management should review long-term plans annually so as to match external opportunities with organisational resources in a proper way. By reviewing the progress made on the plan, the reasons for under performance or over-performance can be found out.
- (x) Fit the plan to the situation:** These days planning has become situational. A change in any part of the environment must be sensed and appropriate strategy must be determined to cope with the change".

### 8.2.5. Steps in planning



**Steps in the Planning Process**

**Fig. 8.2**

**Steps in Planning Process** – The process of planning consists of a series of interrelated steps which varies depending on the size and complexity of the organization. The basic steps involved in the process of planning are –

1. **Analysis of opportunities** – Planning starts with analysis of opportunities in the external environment as well as within the organization. Goals can be set only when a proper scanning of the environment, that reveals the opportunities that exist.
2. **Establishing Objectives** – The next step in planning process involves establishing objectives for the whole organization, and for the different departments. Organisational objectives provide direction to the major plans
3. **Determining planning Premises** – Planning premises refer to the environment in which the plans are to be implemented,. The task of determining premises should only be continued to those aspects that are critical to the plan.
4. **Identifying alternatives** – Different feasible alternatives need to be identified in order to achieve a particular objective, since there may be multifarious ways in which a particular goal can be accomplished.
5. **Evaluation of alternatives** – Alternatives need to be evaluated in the light of goals. That are set, and objectives to be achieved considering the various constraints and uncertainties that exist.
6. **Selection of the best alternative** – The choice of the best alternative, ie the selection of the most appropriate course of action. Sometimes two or more contingency plans are kept as a back up considering. The unpredictability of the future.
7. **Implementing the plan** – Implementation or execution entails putting the plan into action. Managers need to consider a series of important decisions during implementation of the actions stated in the plan.

8. **Reviewing the Plan** – Reviewing the plan help managers to evaluate the effectiveness of the plan. A system of thorough review and scrutiny can help in detecting derivations from the The set plans and remedial measures can be taken accordingly.

### 8.2.6. Purposes of Planning

Planning is intended to serve a few important purposes or needs. The importance or the primacy of planning stems from its ability to serve these purposes which are briefly stated as follows:

- (a) Planning is intended not only to evolve the desired future shape of the organisation but also to bridge the gap between its present position and the desired future shape.
- (b) Planning aims at providing a framework for the organisation to make major decisions in the present with a better sense of futurity and a better idea of their future outcomes.
- (c) An important purpose of planning which is related to the above purpose is to facilitate the process of an integrated thinking for evolving a network of decisions and actions which are internally consistent and supportive of each other.
- (d) Another purpose of planning relates to effective and efficient resource mobilisation, allocation and utilisation. Apart from efficient allocation and utilisation, planning can be directed to conserve, safeguard and develop the scarce resources critical to the survival and success of the organisation.
- (e) A critical purpose of planning is to provide a conceptual and concrete basis for initiating and carrying forward the functions like organising, staffing, direction and control.

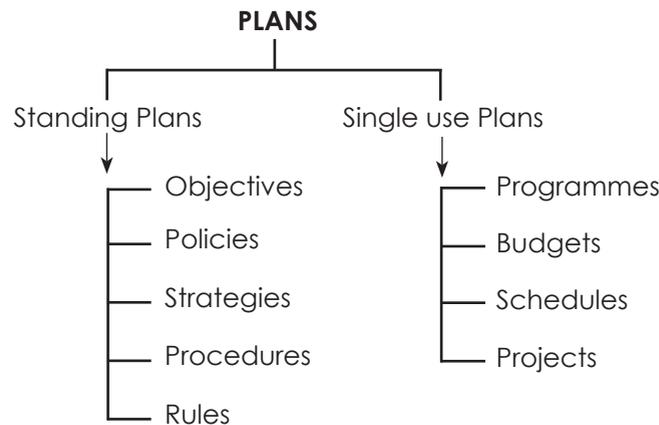
#### 8.2.6.1 Approaches to Planning

Independent of the above philosophies of planning, we may identify four different approaches to planning in actual practice in various organisations. These approaches are described as follows :

- (a) **Top-down approach** :- As the name indicates, top management takes the initiative in formulating major objectives, strategies, policies and derivative plans in comprehensive manner and communities them down the line to middle and supervisory management levels for translating them into performance results. Managers other than those at top levels have little role in planning; they have only to concentrate on implementation and day-to-day control.
- (b) **Bottom-up approach** :- This is a virtual reversal of the above approach in the sense that the plan proposals originate at the supervisory management level, travel up the management hierarchy in a step-by-step manner and reach the top management level for review and approval. In this approach top management generally refrains from giving any guidelines to lower management levels on what to plan and how.
- (c) **Composite approach** :- Here the top management provides broad parameters and guidelines to line executives at middle and lower management levels, allows the needed flexibility and support to formulate tentative plans, which are reviewed and finalised by top management in consultation with all the managers at the appropriate levels. The approach is useful to evolve corporate-wide plans also, which partly draw inspiration from the planning ideas and perspectives generated at the lower level.
- (d) **Team approach** :- In the approach, the task of planning is entrusted to a select team of managers, whether they are line managers or staff experts. The team functions under the leadership of the chief executive. It does not finalise plans as such but initiates the planning process, identifies the areas of problems and opportunities, examines the internal and external environment, collects information, solicits ideas and formulates tentative proposals for consideration by the chief executive. The team is used by the latter as his brains trust; it may even be asked to monitor the progress of plans and review performance.

### 8.2.7. Types of Plans : Single use and Standing Plans

To provide guidance to the managers to make decisions, take action and solve problems, various plans are drawn up. These plans help the managers in managing day to day affairs, utilising resources of organisation efficiently and in regulating working behaviour of subordinates. These plans do provide unifying and consistent base for managerial decision and action. These may be grouped into single use plans and standing plans.



#### Standing Plans

Standing plans are the recurring plans and they are used repeatedly in situations of a similar nature. A standing plan is used again and again over a long period of time. It is a standing guide to thinking and action. A standing plan is standing answer to recurring problems and it is of permanent or long term nature. Standing plans simplify the decision making process as they decide in advance what and how of a variety of operations. They make it possible for managers to spend their most creative efforts on single use plans. Standing plans are essential for smooth operations. Objectives, policies, procedures and rules are important standing plans.

#### Single use Plans

A single use plan is used once and then it is discarded. It is designed to fit the demands of a specific situation or goal and is 'used up' when the goal is achieved or the situation is over. A single use plan is used for a short period of time. Budgets, schedules; projects etc. are the examples of single use plans. Standing plans are prepared for repetitive activities while single use plans are meant for non-repetitive activities.

### 8.2.8. Planning Premises

Planning premises are basic assumptions about the environment in which plans are expected to be implemented. Certainly, planning has to take into account numerous uncertainties in its environment. Premises guide effectively planning. As pointed out by Harold Koontz, planning premises spell out stage of the expected future event which is believed will exist when plans operate. They are the expected environment of plans. Planning premises are largely derived from forecasting. The effectiveness of planning to a great extent, depends on how accurately the premises are developed from out of the forecasting data. Though it is not possible to predict accurately future environmental conditions, planning has necessarily to be based on certain assumptions about the environment. These assumptions are captured in the form of planning premises.

Planning premises can be categorized into three heads —

- internal and external premises
- controllable, semi controllable and uncontrollable premises
- tangible and intangible premises

- (a) **Internal and External premises** : The factors which exist within the business organisation furnish the basis for internal premises. These include sales forecast, cash flows, capital budgeting, advertising expenditure, product line, marketing mix, competence of the managerial personnel etc. On the other hand external premises are concerned with the general business climate comprising of economic, social, political, technological conditions in the economy.
- (b) **Controllable, semi-controllable and uncontrollable premises** : The premise which can be controlled by the management are known as controllable premises, These include the internal policies, credit policies, investment plans, research projects, rules.etc. which are within the jurisdiction of management. Semi-controllable premises are those over which the management has some control. Some of the examples of these premises are union management relations, firm's share in the market, market strategies, labour turnover etc. Finally premises over which a firm has no control are known as uncontrollable premises. Examples in this category include the natural calamities, wars, strike, innovations, emergency legislation etc.
- (c) **Tangible and intangible premises** : The premises that can be expressed in tangible physical terms (monetary units) such as labour hours, production units are known as tangible premises. On the other hand, intangible premises are those that defy quantification! Examples of intangible premises are public relations, employee morale, reputation of the firm, competitive strength of the firm, etc. though the intangible premises cannot be quantified in specific terms, these cannot be ignored while planning.

## 8.3 FORECASTING

Forecasting is the process of using past and current information to predict future events and making provision to face such challenges of future contingencies. In the words of Henry Fayol "The plan is the synthesis of various forecasts: annual long-term, short-term, special etc. It is a sort of picture of the future, where immediate events are shown clearly, the prospects or the future with less certainty".

According to Louis A. Allen "forecasting is a systematic attempt to probe the future by inference from known facts. The purpose is to manage with information on which it can base planning decisions".

Forecasting is that concerned with the calculation of probable events and it involves 'looking ahead' in order to predetermine the events and their financial implication of these events on the business organisation. Forecasting is the formal process of predicting future events that will significantly affect the functions of the enterprise.

### 8.3.1. Methods of Forecasting

Forecasting techniques help organizations to plan for the future. Some are based on subjective criteria and often amount to little more than wild guesses or wishful thinking. Others are based on measurable, historical quantitative data and are therefore given more credence by business decision makers, analysts and potential investors. While no forecasting technique in entirety can predict the future with complete certainty, they remain essential in estimating an organisation's prospect.

Qualitative forecasting methods are subjective, based on the opinion and judgement of consumers, experts and more appropriate when past data is not available. It is usually applied to intermediate long range decisions. Examples of qualitative forecasting methods are informed opinion and judgement, delphi technique etc.

Quantitative forecasting methods on the other hand are used to estimate future demand as a function of past data, and therefore appropriate when historical data are available. The method is usually applied to short-intermediate range decisions. Popular quantitative methods of forecasting include time series analysis, extrapolations, econometric analysis, regression analysis, etc.

### 8.3.2. Advantages of Forecasting

The following are the payoffs of forecasting.

- (i) Forecasting plays an important role in planning. In fact, plans are based on forecasts.
- (ii) Forecasting helps the organisation to derive the benefits from the environmental changes (when the changes are favourable to the enterprise) and protect from the adverse effects (when the changes are unfavourable).
- (iii) Forecasting helps the manager to unify and coordinate the activities in the enterprise.  
Accurate sales forecast is almost impossible in the absence of general business forecasting.
- (iv) Forecasting facilitates control by identifying the weak spots in the organisation. When once these weak spots are identified. It becomes easy for the managers to establish sign posts for effective control and sound planning thereafter.
- (v) Forecasting helps the enterprise in the achievement of objectives effectively and smoothly.

### 8.3.3. Limitations of Forecasting

Forecasts are just estimates of future conditions but not indicators of actual position. Future is never certain. Future is almost always shrouded by the shadows of uncertainty and it may be possible that the best laid plan may not yield fruitful results and bad plan may derive supernormal profits to the firm. Uncertainty places a serious limitation to forecasting.

Another long standing limitation of forecasting is that it is based on certain assumption about the future and as such it involves guess work on the part of managers. In this process, some errors may creep in rendering the forecasts unreliable.

The success of forecasting depends largely on the skillful application of forecasts into practice and the meticulous care that is taken by the managers in preparing forecasts. A forecast should, to be successful, consider arriving at a magic figure not by the fanciful guess work but by a careful analysis of the past events and project them into future more rationally.

## 8.4 DECISION-MAKING

One of the indispensable components of management of organisations is the decision making. Every manager is in decision-making. Herbert A. Simon equated management with decision making because whatever a manager does is nothing but decision-making. All the functions of management involve decision-making and hence it is all-pervasive in nature.

For instance, a manager has to decide the long-term objectives of the organisation, strategies, policies and procedures to be adopted to achieve these objectives; he has to decide how the jobs should be structured to match the jobs with the individuals in the organisation; he has to decide how to motivate the people to achieve higher performance; he has to decide what activities should be controlled and how to control these activities etc. In other words, decision- making is the substance of a manager's job.

According to Felix M. Lopez "a decision represents a judgement: a final resolution of a conflict of needs, means, or goals; and a commitment to action made in the face of uncertainty, complexity and even irrationality". Thus, a decision is a course of action which is consciously chosen for achieving a desired result. In the words of George R. Terry "Decision-making is the electing of an alternative from two or more alternatives, to determine an opinion or a course of action". A more comprehensive definition of decision-making is given by Andrew Szliagyl in terms of the following: "Decision-making is a process involving information, choice of alternative actions, implementation, and evaluation that is directed to the achievement of certain stated goals".

John McDonald stressing the importance of decision making opines. "The business executive by Profession is a decision maker. Uncertainty is his opponent, and overcoming it is his mission. Whether



the outcome is a consequence of luck or wisdom, moment of revision is without doubt the creative event in the life of the executive."

Thus, a decision is the selection of a course of action from several alternatives and the decision-making is the process of arriving at the final selection.

#### 8.4.1. Types of Decision

There are several types of decisions:

**Routine and strategic decisions:** Tactical or routine decisions are made repetitively following certain established rules, procedures and policies. They neither require collection of new data nor conferring with people. Thus they can be taken without much deliberation. They may be complicated but are always one dimensional. They do not require any special effort by the manager. Such decisions are generally taken by the managers at the middle and lower management level. Strategic or basic decisions, on the other hand, are more important and so they are taken generally by the top management and middle management. The higher the level of a manager, the more strategic decisions he is required to take. The strategic decisions relate to policy matters and so require a thorough fact finding and analysis of the possible alternatives. Finding the correct problem in such decisions assumes great importance. The managers are more serious about such decisions as they influence the decision making at the lower levels.

**Programmed and non-programmed decisions:** The programmed decisions are of routine and repetitive natures which are to be dealt with according to specific procedure. But the non-programmed decisions arise because of unstructured problems. There is no standard procedure for handling such problems. For example, if an employee absents himself from his work for a long time without any intimation the supervisor need not refer this matter to the chief executive. He can deal with such an employee according to the standard procedure which may include charge sheet, suspension, etc. But if a large number of employees absent themselves from work without any information such a problem cannot be dealt in routine manner. It has to be dealt with as an unstructured problem and the decision should be taken by the chief executive. Non-programmed decisions require thorough study of the problem and scientific analysis of the situational factors. There has to be adequate probing analysis of various alternatives before taking such decisions.

**Policy and operating decisions:** Policy decisions are of vital importance and are taken by the top management. They affect the entire enterprise. But operating decisions are taken by the lower management in order to put into action the policy decisions. For example, a bonus issue is a policy matter which is decided by the top management, but the calculations of bonus is an operating decision which is taken at the lower levels to execute the policy decisions.

**Organisational and personal decisions:** Organisational decisions are those which a manager takes in his official capacity. Such decisions can be delegated. But, personal decisions, which relate to the manager as an individual and not as a member of the organization, cannot be delegated.

**Individual and group decisions:** When a decision is taken by an individual in the organisation, it is known as individual decision. Such decisions are generally taken in small organisations and in those organisations where autocratic style of management prevails. Groups or collective decisions refer to the decisions which are taken by a group of organisational members, say Board of Directors or Committee.

#### 8.4.2. The Decision-making Process

Decision making is every manager's primary responsibility. To make good decisions, managers should invariably follow a sequential set of steps as presented below :-

(a) **Identifying and diagnosing the real problems:** The first step in the decisionmaking process is the identification of the problem. Diagnosing the problem implies knowing the gap between what we

want to happen and what is likely to occur if no action is taken. As pointed out by Newman and Summer, identifying the 'cause of the gap' and understanding the problem solve the problem.

According to Peter F. Drucker, critical factor analysis is helpful in identifying the causes of the problem properly. A decision maker should collect as much information as possible before attempting to solve it. If possible, in addition to facts, opinion should also be collected, which would aid in diagnosing the problem effectively.

- (b) Developing alternatives:** While selecting the alternative course of action a manager should consider the viable and realistic alternatives only. Further, he should consider the time and cost constraints and psychological barriers that would restrict the number of reasonable alternatives. Newport and Trewatha contend that the brain storing and group participants may be fruitfully employed in developing alternatives. Ingenuity, research and creative imagination are required to ensure that the best alternatives are considered before a course of action is selected for inclusion of it among the alternatives.
- (c) Evaluation of alternatives :** Perhaps one of the most important steps in decision making is the evaluation of each alternative. Here, the decision-maker draws balance sheet of every alternative by identifying the advantages as well as disadvantages of these alternatives. All pertinent facts about each alternative should be collected, the pros and cons must be considered and the important points must be distinguished from the trivial or peripheral matters. The purpose of all this exercise is to limit the number of alternatives to a manageable size and then consider the alternatives for the selection.

Some of the criteria for evaluating an alternative could be —

- (i) resources available for implementing the alternative
  - (ii) economy of effort
  - (iii) element of risk involved
  - (iv) results expected
  - (v) time constraint
  - (vi) accomplishment of common goal
  - (vii) implementation problems etc.
- (d) Selection of an alternative :** The next important step in decision-making process is the selection of best alternative from various available alternatives. Indeed, the ability, to select the best course of action from several possible alternatives separates the successful managers from the less successful ones. Drucker mentions four criteria viz. the risk, economy of effort timing, and limitation of resources, before one alternative is selected among the available ones.
  - (e) Implementation and follow up of the decision :** The final step in decision making process is the implementation of the selected alternative in the organisation. The alternative-selected should be properly communicated to those members of organisation who are concerned with the decision. Acceptance of the decision by group-members is absolutely essential to the successful implementation Further , after implementation of the decision it is necessary to follow up to see whether the decision is yielding the desired results or not. A manager should least hesitate to ride out a decision that does not accomplish its objective. A manager should see it necessary, that all organisational members participate in the decision making as decision implementation.

#### 8.4.3. The Environment of Decision-making

The environment in which decision-making is done and in which decisions are implemented can be described along the following lines:

**Certainty:** In an environment characterised by certainty, full information is available on all the factors relevant to the problem and its solution. Information is also regarded as reasonably reliable and easy to



get and is not too expensive. In such a setting, the manager can have full knowledge about the future, about the alternatives and their outcomes. He is therefore in a position to choose the best alternative.

Another meaning of the state of certainty is that the manager considers only a few factors which are known and about which information is available. He ignores the other factors as irrelevant for his problem. In other words, he creates a closed system and tries to make his decision in that setting. He simply 'abstracts away' from the complexities of the decision situation by making certain assumptions.

**Uncertainty:** Under conditions of uncertainty, the manager faces a situation in which information is neither available nor reliable. Everything is in a state of flux; several random forces operate in the environment which makes it unpredictable. The variables change fast; their interaction is complex and the manager has no means of getting a grasp of them. The manager cannot have an idea about the outcomes of the alternatives courses of action or their probabilities. Even so, he had to tackle the situation, create some order out of chaos and make his decision by using his judgment and experience.

**Risk:** In this situation, the manager is in a position to get only some information about his decision situation. But he is not completely sure of the availability or the reliability of information. Though he may be able to develop alternative courses of action, he is less than definite about their outcomes. In other words, the expected results are not deterministic but only probabilistic because the future conditions cannot be predicted with accuracy in the absence of full information.

#### **8.4.4. The Importance of Information in Decision-making**

Information is a basic requirement for decision-making. It significantly determines the effectiveness of not only the final decision but also the process of decision-making itself. Therefore, decision-making is sometimes regarded as the processing and conversion of information into action. Hence timely collection and processing of information is of such great importance—all big concerns now have devised management information system, mostly computer based.

Managers require information to recognise and define problem situations, to develop alternative courses and to select the best alternative. During the course of decision making new information may become available which is to be absorbed. Information helps the managers to have a better view of the decision situations and to reduce the complexity and uncertainty surrounding them. With the availability of information, the problem situation becomes more controllable and manageable.

#### **8.4.5. Management Information System**

Management Information System (MIS) is the system of organising the information flow and network within the organisation. It is concerned with systematic generation of information, both from internal and external sources, for purposes of feeding it to the various managerial levels in an integrated manner at the proper time to help them in their decision-making function. MIS is also concerned with proper storage and retrieval of information as required by managers. The decision making centers in the organisation are inter-linked through MIS, in a manner that decisions made at higher levels are used as inputs for decisions made at the lower levels. All information is to be specifically decision oriented. It is however, to be remembered that information is not a substitute for managerial skills and judgment for making decisions. MIS does not replace the decision making system. Nor should it be allowed to dominate the managerial system. It is meant to assist managers and not to dictate them.

##### **8.4.5.1. Elements of Programmed Decisions**

The modern techniques for making major decisions on routine but complex problems are mostly quantitative. They are based on the scientific method, the most salient elements of which are the following :

- (i) Statement of clear objectives.
- (ii) Definition of the problem.
- (iii) Formulation of hypotheses.

- (iv) Collection of facts.
- (v) Testing the hypotheses.
- (vi) Explanation of results.

The aim is to help managers to make precise and perfect decisions for efficient utilisation of scarce resources. Quantification of variables and determination of relationships amount them through mathematical equations helps the process of arriving at optimal decisions.

#### 8.4.5.2. Quantative Techniques of Decision Making

- (i) **Linear programming:** It is the technique for optimisation of an objective function under given resources and constraints. The objective function is either maximisation of some utility or minimisation of some disutility. The technique is useful under conditions of certainty.
- (ii) **Probability decision theory :** The basic premise of this theory is that the behaviour of the future is probabilistic and not deterministic. Various probabilities are assigned to the 'state of nature' on the basis of available information or subjective judgement and the likely outcomes of the alternative courses of action are evaluated accordingly before a particular alternative is selected. Pay-off Matrices and 'Decision Trees' are constructed to represent the variables.
- (iii) **Game theory :** It is a useful aid to the decision maker under conditions of competitive rivalry or conflict. The adversaries in the conflict are supposed to be involved in a game of gaining at the total or partial expense of each other. There are 'two-person', 'three-person' and 'n- person' games as also zero-sum and non-zero sum games.
- (iv) **Queuing theory :** The technique is designed to find solutions to waiting line problems for personnel, equipment or services under conditions of irregular demand. The objective is to find optimum volume of facilities to minimise the waiting period, on the one hand, and the investment associated with building up and maintaining the facilities, on the other. Public transport systems, hospitals, and big departmental stores are some of the possible users of this technique.
- (v) **Simulation :** It is a technique for observing the behaviour of a system under several alternative conditions in an artificial setting. When the conditions of the environment are very complex and when it is not possible to find the one best way of doing things, it provides the manager a way out. The likely behaviour of events and variables is observed and evaluated in a simulated setting. It is possible to experiment with various possibilities or alternatives in a simulated setting rather than in a natural setting.
- (vi) **Network techniques :** There are two powerful network techniques—Critical Path Method (CPM) and Programme Evaluation and Review Technique (PERT) which are useful for project planning and control. Complex projects involve considerable cost and time. The objective is to minimise both by working out a 'critical path' where managerial attention is to be concentrated. A diagrammatic net-work of activities required for completion of a project is prepared in detail to assess their inter-relation, to segregate sequential activities from simultaneous ones and to estimate the probable time and cost of their completion.

#### 8.4.5.3. Modern Techniques for Non-programmed Decisions

- (i) **Creative techniques :** Creative thinking is needed for solving novel, non-routine problems.  
Creativity refers to ability to generate new ideas and new ways of doing things. Brainstorming is one of the creative techniques. It involves use of the brain to find different ideas which can solve a critical problem. It is a group based technique. Members of the group in a session are encouraged to throw up all possible alternative solutions to a problem. The ideas may be wild or impractical but they may lead to a creative solution ultimately.
- (ii) **Participative techniques :** Employee participation in management and decision making is often hailed as industrial democracy. The participative approach has several positive attributes for



problem solving purposes. Involvement of individuals and groups in decision-making improves the quality of decisions, fosters responsibility and commitment for implementing them, enhances employee motivation and morale, results in more acceptable and timely decisions and so on.

- (iii) **Heuristic techniques**: It is a sophisticated type of trial and error technique to find solutions to complex problems on a step by step basis. It recognises the fact that decision making in complex, strategic problems cannot be too rational and systematic. It is bound to be sporadic and fragmented because of information gaps, conflict in goals, perverse human behaviour and the uncertain nature of the environment. Certain rules of thumb or heuristics are developed to facilitate the transition towards decisions. There are great possibilities for using computers to employ heuristics technique for solving major strategic problems

#### 8.4.6. Guidelines for Effective Decision Making

One of the measures of effective management is the extent to which managers adopt effective decision making processes to make decisions. A decision making process and a decision is effective if it makes significant contribution to the achievement of managerial and organisational objectives at acceptable levels of costs and unsought consequences. Within this broad setting, we may identify the principles, guidelines or the ways and means of making the process effective, as follows:

1. Establishment of multiple decentralised centres of managerial decision making at appropriate organisational levels and delegation of adequate authority along with pinpointing of accountability for making decisions to managers at each centre.
2. Determination of appropriate decision-making work-load at each centre, so as to minimise the possibility of overloading at any centre.
3. Co-ordination of various decision making centres through communication and other means so as to ensure consistency and co-operation in making decisions
4. Establishment of expert advisory staff units to provide the needed intellectual and professional inputs for decision making.
5. Formulation and communication of organisational objectives, policies, decision rules and procedures to serve as guidelines to managers in their decision making function.
6. Design and installation of decision support systems which include information and control systems so as to provide logistic support to managers.

### 8.5 ORGANISING

As an important function of management, organizing is defined as the dividing and subdividing up of duties and responsibilities which are necessary to any purpose and arranging them in groups which are assigned to individual. In the words of Koontz and O'Donnel "organizing involves the establishment of an internal structure of roles through determination and enumeration of activities required to achieve the goals of an enterprise and each part of it; the grouping of these activities, the assignment of such groups of activities to manager, the delegation of authority to carry them out, and provision for coordination of authority and informational relationships horizontally and vertically, in the organisation structure".

George Terry defines organizing as "establishing the effective authority relationships among selected works, persons, and workplaces in order for the group to work together effectively".

Thus, organizing function consists of dividing work among groups and individuals (division of labour) and providing for the required coordination between individual and group activities. In the words of Louis Allen, "organizing" is the process of identifying and grouping the work to be performed, defining and delegating responsibility and authority, and establishing relationships for the purpose of enabling the people to work most effectively together in accomplishing the objectives". In essence, organizing





- (ii) **Grouping the work** – Dividing work is the essence of organizing function. After making the vision, similar activities shall be grouped together in order to provide for a smooth flow of work. Departments and divisions are created in an organisation based on the principle of similarity and relatedness of the activities performed. These departments or divisions are then managed under the direction of an individual called manager of the particular department. Depending on the size of the organisation, there could be several departments for every separate function. In small organisation, various departments may be grouped together and headed by only one or a few individuals.
- (iii) **Establishing formal reporting relationships** – One of the steps in organizing function is to establish formal reporting relationships among individual members in the enterprise. After establishing these formal relationships it would be possible to know the details relating to the work. Establishment of formal reporting system should, pave way for assigning the duties and responsibilities to individual in an unambiguous fashion.
- (iv) **Providing for measurement, evaluation and control** – Organising function involves providing the basis for measurement, evaluation and control of the activities. It should establish signposts and control points in the organisation so that the performance of individuals (and groups) can be measured evaluated, and controlled at periodical intervals. The purpose of such evaluation is to take necessary rectificational measures if there are serious deviations in the actual performance.
- (v) **Delegating authority** – Authority is the right to act, and extract obedience from others. A manager may not be able to perform tasks without granting authority to him by the organisation. While assigning duties the manager should clearly specify authority and responsibility limits.
- (vi) **Coordination** – Individuals and groups in an organisation carry out their specialized functions and this necessitates coordination. While performing the organizing function, the manager should see that all the activities are properly coordinated and there exists 'no conflicts. Both individuals and groups may come in conflict while performing their respective duties or functions in the organisation. While organizing the functions, the manager should see that no conflicts exist among various departments and that all the departments function as a coordinated, unified whole.

### 8.5.2. Delegation of Authority

Delegation of authority is “the process a manager follows in dividing the work assigned to him so that he performs that part which only he, because of his unique organisational placement, can perform effectively and so that he can get others to help with what remains.”

Delegation has the following characteristics:

1. Delegation takes place when a superior grants some discretion to a subordinate. The subordinate must act within .the limits prescribed by the superior. He is not free to use authority arbitrarily but has to use it subject to the policies and rules of the organisation.
2. A manager cannot delegate the entire authority to his subordinates because if he delegates all his authority he passes his position to the subordinates.
3. Generally authority regarding routine decisions and for execution of policies is delegated to subordinates. A manager retains the authority to take policy decisions and to exercise control over the activities of subordinates.
4. The extent of authority which is delegated depends upon several factors, e.g., the ability philosophy of management, the confidence of the superior in his subordinates, etc.
5. Delegation does not imply reduction in the authority of a manager. A superior retains authority even after delegation. Delegation does not mean a manager loses control and power. He can reduce, enhance or take back the delegated authority.
6. Delegation may be specific or general, written or implied, formal or informal.  
Delegation does not mean avoiding decisions or abandonment of work.

7. Delegation does not mean abdication of responsibility. No manager can escape from his obligation by delegating authority to subordinates. Therefore, he must provide a means of checking upon the work that is done for him to ensure that it is done as he desires.

### 8.5.3. Importance of Delegation

Delegation is the dynamics of management and the essence of sound organisation. The importance of delegation is due the following advantages that it provides:

1. It enables the managers to distribute their workload to others. By reducing the workload for routine matters, they can concentrate on more important policy matters.
2. Delegation facilitates quick decisions because the authority to make decisions lies near the point of action. Subordinates need not approach the boss every time need for a decision arises.
3. Delegation helps to improve the job satisfaction, motivation and morale of subordinates. It helps to satisfy their needs for recognition, responsibility and freedom.
4. By clearly defining the authority and responsibility of subordinates, a manager can maintain healthy relationships with them. Delegation increases interaction and understanding among managers and subordinates.
5. Delegation binds the formal organisation together. It establishes superior-subordinate relationships and provides a basis for efficient functioning of the organisation.
6. Delegation enables a manager to obtain the specialised knowledge and expertise of subordinates.
7. Delegation helps to ensure continuity in business because managers at lower levels are enabled to acquire valuable experience in decision making. They get an opportunity to develop their abilities and can fill higher positions in case of need. Thus, delegation is an aid to executive development. It also facilitates the expansion and diversification of business through a team of competent and contented workers. But for delegation firms would remain small.

### 8.5.4. Steps in the Process of Delegation

The process of delegation involves the following steps:

1. **Determination of results expected**– First of all, a manager has to define the results he wants to obtain from his subordinates for achievement of organisational objectives.
2. **Assignment of duties**– The manager then assigns specific duties or tasks to each subordinate. He must clearly define the function of each subordinate. While assigning duties and responsibilities, he must ensure that the subordinates understand and accept their duties. Duties should be assigned according to the qualifications, experience and aptitude of the subordinates.
3. **Granting of authority**– Assignment of duties is meaningless unless adequate authority is given to subordinates. They cannot discharge their responsibilities without adequate authority. Enough authority must be granted so that subordinates can perform their duties. By granting authority, subordinates are permitted to use resources, to take decisions and to exercise discretion.
4. **Creating accountability for performance**– The subordinates to whom authority is delegated must be made answerable for the proper performance of assigned duties and for the exercise of the delegated authority. The extent of accountability depends upon the extent of delegation of authority and responsibility. A person cannot be held answerable for the acts not assigned to him by his superior. An information and control system is established to check and evaluate performance of the subordinates to whom authority is delegated.

Thus, duty, authority and accountability are three fundamental components of delegation. All the three phases of delegation are interdependent. 'These three inevitable attributes of delegation are like a three-legged stool each depends on the others to support the whole and no two can stand alone.'

### 8.5.5. Difficulties in Delegation

**On the Part of Delegator (Non-delegation)** – Managers are often reluctant to delegate adequate authority due to the following reasons:

1. Some managers may not delegate authority because of their lure for authority. They are autocrats and think that delegation will lead to reduction of their influence in the organisation. They want to make their presence felt and desire that subordinates should come frequently for approval. They like to dominate the whole show.
2. Some managers feel that none can do the job as well as they can do. They think that if they delegate, work will not be done as it ought to be done. They consider themselves indispensable and do not want to give other people's ideas, a chance.
3. When a manager is incompetent his work methods and procedures are likely to be faulty. He keeps all the authority to himself for fear of being exposed. He is afraid that if he lets the subordinates make decisions they may outshine him. He is afraid of losing his importance.
4. Few managers are inclined to accept the risk of wrong decisions which the subordinates might take. Therefore, they do not delegate authority and take all the decisions themselves. They are unwilling to take calculated risk.
5. A manager may not delegate authority because he feels that his subordinates are not capable and reliable. He lacks confidence in his subordinates.
6. A manager is not likely to delegate authority when he cannot issue suitable directions to guide the activities of subordinates. Such lack of ability to direct shows that he is unfamiliar with the art of delegation.
7. Effective delegation requires adequate controls and a means of knowing the proper use of authority. A manager will hesitate to delegate authority if he has no means to ensure that the authority is being properly used by the subordinates.

**On the Part of Subordinates (Non-acceptance of Delegation)** – Subordinates may not like to accept delegation and shoulder responsibility due to the following reasons:

1. Subordinates may be reluctant to accept delegation when they lack self-confidence.
2. Some subordinates are unwilling to accept authority due to the desire to play safe by depending on the boss for all decisions. They have a love for spoon-feeding.
3. A subordinate who is afraid of committing mistakes and does not like to be criticised by the boss is likely to avoid delegation of authority.
4. When the subordinates are already overburdened with duties, they do not like additional responsibility through delegation.
5. Subordinates are likely to avoid delegation when adequate information, working facilities and resources are not available for proper discharge of duties.
6. Subordinates may not come forward to accept delegation of authority when no incentives are available to them.

### 8.5.6. Effective Delegation

Delegation of authority cannot be effective unless certain principles are followed in practice. While delegating authority, a manager should observe the following principles:

1. **Functional definition**– Before delegating authority a manager should define clearly the functions to be performed by subordinates. The objectives of each job, the activities involved in it and its relationship with other jobs should be defined.

2. **Delegation by results expected**– Authority should be delegated only after the results to be achieved by the subordinates are decided. This will enable them to know by what standards their performance will be judged.
3. **Parity of authority and responsibility**– There must be a proper balance between authority and responsibility of a subordinate. Responsibility without authority will make a subordinate ineffective as he cannot discharge his duties.  
Similarly, authority without responsibility will make the subordinate irresponsible. Therefore, authority and responsibility should be co-extensive.
4. **Absoluteness of responsibility**– Responsibility cannot be delegated. No manager can avoid his responsibility by delegating his authority to subordinates. After delegating authority he remains accountable for the activities of his subordinates. Similarly, the subordinates remain accountable to their superior for the performance of assigned duties.
5. **Unity of command**– At one time a subordinate should receive command and be accountable to only one superior. If a person reports to two superiors for the same job, confusion and conflict will arise. He may receive conflicting orders and his loyalty will be divided. Therefore, dual subordination should be avoided.
6. **Well-defined limits of authority**– The limits of authority of each subordinate should be clearly defined. This will avoid overlapping of authority and will allow the subordinate to exercise initiative. He should refer those matters to the superior which are outside the limits of his authority.
7. **Authority level principle**– Managers at each level should make all decisions within their jurisdiction. They should avoid the temptation to refer to their superiors decisions which they are authorised to take themselves. Only matters outside the scope of authority should be referred to superiors.

#### 8.5.7. Centralisation and Decentralisation of Authority

Centralisation and decentralisation are opposite terms. They refer to the location of decision-making authority in an organisation. Centralisation implies the concentration of authority at the top level of the organisation while decentralisation means dispersal of authority throughout the organisation. According to Allen, “Centralisation is systematic and consistent reservation of authority at central points within an organisation. Decentralisation applies to the systematic delegation of authority in an organisation wide context.” Decentralisation refers to the systematic effort to delegate to the lowest levels all authority except that which can only be exercised at central points. It is the distribution of authority throughout organisation.

Centralisation and decentralisation are relative terms because every organisation structure contains both the features. There cannot be complete centralisation or decentralisation in practice. Absolute centralisation means each and every decision is to be taken by top management which is not practicable. Similarly, absolute decentralisation implies no control over the activities of subordinates which cannot be possible. Therefore, effective decentralisation requires a proper balance between dispersal of authority among lower levels and adequate control over them. Decentralisation should not be confused with dispersion of physical facilities and operations.

##### 8.5.7.1. Distinction between Delegation and Decentralisation

Decentralisation is much more than delegation. Delegation means transfer of authority from one individual to another. But decentralisation implies diffusion of authority throughout the organisation. The main points of distinction between delegation and decentralisation are presented as follows:

1. Delegation is the process of devolution of authority whereas decentralisation is the end result which is achieved when delegation is systematically repeated up to the lowest level.
2. Delegation can take place from one individual (superior) to another (subordinate) and -be a complete process. But decentralisation is completed only when the fullest possible delegation is made at all levels of organisation.



3. In delegation control rests entirely with the superior. But in decentralisation the top management exercises only overall control and delegates the authority for day today control to the departmental managers.
4. Delegation is a must for management as subordinates must be given sufficient authority to perform their duties. But decentralisation is optional in the sense that top management may or may not disperse authority.

Delegation is a technique of management used to get things done through others. However, decentralisation is both a philosophy of management and a technique.

#### 8.5.7.2. Advantages of Decentralisation

The main benefits of decentralisation are as follows:

1. **Relief to top executives**– Decentralisation helps in reduction of the workload of top executives. They can devote greater time and attention to important policy matters by decentralising authority for routine operational decisions.
2. **Motivation of subordinates**– Decentralisation helps to improve the job satisfaction and morale of lower level managers by satisfying their needs for independence, participation and status. It also fosters team—spirit and group cohesiveness among the subordinates.
3. **Quick decisions**– Under decentralisation authority to make decisions is placed in the hands of those who are responsible for executing the decisions. As a result, more accurate and faster decisions can be taken as the subordinates are well aware of the realities of the situation. This avoids redtapism and delays.
4. **Growth and diversification**– Decentralisation facilitates the growth and diversification of the enterprise. Each product division is given sufficient autonomy for innovations and creativity. The top management can extend leadership over a giant enterprise. A sense of competition can be created among different divisions or departments.
5. **Executive development**– When authority is decentralised, subordinates get the opportunity of exercising their own judgement. They learn how to decide and develop managerial skills. As a result, the problem of succession is overcome and the continuity and growth of the organisation are ensured. There is better utilisation of lower-level executives.
6. **Effective communication**– Under decentralisation, the span of management is wider and there are fewer hierarchical levels of organisation. Therefore, communication system becomes more effective. Intimate relationships between superiors and subordinates can be developed.
7. **Efficient supervision and control**– Managers at lower levels have adequate authority to make changes in work assignments, to change production schedules, to recommend promotions and to take disciplinary actions. Therefore, more effective supervision can be exercised. Control can be made effective by evaluating the performance of each decentralised unit in the light of clear and predetermined standards. Decentralisation facilitates management by objectives and self-control.

#### 8.5.7.3. Disadvantages of Decentralisation

Decentralisation suffers from the following limitations:

1. **Expensive**– Decentralisation increases the administrative expenses. Each division or department has to be self-sufficient in terms of physical facilities and trained personnel. There may be duplication of functions and underutilisation of facilities. Therefore, a decentralised set-up is better suited to large enterprises.
2. **Difficulty in co-ordination**– Under decentralisation, each department or division enjoys substantial autonomy. Therefore, coordination among the departments becomes more difficult.

3. **Lack of uniformity**– Decentralisation may lead to inconsistencies when uniform procedures are not followed by various departments. Each department may formulate its own policies and procedures.
4. **Narrow product lines**– Decentralisation requires that product lines should be broad enough to permit creation of autonomous units. Therefore, it is not suitable for small firms having narrow product lines. Similarly, decentralisation may not be possible when there is lack of competent managers at lower levels in the organisation.
5. **External constraints**– Decentralisation may not be possible due to external factors like market uncertainties, trade union movement, government intervention, etc.

#### 8.5.7.4. Factors Determining Decentralisation

While deciding the degree of decentralisation in a particular organisation, the following factors should be taken into consideration :

1. **Size and complexity of the organisation**– In a large and complex organisation there is greater need for decentralisation. But in a relatively small and simple organisation, top management can make most of the decisions and creation of autonomous units may be a very costly scheme.
2. **Dispersal of operations**– When the production and sales of an enterprise are geographically scattered, centralised control becomes very difficult and there is greater pressure for decentralisation of authority. But if all the activities are located in one building centralised control is much easier.
3. **Degree of diversification**– In a company having several diverse product lines, decentralisation is not only necessary but beneficial. High degree of standardisation, on the other hand, results in centralisation.
4. **Availability of competent personnel**– It is advisable to decentralise authority only when managers at lower levels are able and experienced. Lack of trained executives will restrict decentralisation.
5. **Outlook of top management**– When the top executives believe in individual freedom, there will be a high degree of decentralisation. But if top management is conservative and prefer centralised control it is likely to centralise authority.
6. **Nature of functions**– Generally, basic functions like production and sales are more decentralised than staff functions such as personnel, finance, research and development.
7. **Communication system**– An effective communication system is required to co-ordinate and control the activities of operational units. In case communication system is ineffective, centralisation should be advocated. However, computerised management information system has enabled centralised decision-making.
8. **Planning and control procedures**– If the organisation has clear objectives and policies, superiors are more willing to allow subordinates to make decisions independently. Decentralisation can be successful when there is a sound system of control. Such a system would enable the top management to determine the effectiveness of decisions made by subordinates.
9. **Complexities of the situation**– Environmental factors exercise significant influence on the degree of decentralisation. For example, where business conditions are highly uncertain, high degree of freedom to operating units may endanger the very existence of the enterprise.

#### 8.5.7.5. Purposes of Centralisation

1. **To facilitate personal leadership.** In the early stages of an enterprise and in small firms, the success depends largely on the personal leadership of a dynamic and talented leader. Authority may be centralised to give full scope to facilitate personal leadership which may result in quick decisions and imaginative action.

2. **To provide integration.** Co-ordination of individual efforts is essential to the success of every organisation. Centralised direction is an effective means of unification and integration of individual efforts. It acts as a binding force on the various units of the organisation.
3. **To achieve uniformity of action.** Where uniformity of policy and action is required, authority may be centralised at the top. Such uniformity is often desirable in personnel, purchasing and advertising. Therefore, authority in these tends to be centralised.
4. **To improve efficiency.** Centralisation helps to avoid overlapping efforts and duplication of work. It enables the management to exercise effective control in order to minimise waste and to achieve economy in operations.

#### 8.5.7.6. Effective Decentralisation

Effective decentralisation requires fulfillment of the following conditions :

1. **Appropriate centralisation**– Decentralisation can be effective when there is a centralised authority for overall planning and control. The central authority ensures close coordination between various operating units. Without such a cementing force, the decentralised organisation may fall apart into pieces.
2. **Development of managers**– Effective decentralisation requires a large number of highly competent managers who are capable of working independently. In order to develop such executives, top management must delegate authority and allow the subordinates to learn through experience in making decisions.
3. **Open communication**– A sound communication system should be established to ensure continuous interaction between superiors and subordinates. Necessary feedback on operating results should be made available to superiors. Open communication system will enable managers to provide advice and guidance to subordinates.
4. **Coordination**– Decentralisation tends to create rival and cooperating divisions. Departmental managers compete for scarce resources. Effective coordination is essential to prevent such disintegrating tendencies. Interdepartmental coordination helps to prevent the danger of fragmentation. Committees, liaison officers and other mechanisms of coordination may be used to ensure coordination.
5. **Adequate controls**– Effective decentralisation needs an appropriate control system that will distribute the resources, lay down standards of performance and exercise control to ensure that the various operating units are working in the desired direction.

#### 8.5.8. Span of Management

Span of Management also known as span of control, span of supervision or span of authority represents the numerical limit of subordinates to be supervised and controlled by a single supervisor. It is an important principle of building a sound organization. The principle is based on the theory of relationships propounded by Graicunas – a French management consultant who analysed the superior – subordinate relationship based on a mathematical formula.

No. of direct relationships = n

No. of cross relationships = n (n-1)

No. of group relationships = n [2n – 1 -1]

Total No. of relationships = n [2n/2 + (n-1)]

Where n represents the number of subordinates.

The concept of span of management is central to the classical organization theory. Proper span of management is considered a necessity for effective supervision, co-ordination and control. It is therefore critical to determine the ideal span. If the span of control is narrow, there will be more organizational

levels which in turn may impede communication. If the span is widened, the supervisory load may become too heavy. Thus, sound organization structure required striking an optimum balance between organization levels, and supervisory work load.

### **8.5.9. Power and Authority**

The term "power" is often considered as synonymous to authority. Really speaking, there is a difference between the two terms. Power refers to the ability or capacity to influence the behavior or attitudes of other individuals. A manager's power may be considered as his ability to cause subordinates to do what the manager wished them to do. Power is a broader concept than authority. Authority is derived from position whereas power may be derived from many sources like technical competence, seniority etc. a manager's power may be measured in terms of his ability to –

- (a) Give rewards,
- (b) Punish individuals,
- (c) Withdraw rewards, etc.

Thus, reward, coercion, dominating personality, expertise, etc. are the main sources of power. Authority may be described as an institutionalized power since it is formally bestowed by the organization.

#### **8.5.9.1 Concept of Authority**

In management, authority may be defined, as the right to guide and direct the actions of others and to secure from them responses which are appropriate to the attainment of the goals of the organization. It is the right to utilize organizational resources and to make decisions. Authority is the right to decide and to direct others to perform certain duties in achieving organizational goals. It refers to the right to make decisions and to get the decisions carried out. It is the right to act. According to Barnard, "Authority is the character of communication (order) in a formal organization by virtue of which it is accepted by a contributor to, or member of the organization as generating the action he contributes, that is, as governing or determining what he does or is not to do so far as the organization is concerned. "In the words of Simon, "Authority may be defined as the power to take decisions which guide the actions of others." The main characteristics of authority are as follows :

1. The authority given to a position is legal and legitimate. It is supported by tradition, law or standards of authenticity. Authority is formal.
2. The authority (right) enjoyed by a position is not unlimited. The extent and limits of authority of a position are defined in advance. The position holder is expected to use his authority as per rules, regulations, policies and norms of the organization.
3. Authority is a relationship between two individuals – one superior and the other subordinate. The superior frames and transmits decisions with the expectation that the subordinates will accept them. The subordinate executes such decisions and his conduct is determined by them.
4. Authority is used to achieve organizational goals. The basic purpose behind the use of authority is to influence the behavior of the subordinates in terms of doing right things at right time so that organizational objectives are achieved. A person with authority influences the behavior of others that might otherwise not take place.
5. Actions and behaviours of his subordinates. It provides the basis for getting things done. Authority is also the means of coordination in an organization. Lines of authority serve to link and integrate the various parts of the organization to achieve common goals.
6. Authority gives right of decision-making because a manager can give orders only when he decides what his subordinates should or should not do. In the words of Terry, "Authority is exercised by making decisions and seeing that they are carried out."
7. Authority in itself is an objective thing but its existence is always subjective. Its exercise depends upon the personality factors of the manager who can use it and on the subordinates with whom it is to be exercised.



### 8.5.9.2 Concept of Power

Power, like authority, is a means of exercising influence on the behavior of people. But power is stronger than influence. Influence is a psychological force while power is a personal force that enables a person to change the behavior of others. Authority is the means to exert influence.

Power is an important means to enforce obedience to the rules, regulations and decisions of the organization. Power may be derived on personal or institutional bases. The use of power may affect the behavior of people in the desired manner. However, it does not necessarily imply that the people are in agreement with the exercise of power that a person is dependent upon another, he or she is subject to the other person's power.

There are several bases or sources of power. John French and Bertram Raven have identified five bases of sources of power.

- 1. Reward power:** The ability to grant or withhold rewards is a key source of power. Rewards may be financial, social or psychological. Financial rewards include salaries, wages, fringe benefits, etc. support, praise, recognition, status, etc., are non-financial rewards. Persons seeking rewards are dependent on the individual who is in a position to offer the reward. He offers rewards in exchange of some behavioural act like effort, performance, obedience, loyalty and so on. Those who refuse to carry out his orders are denied rewards. A person may be in a position to offer rewards by virtue of being a manager, a leader or a relatively wealthy person.
- 2. Coercive power:** This is the ability to punish others for not carrying out orders or for not meeting certain requirements. The person who is in a position to coerce others forces or compels them to do or not to do something. The person who feels coerced complies for fear of punishment. For example, management may force workers to call off the strike by giving an ultimatum that otherwise they will be suspended. Coercive power is the opposite of reward power. Coercion may be direct or indirect, physical or psychological.
- 3. Expert power:** A person having expertise or specialized knowledge or information has power over those who seek his expertise. For example, a teacher has expert power over students, a chartered accountant over his clients and a doctor over his patients.
- 4. Referent power:** This is based on the personality attributes or personal virtues of a person. Such a person has a charisma which attracts people towards him. For example, Mahatma Gandhi became powerful and had a huge following due to his charisma. Reference as a source of power is a group or an institutional situation. The goals, values, work patterns, etc., of a group become frames of reference for some persons and they look to the group for inspiration and guidance. The group thereby commands power and any 'manager of such a group acquires power by virtue of his association with the group.
- 5. Legitimate power:** This is derived from the formal position of a person in the organization. Formal legitimate power is called authority and it is vested on the individual.

### 8.5.9.3 Authority and Power – A Comparison

Authority	Power
1. Right to do something.	1. Ability to do something.
2. Derived from organizational position	2. Derived from many sources personal, institutional.
3. Always flow downward can be	3. Flows in all directions-cannot be delegated.
4. Legitimate – resides in the position.	4. May be illegitimate or extra constitutional.
5. Narrow term – one source or subset of power.	5. Broad concept – can achieve results when authority fails
6. Visible from organizational chart. It is institutional power.	6. Not visible from organizational chart.

#### 8.5.9.4 Concept of Responsibility

The term responsibility is used in management literature in two different senses. Some writers have defined it as duty or task assigned to a subordinate by virtue of his position in the organization. According to M.E. Hurley, "Responsibility is the duty to which a person is bound by reason of his status or task. Such responsibility implies compliance with directives of the person making the initial delegation."

In a more comprehensive sense responsibility may be defined as the obligation of an individual to perform the duty assigned to him. According to Koontz and O'Donnell, "Responsibility may be defined as the obligation of a subordinate, to whom duty has been assigned to perform the duty." Responsibility is an obligation to perform certain functions and to achieve certain results. According to R. C. Davis, "Responsibility is the obligation of an individual to perform assigned duties to the best of his ability under the direction of his executive leader."

The main characteristics of responsibility are as follows :

1. Responsibility can be assigned to human beings only. Non-living objects such as a machine cannot be assigned responsibility.
2. Responsibility arises from a superior-subordinate relationship. By virtue of his superior position, a manager has the authority to get the required work done from his subordinates. Therefore, he assigns duties to subordinates who are bound by the service contract to perform the assigned duties.
3. Responsibility may be a continuing obligation or confined to the performance of a single function. For example, a sales person has continuing obligation to the sales manager. On the other hand, the responsibility of a management consultant to a company comes to an end as soon as the consultancy assignment is completed.
4. Responsibility may be defined in terms of functions or targets or goals. For example, the responsibility of labour officer is in the terms of a function. On the contrary, the responsibility of a worker who is assigned the job of producing 50 units daily is in terms of targets. As far as possible responsibility should be expressed in terms of targets. This will enable the subordinates to know by what standards their performance will be evaluated.
5. The essence of responsibility is obligation of a subordinate to perform the duty assigned to him.
6. Responsibility is a derivative of authority. When a subordinate is delegated authority he becomes responsible to his superior for the performance of assigned task and for proper use of delegated authority. Therefore, responsibility should be commensurate with authority.
7. Responsibility is absolute and cannot be delegated. A subordinate may himself perform the duty assigned to him or he may get it done from his own subordinate. But he remains responsible to his own superior in both the cases. According to R.C. Davis. "Responsibility operates somewhat like the table of the magic pitcher in which the water level always remains the same, no matter how much water is poured out."
8. Responsibility flows upward. A subordinate is always responsible to his superior.
9. The person who accepts responsibility is accountable for his performance. Accountability arises out of responsibility and the two go together.

Management can use various techniques to define responsibilities so as to actively involve members of an organization in its coordination effort. Two such techniques are: (1) responsibility charting, and (2) role negotiation. Moreover, new organizational positions may be created and line and staff conflict resolved by enhancing the degree of coordination.

1. **Responsibility Charting** – A responsibility chart is a nice way of summarizing the relationship between tasks and actors (performers). The chart lists activities that are complicated or the decisions that must be made and the individuals who are responsible for each of them. On the vertical axis we show the tasks and on the horizontal axis we show the actors.

The following four roles are important :

1. The individual is responsible for the activity (decision).
  2. The individual must approve the activity or decision.
  3. The individual must be consulted before completing the activity or making the decision.
  4. The individual has to be informed about the activity or the decision.
- 2. Role Negotiation** – Role negotiation is an important technique that can supplement the use of responsibility charting. If used properly, it can lead to clear definitions of tasks and the responsibilities associated with them.

The basic promise of the technique is that nobody gets anything without promising something in exchange. Organizational members meet at periodic intervals to list rededication of tasks so that coordination can be maximized. The primary objective of this approach is to identify the independent clusters of tasks completed by the organization. The second objective is to match the personal needs and work preference of individuals with the tasks that must be completed.

#### **8.5.9.5 Authority, Responsibility and Accountability**

**Authority**– This is the power to assign duties to subordinates and to ensure that they are carried out, and involves the acceptance of accountability for the proper exercise of this authority. The precise extent of the authority must be clearly defined to the holder and he/she must act only within those limits. Authority, unlike responsibility, can be delegated, and flows downwards through the organization structure. At all times authority must be commensurate with the accountability imposed, and all subordinate staff subject to the authority must be made aware of it and of its extent.

H. Fayol regarded authority as 'the right to give orders and the power to exact obedience'. H.A.Simon regarded it as 'the power to make decisions which guide the actions of another'.

It is obvious that authority over people can be effective only when they accept it. Many instructions are obeyed because of custom, but acceptance of authority may in some cases, be ensured only by resorting to the use of power. Authority is not power. Power is the product of personality in a specific situation.

Authority can be regarded as the right or power to delegate responsibility and it emanates in a company from the shareholders to the board of directors, and down the scalar chain.

**Responsibility** – In the context of organization this term can be considered to be the same as accountability. It is the obligation to make sure that authority is properly used and that duties are properly carried out. It carries with it the prerogative to delegate authority and duties, but does not carry the right to avoid accountability. In this sense, responsibility flows from the bottom of the organizational structure to the top since each supervisor or manager is accountable to his immediate superior for the proper use of his authority and the proper performance of those duties, whether done personally or not, for which he is responsible. In this way the chief executive carries the full and ultimate responsibility for the effective functioning of the organization.

In short, responsibility and obligation are given to use authority to see duties are performed. It is an obligation to perform owed to a person's superior.

**Accountability** – is the liability created for the use of authority. It is the answerability for performance of the assigned duties. Accountability is concerned with the fact that each person who is given authority and responsibility must recognize that the executive above him or her will judge the quality of his/her performance.

By accepting authority, a person denotes the acceptance of responsibility and accountability. The person who is delegating authority requires subordinates to allow their performance to be reviewed and evaluated and holds them accountable for result.

## 8.6 STAFFING

Staffing is defined as the process of obtaining and maintaining the capable and competent people to fill all positions from top to operative level. In the words of Dalton .McFarland staffing is the function by which managers build an organisation through the recruitment, selection, development of individuals as capable employees. According to Koontz and O'Donnel staffing is the executive function which involves recruitment, selection, compensating, training, promotion, retirement of subordinate managers. Weirich define staffing as "filling and keeping filled, positions in the organization structure". Thus, staffing is concerned with the placement, growth and development of all those members of the organisation whose function is to get things done through the efforts of other individuals.

### 8.6.1. Importance of Staffing

Undoubtedly, staffing is a vital function of management more importantly because:

- It facilitates discovery of competent and qualified people to take up various positions the organisation;
- It enhances productivity by placing right people on the right jobs;
- It helps in estimating the staffing requirements of the organisation in future (through manpower planning);
- It prepares the personnel to occupy the top positions within the organisation;
- It helps development of people through the programmes of training and development;
- It helps the organisation to make the best use of existing workforce;
- It ensures adequate and equitable remuneration of workforce.
- It results in high employee morale and job satisfaction by placing the right people on right jobs;
- It makes the top management aware of the requirements of manpower arising from transfer, promotion, turnover, retirement, death etc. of the present employees.

When the staffing function is performed effectively, the above payoffs would accrue to the organisation.

### 8.6.2. Staffing Process

Staffing process is concerned with providing the organisation with the right number of people at the right place, and at the right time so that the organisation would be able to achieve its goals effectively. Just one wrong decision in the process would prove to be costly to the entire enterprise. A wrong placement in the organisation would adversely affect the productivity of the organisation as a whole. Staffing process involves the following steps.

- (i) **Manpower Planning** – Also known as human resource planning, the manpower planning is "a process of determining and assuring that the organisation will have an adequate number of qualified persons, available at the proper times, performing jobs which meet the needs of the entire enterprise and which provide satisfaction for the individuals involved" (Dale S. Beach) .

Manpower planning consists of the following steps :-

- (a) Determination of the organisational objectives;
- (b) Determination of the skills and expertise required to achieve the organisational objectives;
- (c) Estimating the additional human resource requirements in the light of the organisation's current human resources;
- (d) Development of action plans to meet the anticipated human resource needs.



The main points in human resource planning are: current assessment, future assessment of the human resource needs and the development of future programme as well as career development.

- (ii) **Recruitment** – Recruitment involves seeking and attracting a pool of people from which qualified candidates for job vacancies can be selected. Development and maintenance of adequate manpower resources is the main task of recruitment. According to Dale Yoder, recruitment is “the process of discovering the sources of manpower to meet the requirements of staffing schedule and to employ effective measures for attracting the manpower in adequate numbers to facilitate effective selection of an efficient working force”.
- (iii) **Selection** – It is probably the most critical step in the staffing process as it involves choosing candidates who best meet the qualifications and requirements of the job.
- (iv) **Training** – It is the process of increasing the knowledge and skills of an employee for doing a particular job. the objective of training is to achieve a change in the behaviour of those trained.
- (v) **Placement & Induction** – Placement refers to assigning rank and responsibility to an individual, identifying him with a particular job. If the person adjusts to the job and continues to perform per expectations, it means that the candidate is properly placed. However, if the candidate is seen to have problems in adjusting himself to the job, the supervisor must find out whether the person is properly placed as per the latter’s aptitude and potential.

Induction refers to the introduction of a person to the job and the organisation. The purpose is to make the employee feel at home and develop a sense of pride in the organisation and commitment to the job.

The induction process is also envisaged to indoctrinate, orient, acclimatise, acculture the person to the job and the organisation.

Proper induction would enable the employee to get off to a good start and to develop his overall effectiveness on the job and enhance his potential.

### 8.6.3. Sources of Recruitment

The important sources of recruitment are internal and external sources.

**(A) Internal Sources**– The internal sources include the employees on the payroll. People from within are generally upgraded whenever any vacancy arises. By reviewing the personnel records and skills the manager would be in a position to know the suitable candidates for the vacant position. Transfers, promotions of present employees are the basic internal sources of recruitment. Further, inside moonlighting and employee’s friends and relatives are also given a chance to serve the organisation, if any new vacancy arises. The internal sources of recruitment have the following merits:

- Recruitment from within encourages the employees to work efficiently to reach top positions;
- The organisations would be able to choose the right people for the vacant positions on the basis of the track records of the employees;
- Employees need little training as they know the major operations and functions of the organisation;
- The expenditure is relatively less when compared to external sources of recruitment;
- Internal recruitment improves the morale of the employees as they are sure that they would be preferred over the outsiders for higher positions.

**The internal sources of recruitment have the following limitations :**

- In the long run it is not a healthy sign for the organisation to rely on the existing employees. It discourages new blood from entering into the organisation. The organisation may be deprived of young talent that flows into the industry.

- The internal sources of recruitment promote psychophancy and favouritism. Workers may be recruited not because of their suitability for the jobs but because they may maintain good relations with the top management.
- The skills of existing employees may become obsolete and the organisation may have to resort the external recruitment inevitably.
- One universally accepted disadvantage of internal recruitment is the Peter Principle which states that people are promoted until they finally reach to the level of incompetence.

**(B) External Sources** – Normally recruitment from external sources would be done when either the existing employees are inadequate to occupy the vacant positions or they are not properly qualified and skilled enough to occupy the positions, or they are unfit (either by virtue of their age or specialisation). The important external sources of recruitment include —

- **Employment exchanges** – Employment exchanges run by government are regarded as a potential source of recruitment especially for unskilled, semiskilled and skilled operative jobs.
- **Advertisement** – Advertisement in newspapers or trade and professional journals is another popular source of recruitment. Specially for the senior positions to lower-middle level positions.
- **Educational Institutions** – Recruitment through educational institutions is also known as campus recruitment.
- **Employee walk-ins** – It is commonly found that some people send unsolicited applications to the organisations enjoying goodwill and reputation. Organisation, if they find necessary, can consider these applicants for the suitable positions.
- **Employee referrals** – Some organisations prefer using employees as the source of recruitment. They maintain informal system of recruitment where word-of-mouth would do when compared to formal system of organisation.
- **Miscellaneous** – Among other methods of recruitment, 'gate hiring' is the most popular one in which people are hired at the factory gate itself.

**The external sources of recruitment offer the following advantages:**

- (i) Organisations can choose from wider spectrum under the external source of recruitment. The number of applicants would be very large and the organisation can choose the better candidates carefully after weighing the pros and cons of all the candidates.
- (ii) Organisations can avoid bias to some personnel by following the external sources of recruitment objectively. Here, there is no scope for subjective judgment and selection of the candidates.

**Some of the limitations of the external sources of recruitment include:**

- (i) Personnel chosen from external sources may cause dissatisfaction among the existing employees. It would be demoralizing to the existing employees when they come to know that organisations are considering the outsiders for filling up the top positions.
- (ii) External sources of recruitment is quite costly to the enterprise. Firms have to spend heavily on advertisements and sometimes the response from the potential candidates may be dismal and disappointing. It is customary to pay (to and fro) the expenses of the candidates for attending interviews and a substantial part of it is a mere waste of resources.

#### **8.6.4. Selection**

Perhaps the most crucial stage in staffing process is the selection. Selection is very crucial because any errors in selection may prove to be costly to the organisation itself. This explains the reason why selection has occupied a place of prominence in the management literature.



Selection is a process of rejection and hence it is called a negative process. It divides the people into two categories viz. those who would be selected and those who would be rejected. A manager should exercise special skill in selecting the candidates.

The process of selecting the candidates for employment in organisations is a long-process. It consists of the following steps:

- **Application blank** – Every candidate is required to fill up a blank application which provides a written record of the candidate's qualifications, etc. It is a traditional widely accepted device for eliciting information from the prospective applicants to enable the management to make proper selection of the candidates. An application blank is a personal history questionnaire.
- **Preliminary interview** – To eliminate the unsuitable candidates in the very beginning preliminary interviews of brief duration are conducted. A majority of the applicants would be rejected in this stage. If the applicant is eliminated at this very stage, organisation would be saving from the expenses of processing the candidate further. Even the unsuitable candidate would save himself from the trouble of passing through the long selection procedure.
- **Employment tests** – To match the individual's mental and physical characteristics with the job appropriately, employment tests are essential. Here, intelligent tests, aptitude tests, proficiency tests, personality tests, and tests of interests and hobbies etc. are included. These days psychological tests occupies the place of prominence in these employment tests.
- **Final Interviews** – An evaluation interview is perhaps the most crucial step in the selection process. A careful assessment of the candidate is made in the personal interview with the candidate. The purpose of conducting the employment interviews is to assess the candidate's strengths and weaknesses for the position. Apart from finding out the suitability of the candidate, the face-to-face interview also provides an opportunity to the interviewer to know more about the candidate. At the same time, the candidate would also be in a position to know about the terms and conditions of his employment, organisational policies and the employer-employee relations etc.
- **Background Investigation** – Normally, in every curriculum, vitae (bio-data) the candidate is asked to mention the name of references. A referee is potentially an important source of information about the stability, integrity, and personality of the candidate. Before a candidate is finally selected, organisations prefer to contact the references or dig up into the candidate's past history, past employment, financial condition, police record, personal reputation etc. which will be helpful in verifying the candidature of the person.
- **Medical examination** – The pre-employment physical examination in terms of medical test of a candidate is an important step in the selection process. This examination isolates the medically unfit people from the rest.
- **Final selection and placement** – If a candidate has cleared all minor hurdles in the selection procedure he is formally appointed and letter appointment is given to that effect. In the letter of appointment will be stated the terms and conditions of employment (such as pay scale, period of probation, starting salary, allowance and other perquisites, etc.)

#### 8.6.5. Training and development

One of the important managerial activities in modern organisation is the training and development programmes. It is common that organisation first recruits and select the employees and provide them some of training to increase their versatility, knowledge, adaptability skills so that the jobs they perform becomes appreciable. Training is the systematic acquisition of knowledge, skills, rules, and attitudes that have specific or narrow applicability to a limited set of situations in a specific job environment Training constitutes significant part of organisation's investment in human resources.

Edwin Flippo contends that 'training is an act of increasing the knowledge and skill of an employee for doing a particular job':

Every training programme is aimed at fulfilling the following purposes.

- to increase the productivity of workforce;
- to improve the quality lot products being manufactured;
- to help an organisation to fulfil its future personnel needs;
- to improve the health of workers;
- to promote the safety of workers on the job;
- to prevent the obsolescence of employees at work;
- to maintain personal growth of employees in the enterprise;
- to improve overall organisational climate.

According to O. Jeff Harris "Training of any kind should have as its objective the redirection or improvement of behaviour so that the performance of the trainee becomes more useful and production for himself and for the organisation of which he is a part. Training normally concentrates on the improvement of either operative skills interpersonal skills, and decision making skills, or a combination of all these skills". Operative skills are required for the successful completion of a given task. Interpersonal skills are related to the maintenance of successful relationship between peers and subordinates. Finally, decision-making skills are related to the problem identification and prescribing an appropriate solution.

#### **8.6.6. Methods of Training**

There are several methods of training. One important point to note here is that these methods of training are not competitive, rather they are complementary. Some of the most commonly used methods of training are —

- On-the-job training
- Off-the-job training

**(A) On-the-job Training** – Actually, training begins the first day when an employee starts his job. Every employee learns a lot on the job. On -the -job training is normally given by the superior or supervisor. One notable feature is that there is no artificial location. Everything is a reality. The methods employed to make the on-the-job training are as under:

- coaching
- apprenticeship training
- job rotation
- vestibule training
- self-improvement programmes

**Merits of on-the-job training** – Some of the payoffs of on-the-job training are listed as under :-

- One of the biggest advantages of on-the-job training is that trainee learns on actual working environment rather than on artificial environment.
- The trainee observes the rules, regulations, and systems being followed in day-to-day organisational life.
- Additional personnel are not required for training the employees when on-the-job method of training is used. Therefore, there is an advantage of economy by using this method.

**Demerits of on-the-job training** – On-the-job training suffers from the following demerits :-

- The trainee may learn in a haphazard manner. Since there is no direction under which the trainee learns while performing job, there would be disorganized learning on the part of the trainee.



- Sometimes, inexperienced handling of machines and tools by the trainees may result in colossal losses to the organisation. For example, if an employee is asked to work on an 'Apple' computer, just by giving a few directions to operate the computer, it is quite likely that the machine would go out of order within no time. This would be costly to the enterprise as such.
- The productivity of employees who is undergoing training on-the-job would be dismal and disappointing. Further it affects the flow of work when the production undergoes different processes.
- Sometimes it becomes very difficult for the trainee to work as well as learn. In spite of these limitations, on-the-job training is considered suitable to supervisors, operatives, and lower-level executives.

**(B) Off-the-job training** – As the name itself indicates, off-the-job training refers to training conducted away from the actual work setting. Some of the popular methods of off-the-job training are :

- Lectures and classroom instruction
- The conference method
- Group discussions
- Role playing
- Case studies
- T-group training (or sensitivity training)

#### **Merits of Off-the-Job Training**

1. This type of training gets employees away from their work environment to a place where their frustrations and bustle of work are eliminated. This more relaxed environment can help employees to absorb more information as they feel less under pressure to perform.
2. Can be a source to supply the latest information, current trends, skills and techniques for example current employment legislation or other company law and regulations, current computer software or computerised technologies or improved/innovative administrative procedures. These new skills can be brought back and utilised within the company.
3. Experts in their field would cover these courses, and this would mean that training for staff members - would be taught to a reasonable standard.
4. As the courses are held externally, our company would not have added costs incurred as a result of extra equipment or additional space.
5. Sending an employee on a course could help to make an employee feel more valued as they would feel as if they are receiving quality training.
6. As many courses or seminars invite employees from other companies to attend, this would allow employees to network and perhaps drum-up business.

#### **Demerits of Off-the-Job Training**

1. Depending on the course, the overall cost could prove quite expensive for example; many courses may require an overnight stay at a hotel if the course is outside the area or the course itself may prove to be expensive due to the level of expertise or equipment need to deliver the course.
2. As there is no real way to know the abilities both as a trainer and their subject knowledge of the people delivering the external training courses, there is no guarantee that sufficient skills of knowledge will be transfers or valuable.
3. The different learning speeds of individuals who are usually forced to progress *at* a compromise rate.

4. Not all the learners will be starting at the same knowledge or skill level and there is a risk that those starting at the lowest levels, if account is not taken of this, will be lost from the start.

#### **8.6.7. Placement, Orientation and Induction**

After a candidate is selected for a particular job in an organisation what needs to be done in staffing process is to induct him in his new job. Placement and induction represents the last stage in the staffing process. Orientation involves the introduction of new employees to the enterprise, its functional tasks and people. Large firms usually conduct a formal orientation programme which are conducted usually by the HR Department. Orientation acts as a function of organizational socialization serving three main purposes : (i) acquisition of work skills and abilities, (ii) adoption of appropriate role behavior (iii) adjustment to the norms and values of the work group. Placement, on the other hand may be defined as 'determination of the job to which an accepted candidate is to be assigned, and his assignment to that job. A proper placement is instrumental in reducing employee turnover, absenteeism and boosts employee morale. Here, the selected candidate is given a copy of the policies, procedures and rules and regulations of the enterprise in question. The candidate will be given a complete and unambiguous description of the nature of job assigned to him, to whom he is accountable, who are accountable to him etc. Thus, the employee will come to know the exact authority-responsibility-accountability relationships.

### **8.7 DIRECTING**

Another important function of management is directing. It is that managerial function which imitates organized action. Directing involves issuing orders to subordinates and supervise how these orders are carried out by them, and if necessary, motivate the employees for higher performance and hence to the accomplishment of the organisational objectives effectively.

According to Joseph Massie "directing concerns the total manner in which a manager influences the actions of subordinates. It is the final action of a manager in getting orders to act after all preparations have been completed."

In the words of Theo Haimann, directing consists of "the processes and techniques utilized in issuing instructions and making certain that operations are carried on as originally as planned". According to Keith Davis, direction is a complex function that includes all those activities which are designed to encourage subordinates to work effectively and efficiently in both the short and long run. Directing is just telling people what to do and seeing that they do it to the best of their ability. Direction is also known as activating (as contended by Charles E.Redfield from Chicago University) and deals with the steps a manager takes to get subordinates and others to carry out plans.

#### **8.7.1. Importance of 'Directing' as a Function of Management**

Direction is an indispensable managerial function because it deals with human resources. Most importantly it deals with human relations and suggest ways of improving the performance by the employees in an enterprise., Direction is aimed at maintaining harmony among employees and groups in an organisation. It is the process around which all other management functions revolve. Direction is a kin to 'nucleus' of an organisation. The individual goals and organisational objectives are integrated only through directing function. This integration is achieved through the elements of direction viz communication, motivation, leadership, and supervision.

*Principles of direction:* Frederick Winslow Taylor contends that effective direction depends on certain principles. Mary Parker Follett pointed out that the following fundamentals govern the principles of direction viz.,

- a good amount of training and education within the organisation to shape the attitude of the employees; minimum possible distance between the origin and destination of the order;

- reconciliation of conflicting attitude for reluctant compliance with directions;  
and
- depersonalised orders to obey the boss of the situation.

The principles of direction can be summed up as under :—

- (i) Harmony of objectives**– One very important principle of direction is to harmonise the objectives or goals of individuals with that of the enterprise. A manager should foster the sense of belonging to the organisation among individuals and groups and see that the members identify themselves with the organisation. Goal incongruence may lead to ineffectiveness and inefficiency.
- (ii) Unity of command**– Another sound principle of direction is that the subordinates should receive orders from one and only one superior or boss. Presence of dual subordination inevitably brings chaos and disorder. For achieving efficiency, unity of direction should be strictly followed.
- (iii) Direct Supervision**– When manager is directly involved in supervising the employees i.e. when he comes into personal contact with the employees, especially in the work-related areas, a sense of belonging gets developed in the minds of employees and this paves way for escalated morale and making sub-ordinate happy. Direct supervision also ensures quick feedback of necessary information, the manager would get first hand information from the employees through face-to-face communication.
- (iv) Appropriate leadership style**– Leadership is a process of influencing the employees in the work environment. A manager should exhibit appropriate leadership style to direct the employees to achieve the organisational goals effectively. Leadership style is a function, of characteristics of leader, characteristics of subordinates, and the situation.
- (v) Use of motivational techniques**– One of the principles of effective direction states that the manager should employ some motivational techniques such as pay, status, job enrichment, etc. so that the productivity and the quality of the commodity (or service) produced by the employee increases. Motivation leads to higher job satisfaction.
- (vi) Follow up**– The last, but not least important, principle of direction is 'follow-up' because without such a follow up, it is quite likely that the subordinates just receive orders and do not follow them at all.

## 8.8 SUPERVISION

Supervision means overseeing the subordinates at work. All managers, at whatever level, perform a supervisory function. However, at the top level of an organisation the proportion of direct supervision in each position becomes smaller and smaller than at the lower levels. This explains the reason why it is described that supervision is concerned with the first-line foremen level only. While supervising, a manager draws his attention to the day-to-day work of employees and the inter relationship among them and the groups in the organisation. Of all, the first-line supervisors play a crucial role in controlling the blue-collar workforce in the enterprise. A supervisor is an effective link between workers and management. A supervisor is directly responsible for getting the work done by the blue-collar workers and hence he becomes careful in discharging his function of issuing orders, instructions, laying down methods and procedures and guiding the people under him sincerely. Thus supervision primarily consists of instructing, guiding and inspiring human beings towards better performance which in a sense amounts to effective directing.

### 8.8.1. Role of Supervisor

If the supervisory force does not function effectively, organisation cannot survive for long. A supervisor, according to Fred Luthans and Mortinko, performs three kinds of roles viz scientific management roles, human relations roles, and functional roles.

- (a) **Scientific Management Roles**– These roles include the role of a technician, analyst and controller. First of all, in order to supervise, he must be fully equipped with enough technical knowledge of the machines being operated by the workers. Secondly, the supervisor should be an analyst or researcher. Thirdly, the supervisor should be a controller.
- (b) **Human relations roles**– According to human relations school of management, the supervisor should be sensitive to the needs and desires of employees for effective integration of individual goals with the organisational objectives.
- (c) **Functional roles**– The functional roles of a supervisor include planning, organising, leading and controlling. He carries out the important managerial functions at the operational level.

### 8.8.2. Functions of Supervisor

Supervisors are line executives with command authority. Specifically, every manager, in the capacity of supervisor, are entrusted with the following functions:

- **Communicating the orders**– The first duty of every supervisor is to communicate the orders to subordinates. In the absence of specific instructions or orders, else confusion results, and work gets hampered. The orders should be simple, complete and in a language easily understandable to the subordinates.
- **Introduction of new methods of performing work**– Every supervisor should examine the existing methods of work and try his level best to improve the methods of performing work in order to increase the productivity per worker. He should keep himself abreast of the latest techniques of production and make the workers aware of such techniques.
- **Make the work interesting**– A supervisor should make the work interesting, instead of dull and boring. A subordinate would feel like working only when he is comfortable at work. This is possible only when the worker is placed on the job in which he is interested, qualified, and best suited to work. A supervisor should see whether employees are deriving job satisfaction.
- **Selecting the workers**– In small and medium sized organisations, supervisor plays a crucial role in selecting the workers. A supervisor should outline the job specification, and job description so that, right people are selected for right places and at right time.
- **Induction of new employees**– By induction, a supervisor will be able to brief the new employee regarding his immediate and ultimate supervisors (or superiors), products being manufactured by the enterprise, overall responsibilities of the section/department to which the new employee will be sent for placement, working hours including the lunch and tea breaks, his duties and responsibilities, remuneration package including the particulars of bonus and hours of work, particulars about the provident fund scheme or pension scheme etc., physical working environment and public facilities, leave rules and details etc.
- **Training the employees**– Any training programme will be incomplete if the supervisor is not included as a trainee, A supervisor should make the training programme a success by making it interesting to the employees. He should inspect workers' performance during the training period and suggest ways to improve it.
- **Handling grievances**– Grievance handling and redressal itself is a complicated procedure no doubt, but the supervisor should attend to them at the grass root level, if possible. He should be able to distinguish between the genuine grievances and silly complaints. A supervisor should handle the grievances with care and do everything possible to remove the causes of grievances.
- **Enforcing discipline**– One of the indispensable duties of a supervisor is to maintain discipline among the employees in the organisation. The supervisor should analyse the cause of indiscipline and try to remove them, if possible. If necessary, he can bring the causes of indiscipline to top management for appropriate action.



- **Effective communication**– A supervisor should have good communicative skills. A supervisor should see that the channels of communication are effective. The flow of communication should be smooth, quick and uninterrupted. A supervisor should see that the message transmitted is received in terms of the meaning i.e. without any distortion.
- **Enforcing safety**– A supervisor is generally concerned with blue-collar workers and hence should show great concern to the employees' safety. He should make the workers safety-conscious. This is possible by making them aware of the problems of non following safety precautions, providing them safety training. Organisations should educate the workers to follow safety rules.

## 8.9 COMMUNICATION

The term communication is derived from the Latin word 'communis' which means "common". The word communication stands for the sharing of ideas in common. Communication of ideas establishes a common ground for understanding the people in organisations. Communication is vital to all managerial actions. Communication is the artery of an organisation through which the decisions and instructions of the management flow down to the lowest levels. It also conducts upward the pulse of workforce in organisations. Communication is a process of passing information and understanding from one person to another.

According to Dalton McFarland "communication is the process of meaningful interaction among human beings. More specifically, it is the process by which meanings are perceived and understandings are reached among human beings".

Herbert A. Simon contends that communication is the "process whereby decisional premises are transmitted from one member of an organisation to another".

In the words of Newman and Summer, "Communication is an exchange of facts, ideas, opinions or emotions by two or more persons.

Louis A. Allen, a well-known management expert, defines communication as the "sum of all the things one person does when he wants to create understanding in the mind of another. It is a bridge of meaning. It involves a systematic and continuous process of telling, listening and understanding". Simply, communication is the act of making one's ideas and opinions known to others.

### 8.9.1. Importance of Communication

Communication is very important because it is a process by which the managerial functions of planning, organising, directing and controlling are accomplished. Without formal system of communication it is not possible for an organisation to exist. Secondly, communication is an activity to which the manager devotes an overwhelming proportion of his precious time. The importance of communication in organisations is summed up by Keith Davis in the following words: "Just as a man gets arteriosclerosis, a hardening of the arteries which impairs his efficiency, so an organisation may get infoscclerosis, a hardening of the communication arteries, which produces similar impaired efficiency". Communication is important because;

- In organisations, communication ties people and structure together.
- Communication is a bridge of meaning between two or more people.
- Communication involves understanding and acceptance of ideas to act in it.
- Effective communication is a substance of good management; communication is not a substitute for good management.

### 8.9.2. The Communication Process

The basic elements in the communication process are :

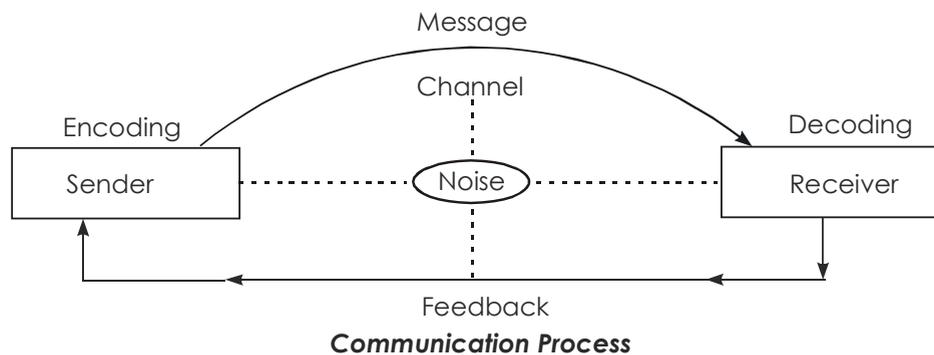


Fig. 8.4

1. **The Communicator or Sender** – The process of communication starts with the communicator. In an organisation, communicators can be managers, non-managers, departments, the outside public, customers etc. Without communication, an organisation cannot function. The communicator has a message, or an idea or information to be communicated.
2. **Encoding** – The second important element in the communication process is encoding. Encoding involves the selection of language in which the message is to be given. The medium of expression may be speaking, writing, signalling, gesturing, physical contacting, handshake, hitting etc. Encoding should be done in such a way that the receiver may correctly understand the message communicated to him.
3. **Message** – The message is what a communicator is communicating. Without this, there is no communication. The message sent by the person should be stated in clear and unambiguous terms. Managers have several purposes of communicating viz. to have others understand their ideas, to understand the ideas of others, to gain the acceptance of their ideas, and finally to produce action.
4. **Medium** – The medium is said to be the carrier of message sent by a person to another. The medium may be face-to-face communication, telephone, group meetings, computers, memorandums, policy statements, production schedules, and sales forecasts. Sometimes, nonverbal media such as facial expressions, body language, tone of voice, gesturing etc., are also used. Thus, the transmission of message may be done orally, in writing, or by gesturing.
5. **Decoding** – It involves interpretation of the message by the receiver. Interpretation of message largely depends on the perception, past experience and attitudes of the receiver.
6. **The receiver** – A communicator has to communicate with some other person called, the receiver. While communicating, the person should carefully understand the receiver. The communicator should take into account the receiver, his decoding abilities, his understanding capacity of the message being transmitted. Effective communication is always receiver-oriented; not message-oriented. The communicator should see that the receiver receives the message accurately and properly. If the receiver is unable to receive the message, the fault lies in the communicator, not the receiver. The communicator should send the message in that language which the receiver understands.
7. **Feedback** – Communication process includes feedback also. Feedback is a essential to see that no distortion between the intended message and received message exists.
8. **Noise** – It is a disturbance that tends to obstruct the smooth flow of communication and reduces the clarity of the message. It may be the result of poor network, in attention of the receiver etc.



### 8.9.3. Types of Organisational Communication.

Communication may be of several types. On the basis of relationship between the parties communicating each other, the communication may be formal or informal. On the basis of flow of direction, communication can be downward, upward or horizontal.

#### (a) Formal and Informal Communication

Formal communication is the official message that is communicated by a manager by virtue of his position in the organisation structure.

On the other hand, communication is said to be informal when it grows up spontaneously from personal and group interests.

#### (b) Downward, Upward and Horizontal Communication

When communication flows from top to bottom it is called downward communication, when it flows from bottom to up it is named as 'upward communication'. Lateral, or horizontal communication refers to the flow of communication between various departments or people on the same level in an organisation.

#### (c) Verbal and Written Communication

Two methods of communicating a message may be verbal or written. Popular forms of oral communication include face-to-face talks, formal groups discussions, and grapevine. On the other hand, written communication is a formal method of putting the orders, instructions, reports in writing. It creates a record of evidence.

### 8.9.4. Barriers to Communication

Although a communicator may take great care in sending the message to the receiver properly, there may exist some barriers to communication. A poorly transmitted message often leads to misunderstanding. This would pave way to strained relations and frictions among the employees. This detrimentally affects morale of the employees. Some of the barriers to communication are —

- (i) **Filtering** : The information may be filtered by sender deliberately to mislead the receiver. A manager filter the information by hiding some meaning and disclosing in such a fashion that the information is appealing to the employee. When the sender tries to filter the information, he is said to alter the communication in his favour at the cost of the real message. Filtering the message is a powerful barrier to communication.
- (ii) **Selective perception** : This time the fault lies in the receiver who may indulge in selective perception. The receiver may like to perceive in what he is interested. Perceptual selection may sometimes lead to perceptual distortion. Perpetual distortions and fallacies may become endemic and vitiate the entire system. This affects the organisational effectiveness adversely.
- (iii) **Language** : Communication is said to be poor and distorted if the message is not properly expressed. When information is worded in a manner not understandable to the receiver it is quite likely that the message may be misunderstood. Further, semantic problems may also distort the message.
- (iv) **Semantic Barrier** : The language, words, symbols and expressions used in communication may distract attention from the actual meaning of the message. Moreover, the tendency of people to interpret the same message in different ways may also act as a semantic barrier.
- (v) **Emotions**: Emotions of both the sender and receiver influence the message that is transmitted and received. The receiver is likely to take into account the emotion of the sender and interpret the information accordingly. Extreme emotions and jubilation or depression have probability of hindering the effectiveness of communication.

- (vi) **Information overload** : When managers furnish the heavy information to subordinates, they become unable to distinguish between important and unimportant and this way the entire exercise of communicating would be redundant and wasteful.
- (vii) **Non-verbal cues** : They are very important sources of hindering the message especially when these cues are inconsistent with the message. Normally, the receiver expects some consistency in the non-verbal cues with the message being transmitted.
- (viii) **Time Pressures**: Often in organization the targets have to be achieved within a specified time period, the failure of which has adverse consequences. In a haste to meet deadlines, the formal channels of communication are shortened, or messages are partially given, thus hampering effective communication.

#### 8.9.5. Effective Communication

In order to make communication effective it is absolutely essential for the managers to overcome the barriers. The following are the ways to overcome the barriers:

- Fostering interpersonal trust
- regulate the flow of information
- have feedback, both verbal and non-verbal
- simplifying language
- effective listening
- see the emotions do not cloud and distort the message
- understand the non-verbal cues.

Dalton McFarland prescribes the following ten points to improve the communication skills.

- (1) *Listen attentively*: find areas of common interests: Listen for main ideas;
- (2) *Plan ahead*: be prepared: avoid important situations if possible: and keep the message brief:
- (3) Avoid stereotyping and the assignment of individuals or ideas to right categories.
- (4) Distinguish between the desire to know and the need to know.
- (5) Distinguish between the facts, references and conclusions.
- (6) Avoid attributing motives to other.
- (7) Attend to behavioural cues as well as language or diction.
- (8) Say enough, but leave some things unsaid.
- (9) Don't shun all conflict, but avoid the unnecessary conflict.
- (10) Withhold value judgment about context or delivery, until strategically appropriate.

### 8.10 CONTROLLING

From president to supervisor, controlling is the function that is performed utmost carefully by every manager. Control refers to the task of ensuring, that activities are producing the preset targets or goals. Controlling is aimed at monitoring the outcome of activities, reviewing feedback information about this outcome, and if necessary take corrective action. In the words of Anthony, control is "the process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organisational objectives".

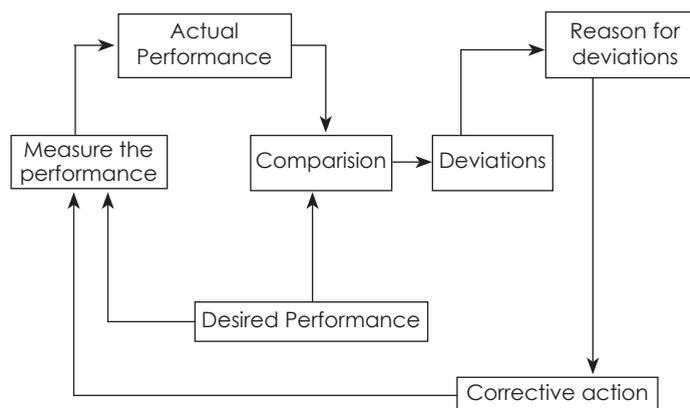
According to Haynes and Massie, control is any process that guides activity toward some predetermined goal. Hicks and Gullet content that “controlling is the process by which management sees if what did happen was what was supposed to h appen. If not, necessary adjustments are made” .

Koonts and O'doneel contends that “Managerial control implies the measurement of accomplishment against the standard, and the correction of deviations to assure attainment of objectives according to palns.”

Control function is closely connected to planning. In fact, control is an effective counterpart to planning. Planning and control are so entwined that it becomes almost impossible to determine where one leaves off and the other begin. Planning without corresponding controls are apt to hollow hopes.

### 8.10.1. The Control Process

A control system follows the following sequence —



**The Basic Control Process**

**Fig. 8.5**

- (i) **Establishment of Standards:** The first step in control process is the establishment of standards or objectives or targets against which the actual performance is measured. Fred Luthans contends that “standards are used to control the objectives, objectives are used to control goals, and goals are used to control purpose”. Before setting standards, managers take necessary steps such as studying the work characteristics, setting the acceptable levels of goal performance etc. Further, a manager should see that standards are not rigid, rather they are rationally flexible.
- (ii) **Measurement of actual performance:** Another crucial step in controlling is the measurement of actual performance of employers. A manager has to measure the work against which appropriate standards are set. Measurement of performance is particularly difficult for less technical tasks.
- (iii) **Comparing the actual performance with standards:** The comparison may reveal some deviations from the standards established. In very rare occasions only actual performance matches perfectly with the standards. While comparing the actual performance with the standards, a manager should see that the deviation does not go beyond a acceptable range.
- (iv) **Taking corrective action:** If the actual result is far from the desired result (whether the deviation is positive or negative) corrective action- is called for. If there is a negative deviation an enquiry should be made as to why actual results were not meeting the standards. If there is positive deviation, it does not mean that the performance is very good. The positive deviation may be due to substandard being fixed. This too calls for corrective action. Standards should be revised. A manager has to assess the causes of deviation and take necessary rectificational measures.

Corrective action includes —

- re-setting the standards
- reallocation of duties to employees
- changing the organisation structure
- providing motivation to employees
- training and selecting the employees.

## 8.10.2. Controlling Responsibilities and Role of Communication in Control

### 8.10.2.1. Controlling Responsibilities

#### What to Control

In any organisation or a work unit, managers have to decide in advance the area or points of activity which need to be controlled —These are to be selected based on their importance in relation to the whole activity and desired results. This leads us to examine two concepts: critical point control and control of exception.

- (a) Critical point control:** In a simple operating system, all aspects of the activity can be watched and controlled in a close manner. But as a system becomes more complex, it may not be possible or necessary or economical to control each and every aspect of the activities. In such cases controls have to be selective. A few key areas or aspects of the activity and their performance have to be identified and control attention has to be focused on them. The underlying assumption is that the selected key areas or aspects are critical to the survival and success of the system in the sense of being limiting or bottleneck factors and that by paying attention to them it is possible to ensure planned performance of the whole operation. The selected key areas for control are variously called key result areas, key success factors, critical points or strategic points. In the area of inventory control, ABC analysis is an example of critical point control.
- (b) Control by exception:** Also known as 'management by exception', the principle is widely practised by managers in organisations. It means that managers at each level should pay attention to only exceptional and significant deviations from planned results. Only exceptional instances of off-line functioning of the system should deserve managerial attention and remedial action. Performance which is largely within the permissible standards in spite of the presence of minor deviations or disorders need not be referred to managerial attention. The idea behind the principle of control by exception is that 'no news is good news'. If there is nothing to report, the presumption is that the system is functioning alright.

#### Kinds of Control

Three kinds of control systems are used by Modern organisations, namely (i) Historical (or) Feedback control (ii) Concurrent control and (iii) Predictive or feed forward control.

- (i) Feedback control:** In all physical and biological systems, some message is transmitted in the form of mechanical transfer of energy, a chemical reaction, or any other means which is known as 'cybernetics'. In social systems also, some information is sent back to exercise control. Any good managerial system controls itself by information feedback which discloses errors in accomplishing goals and initiates corrective action. Feed back is the process of adjusting future action based upon information about past performance. Though feedback is 'after the fact' it is vital to the control process. Sometimes, input variables are immeasurable (e.g., the values an employee brings to the job) or are not detected at the feed forward control point. Feed back is necessary in any continuous activity as it enables to take corrective action which is essential for the accomplishment of goals of the system.

The concept of feedback is important to the development of an effective control in any organisation. This is also known as 'post control' which refers to gather information about completed activity, to evaluate information and to take corrective actions to improve similar activity in future. In other words, it permits the manager to use information on past performance to bring future performance in line with planned objectives and standards. Post control helps in testing validity and appropriateness of standards. To make post-control more meaningful and effective, analysis of post-performance is required to be made as quickly as possible and control reports should have been submitted to the manager without loss of time.

- (ii) **Concurrent Control:** It is known as 'real time' or 'steering' control. It is concerned with the adjustment of performance before any major damage is done. For instance, the navigator of a ship adjusts its movements continuously or the driver of a car adjusts its steering continuously depending upon the direction of destination, obstacles and other factors. In a factory, control chart is an example of concurrent control. Concurrent control occurs while an activity is still taking place.
- (iii) **Feed forward control:** Feed forward control involves evaluation of inputs. Feed forward follows the simple principle that an organisation is not stronger than its weakest link. For instance, if a machine is not functioning properly, the operator will look for certain critical components to see whether they are working well or not. The same logic applies to feed forward control, it is essential to determine and monitor the critical inputs into any operating system. Preventive maintenance programme is an important example of feed forward control. It is employed to prevent a breakdown in machinery. Another example of feed forward control is formulation of policies to prevent critical problem from occurring. For instance, a policy on absenteeism may be communicated to new employees to help and prevent potential problems created by absenteeism.

Feed forward control may be used with great advantage if the following guidelines are followed:

- (a) Thorough planning and analysis must be done.
- (b) Careful discrimination must be applied in selecting input variables.
- (c) Data on input variables must be regularly collected and assessed.
- (d) The feed forward control system must be kept dynamic.
- (e) Corrective action must be taken as suggested by feed forward control.

#### 8.10.2.2 Role of Communication in Control

We have seen earlier how communication is ubiquitous in all functions of management. The control process is lubricated by communication of information at several points. Information on plans, programmes and budgets is to be transmitted to managers responsible for determination of standards of performance, which in turn need to be communicated to those functionaries who have to meet them through various operations. As soon as actual performance or results/output is measured, information in the form of reports have to be prepared and communicated to the concerned managers for purposes of evaluation. If actual performance matches standards, the fact is fed back to the operating system as an indication of satisfactory results. If actual performance is adversely out of line with standards, then also information on such deviations and instructions on needed corrective action are fed back to the operating system to set right the inputs and/or processes in the future for example, adjustment of workload or allocation of resources.

It is clear from the above that communication is an important element of the control process and involves 'feed-back' of information. In the control cycle also depicted earlier in the diagram, several feed-back loops have been shown linking the various stages of the control process. So much so, the concept of feedback gained much importance in the literature on control process. Feedback of information is nothing but communication of results, their positive or negative aspects and the need for continuance of operations along pre-determined lines or correction of deviations to the operating units. Feed- back of information is necessary for purposes of enabling the operating units to know

the results of their operations *i.e.*, to know how they have actually performed, whether there are any serious deficiencies and what action has to be taken to set them right.

Feed-back is generally thought of in terms of a loop or circuit. There are two types of feedback loops—closed loops and open loops. In a closed feed-back loop, directions on corrective action are definitive, are meant to maintain the operating system's activity on predetermined lines and are incorporated in the control system itself. Such an arrangement is aimed at enabling the operating system to function in a deterministic manner with no outside intervention for correction of deviations. In other words, mechanisms are built into the system for automatic self-regulation and self-adjustment of the system's functioning and performance in a 'steady state' manner.

In an open feed-back loop, enough scope is left for outside intervention to correct or adjust or adapt the system's functioning and outputs. There is no automatic internal arrangement as such for self-correction of the system. The need for flexibility or openness is recognised. To this extent, the corrective mechanism is not deterministic but discretionary. There is scope for application of one's mind as to the need for correction of deviations or for adapting the system to match the changes in the situation.

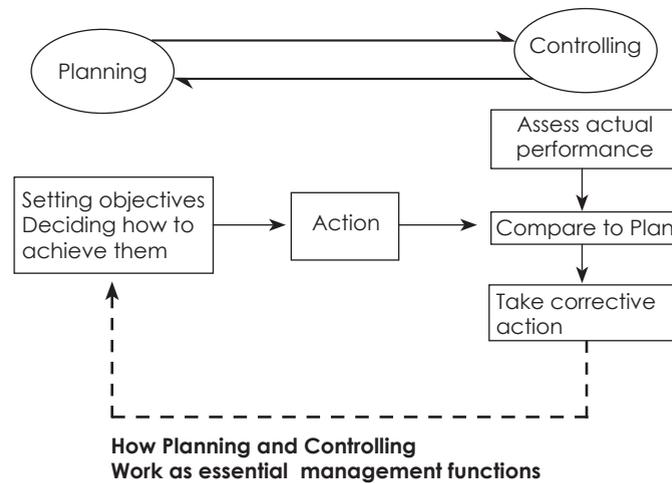
Both closed and open feedback loops are useful in their own way. If a system is desired to function with steady state efficiency in accordance with pre-determined output requirements, a closed feedback loop could be incorporated for its control. In this connection the concept of cybernetic control is relevant. It refers to a pre-determined self direction and self-regulation of the internal functioning of a system in a closed setting through automatic negative feedback of corrective information and instructions. The term 'cybernetics' was coined by Norbert Weiner and is defined as the science of communication and control in terms of which the normal self-regulative and adaptive functioning of living organisms could be explained. Weiner and others who did considerable research in the areas acquired important insights on the application of the principles of self-control among biological species, to man-made mechanical and social systems. The thermostat in a refrigerator (a mechanical system) operates on the principles of cybernetic control. The objective is to keep the system's activity and output well-regulated, stable and balanced in a mechanistic manner, with little scope and need for human intervention once the process of control is initiated.

It has to be remembered that cybernetic control is self-regulative control and not self-adaptive control. Engineering process controls, computerised controls, and procedure/rule based operational controls (like inventory control, statistical quality control etc.) are examples which apply principles of cybernetic control. These types of control systems do not have built in mechanisms for adaptive responses to changes in the external environment. They consider the external environment as given and concentrate on ways and means of achieving internal stability, reliability, order and precision in a routine and standardised manner.

As against the above closed feedback loop cybernetic/operational control systems, open feedback loops are useful in designing higher management control systems which are meant to enable organisations and their major subsystems to become flexible and adaptive by coping with environmental complexity and changes. The activities to be controlled are non-routine and relatively ill-structured. Much managerial judgment, discretion and innovation are required to monitor, measure, regulate and adapt the functioning of the system and to keep the system in a state of 'dynamic equilibrium' (to be discussed a little later).

### **8.10.3. Relationship between Planning and Control**

It is often asserted that planning and control are two sides of the same coin, meaning thereby that they cannot be separated. One does not make sense without the other. They are elements of one integral function.



**Fig. 8.6**

The function of planning provides the philosophy and guide posts within which management activity is regulated. Performance standards are established by reference to plans and budgets. Long range plans are reduced to short-range plans for purposes of implementation and control. Implementation of plans is monitored through plans. The purpose of control is to ensure that events conform to plans. Control is meant to keep the plans on the right track and to keep away the forces of disruption and distortion. The lessons of control are fed-back to modify and reform future plans.

**The points of similarity and differences between planning and control are outlined as follows :**

- (a) Planning is an intellectual, thinking exercise which, by itself does not help the organisation to achieve its goals. Control is action and results-oriented. It is an administrative function to some extent and can even be routinised.
- (b) Planning is a bulwark against making impulsive, snap decisions by managers on organisational matters. Control is a bulwark against organisational drift into inaction and malfunctioning. Planning is necessary to contain and gain command over the forces of uncertainty and complexity. Control is necessary to ward off disruptive and perverse forces. Planning enhances the capability of the organisation to tackle the future with a sense of confidence. Control strengthens the organisation's will to preserve its integrity and identity.
- (c) Planning and control are the twin processes which mark out organisations as rational systems of order. They enable the individual organisation to cope with complexity, to strive for achievement of goals, to maintain its internal functioning and to adapt with the changing environment.
- (d) Often, planning is viewed as a forward-looking activity while control is viewed as a backward-looking activity. In other words, planning is future oriented and control past oriented. Since control involves measurement of progress of activities and correction of deviations, it is often viewed as a post-mortem exercise. Such a view holds good with respect to 'post control' activity. However, when controls are of real time or feed forward type, the notion that control is a backward-looking activity does not hold good.

#### **8.10.4. Prerequisites of an Effective Control System**

Any control system should meet certain requirements in order to be effective, which are indicated below :

- (1) There should be a match between the type of function and the system of control at all levels of the organisation.
- (2) The control system should be sensitive enough to point out deviations from plans immediately so that corrective action can be initiated with little loss of time and before any damage is caused.

- (3) The control system should be flexible and forward looking just like the planning system, to enable the organisation and its sub-systems to adapt and adjust their goals and the means of reaching them in turn with the change in the environment *i.e.*, to maintain a sort of dynamic equilibrium.
- (4) The control system should focus on strategic and key activity areas or points which are critical to overall performance.
- (5) The control system should enable managers to utilise their time and talent most effectively by concentrating on major or exceptional deviations from plans.
- (6) The control system should be formal and objective as far as possible, in fairness to those whose performance is monitored, regulated and evaluated. To some extent, quantification of performance standards meets this requirement.
- (7) The control system should be consistent with the organisational structure. It should be built into the horizontal activity relationships and vertical authority relationships. In a sense, the organisational structure is a control system, designed to achieve certain pre-determined goals effectively.
- (8) Controls are nothing more than means to certain ends. They are not ends in themselves. They should constantly focus on goals to be achieved, on values to be preserved and on interests to be promoted.
- (9) The control system should be economical to operate; economy need not however be exercised at the cost of effectiveness. Sometimes, a simple inexpensive control system may match with expensive, highly sophisticated one in terms of effectiveness.
- (10) The control system should give due allowance to factors or variables which cannot be controlled but which affect the performance of people.
- (11) The control system should be designed to measure and evaluate the diverse dimensions of performance of individuals and activity areas, giving appropriate weightage to all the relevant variables having a bearing on performance: qualitative variables or factors deserve to be taken into consideration, while evaluating performance.
- (12) The means adopted to achieve goals should also be kept under watch by the control system, because both means and ends are important.
- (13) Finally, the control system should be understandable to those whose performance is sought to be regulated. The requirements of control should be communicated in a simple and straightforward manner to those who are to abide by the system.

#### 8.10.5. Principles of Control

The following principles of control summaries the substantive parts of the above discussion on the controlling function.

- **Principles of assurance of objective:** The task of control is to ensure that plans succeed by detecting deviations from plans and furnishing a basis for taking action to correct potential or actual deviations.
- **Principle of future-directed controls:** The more a control system is based on feedforward rather than simple feedback of information, the more managers have the opportunity to perceive undesirable deviations from plans before they occur and to take action in time to prevent them. Control, like planning, should ideally be forward-looking, because of time lags in the system of information feedback. Hence control should be directed towards the future by devising proper information, forecasting, early warning and rapid response mechanisms.
- **Principle of control responsibility:** The primary responsibility for the exercise of control rests in the manager charged with performance of the particular plans involved. There is unity of planning and control in each managerial position.
- **Principle of efficiency of controls:** Control techniques and approaches are efficient if they detect and illuminate the nature and causes of deviations from plans with a minimum of costs or other



unsought consequences. The results of control should be worth their costs—both in monetary and human terms. The adverse human consequences of control have especially to be guarded against.

- **Principle of direct control:** Higher the quality of every manager in a managerial system, they would ensure a high quality of managerial decision making and action behaviour.
- **Principle of reflection of plans:** The more the plans are clear, complete and integrated, and the more the controls are designed to reflect such plans, the more effectively controls will serve the needs of managers. Clear, complete and integrated plans facilitate better control.
- **Principle of organisational suitability:** The more that an organisational structure is clear, complete and integrated, and the more that controls are designed to reflect the place in the organisation structure where responsibility for action lies, the more they will facilitate correction of deviations from plans. Responsibility for execution of plans and for correction of deviations must be pinpointed clearly in the organisational structure.
- **Principle of individuality of controls:** The more that control techniques and information are understandable to individual managers who must utilise them for results, the more they will be actually used and the more they will result in effective control. Control techniques should be tailored to the personality and orientations of managers; atleast they should be intelligible to them and within their power of understanding.
- **Principle of standards:** Effective controls require objective, accurate and suitable standards. Measurement of performance by reference to standards should be verifiable, specific and simple. Standards should earn the respect of people who have to abide by them.
- **Principle of critical point control:** Effective control requires attention to those factors critical to appraising performance against an individual plan. Managers should concentrate on salient features of performance in selective areas, picked up as of strategic importance.
- **Principle of exception:** The more managers concentrate control efforts on exceptions, the more efficient will be the results of their control. This principle suggests that managers should concentrate on significant deviations, both positive and negative, from plans.
- **Principle of flexibility of controls:** If controls are to remain effective, despite failure or unforeseen changes of plans, flexibility is required in their design. Since plans have to be flexible to order to be effective, control has also to be flexible.
- **Principle of action:** Control is justified only if indicated or experienced deviations from plans are corrected through appropriate planning, organising, staffing and leading. The principle affirms the essential unity of management.

### 8.10.6 Techniques of Control

Managers use different methods and systems to exercise control of different levels. Now, we will touch upon some of the tools and mechanisms devised by managers and others, over the years to control specific aspects of activity and performance of an enterprise or work units.

“Budgets are formal quantitative statements of the resources allocated for the execution of activities over a given period of time, and include information about projected income, expenditure and profits.”

1. **Budgetary Control:** Budgets are useful as tools of control to the extent that they, permit, monitoring, measurement, evaluation, regulation and correction of enterprise activity along desired pre-determined directions.

The essential elements of budgetary control are outlined as follows:

- (i) Translation of enterprise goals into sub goals of the various operating units which are further operationalised as standards of performance, and targets of achievement (sales, market share, production, profit etc.), over a short period of time say, six months or one year.
- (ii) Determination of the volume of resources required to achieve the operational goals - funds, material, labour, equipment, time and so forth.

- (iii) Accord of general sanction for the acquisition and allocation of budgetary resources to various activity units over the budgetary period.
- (iv) Devolution of necessary authority and fixing up of accountability for the planned performance standards and targets, among the various executive positions.
- (v) Establishment of appropriate system for monitoring, measuring and evaluating the pace and quality of operations on a continuous basis. This includes initiation of required measures to ensure that actual performance is in conformity with budgeted performance. Deviations and variances are analysed and remedial measures are taken to set them right.

**2. Financial Statements :** The annual financial statements of enterprises - Trading and Profit and Loss Account and Balance Sheet are powerful tools of control. They epitomise the financial dimension of enterprise operations at periodic intervals of time. The profit and Loss during a specified period while the Balance Sheet is a position statement of the financial status of the enterprise at the end of the specified period- Managers could analyse the financial statements of the previous period - historical statements to know the dynamics of revenue generation and incidence of expenditure as also the trends of changes in the liabilities, assets and net worth of the enterprise. Projected financial statements for the next year may also be prepared on the basis of forecasts and plans of the enterprise and these could also be used to monitor and regulate financial events and transactions which take place in the enterprise.

**3. Break-even analysis:** Also called Cost-Volume Profit analysis, break-even Analysis is a tool of control to size up the behaviour of costs, revenues and profit various levels of activity. It enables management to understand the amount of profit that can be expected at various volumes of operations, the appropriate volume of operations needed to obtain a target level of profit, and the impact of changes in product prices and costs on the volume of operations and profitability.

Simple break-even graphs can be prepared on a rough basis by using the available or projected data of fixed and variable costs and sales volumes of the enterprise to arrive at the break even point - the point at which the total revenue is equal to total cost. It is a no profit no loss point. More complex break even analysis can be undertaken with the help of computers to project how small changes in unit prices, target profits and levels of activity influence one another.

Break-even analysis is adopted as a tool of profit planning. It is thus a technique of both planning and control.

**4. Management information System (MIS) :** MIS can help to managers in carrying out the planning, controlling and operational functions by gathering storing and converting data into useful information.

MIS incorporates, historical, current and projected information—quantitative or non- quantitative. It provides information in summary or detailed form as needed by managers. It provides information for all types of decision issues-strategic, administrative and operational. It enables managers to improve the quality and timeliness of their decisions in particular and to systematise even their day-to-day functioning in general. It adds to the alertness, awareness and intelligence of managers by supplying information in the form of progress and review reports on on-going activity. Another role of MIS is to provide only that much information as called for by managers specifically for purposes of decision making. This means that the question of information overload does not arise and that only optimum information is provided. The information is also updated on a continuous basis so as to make it more relevant. MIS avoids furnishing of overlapping information as it will create confusion in the minds of managers. There is thus the desired degree of focus and selectivity in the information content.

**5. Management Audit:** The term 'Management Audit' is defined as a systematic evaluation of the functioning, performance and effectiveness of management of an organisation. It is thus an independent appraisal of an organisation's management by an outside firm.

Depending on the preferences and perspectives of top management audit may cover all or some major facts of functioning of the organisation and its management. A few major areas which could be exposed to the search lights of management audit are listed as follows :

- (a) Formulation of organisational objectives, strategies, policies and programmes of action and the manner in which they are pursued, as also the extent of success achieved.
- (b) Design and operation of organisational structures of roles, activities and relationships.
- (c) The manner and efficiency with which resources and assets are mobilised, developed, allocated, utilised and safeguarded, including the human resources.
- (d) Design and functioning of various systems and operations within the organisation.
- (e) The manner in which the management team anticipates and sizes up external environmental elements and designs appropriate adaptive strategies to cope with them.
- (f) The internal organisational climate - to what extent it is conducive for co-operation, harmony, creativity, productivity and satisfaction.
- (g) The quality of managerial decisions : their soundness, timeliness and effectiveness.

## 8.11 CO-ORDINATION

Coordination is the effort to ensure a smooth interplay of the functions and forces of all the different component parts of an organisation so that its purpose will be realised with a minimum of friction and a maximum of collaborative effectiveness. "It makes diverse elements and sub- systems of an organisation to work harmoniously towards the realisation of common objectives". "Coordination is the process whereby an executive develops an orderly pattern of group effort among his subordinates and secures unity of action in the pursuit of common purpose".

Coordination is a conscious and rational process of pulling together the different parts of an organisation and unifying them into a team to achieve predetermined goals in an effective manner. According to Henry Fayol, 'To coordinate is to harmonise all the activities of a concern so as to facilitate its working and its success. In a well-coordinated enterprise, each department or division works in harmony with others and is fully informed of its role in the organisation. The working schedules of various departments are constantly tuned to circumstances.' Coordination is the orderly synchronisation of efforts of the subordinates to provide the proper amount, timing and quality of execution so that their unified efforts lead to the stated objective, namely the common purpose of the enterprise. It involves blending the activities of different individuals and groups for the achievement of common objectives.

George Terry and Theo Haimann consider coordination as a permeating function of management passing through the managerial functions of planning, organising, staffing, leading and controlling. Thus, according to them, co-ordination is not a separate function of management as it transverse the entire process of managing - it is thus the essence of management.

### 8.11.1. Features of Co-ordination

- (i) Coordination is not a distinct function but the very essence of management. It is inherent in managerial job and embodied *in* all the functions of management.
- (ii) Coordination is the basic responsibility of management and it can be achieved through the managerial functions. No manager can evade or avoid this responsibility.
- (iii) Coordination does not arise spontaneously or by force. It is the result of conscious and concerted action by management. It cannot be left to chance.
- (iv) The heart of coordination is the unity of purpose which involves fixing the time and manner of performing various activities,

- (v) Coordination is a continuous or on-going process. It is also a dynamic process involving give and take.
- (VI) Coordination is required in group efforts, not in individual effort. It involves the orderly arrangement of group efforts. There is no need for coordination when an individual works in isolation without affecting anyone's functioning.
- (vii) Coordination is a systems concept in the sense that it regards an organisation as a system of co-operative efforts. It recognises the diversity and interdependence of organisational systems and the need for fusion and synthesis of efforts.

#### **8.11.2 Principles of Coordination:**

Principles for achieving effective communication can be enumerated as below:

- **Principle of Early Stage** - According to this principle, coordination must start at an early stage in the management process. It must start during the planning stage. This will result in making the best plans and implementing these plans with success.
- **Principle of Continuity** - According to this principle, coordination must be a continuous process. It must not be a one-time activity. The process of coordination must begin when the organisation starts, and it must continue until the organisation exists.
- **Principle of Direct Contact** - According to this principle, all managers must have a Direct Contact with their subordinates. This will result in good relations between the manager and their subordinates. This is because direct contact helps to avoid misunderstandings, misinterpretations and disputes between managers and subordinates.
- **Principle of Reciprocal Relations** - The decisions and actions of all the people (i.e of all managers and employees) and departments of the organisation are inter-related. So, the decisions and actions of one person or department will affect all other persons and departments in the organisation. Therefore, before taking any decision or action all managers must first find out the effect of that decision or action on other persons and departments in the organisation. This is called the Principle of Reciprocal Relations. Co-ordination will be successful only if this principle is followed properly.
- **Principle of Effective Communication** - Co-ordination will be successful only in the presence of an effective communication. Good communication must be present between all departments, within employees themselves and even between managers and their subordinates.
- **Principle of Clarity of Objectives** - Co-ordination will be successful only if the organisation has set its clear objectives. Everyone in the organisation must know the objectives very clearly. No one must have any doubts about the objectives of the organisation. Clear objectives can be achieved easily and quickly.

# Study Note - 9

## LEADERSHIP AND MOTIVATION



### This Study Note includes

#### 9.1 Leadership - Introduction

#### 9.2 Motivation

### 9.1 LEADERSHIP - INTRODUCTION

As management itself consists in getting things done through others, therefore, the human beings can be called the most dynamic elements of management and the other factors of production remain just dormant. In an organization direction means guiding, overseeing or looking at these human beings. Directing the employees include:

- (a) Supervising employees
- (b) Leading employees
- (c) Motivating employees
- (d) Communicating with employees

Managers or supervisors at all levels act as leaders because they have under them subordinates whose efforts have to be organized and harmonized. Leadership as an activity is common to all organisations whether business or non business. Leadership is the art of influencing others to direct their will, abilities and efforts to the achievement of leader's goals. In other words, leadership refers to the quality of the behaviour of the individuals whereby they guide people or their activities in organized effort. Leadership in another sense, means the capacity of an individual to influence the thought and actions of others in some useful direction. Leadership has been defined by experts from time to time as follows:-

According to Davis, "Leadership is the ability to persuade others to seek defined objectives enthusiastically. It is the human factor which binds a group together and motivates it towards goals".

According to the Haimann, "Leadership is the process by which an executive imaginatively directs, guides and influences the work of others in choosing and attaining specified goals by mediating between the individuals and the organization in such a manner that both will obtain maximum satisfaction.

According to Koontz and Donnell, "Leadership is the ability of a manager to induce subordinates to work with confidence and zeal".

In essence, thus leadership may be defined in terms of totality of functions by managers as individuals and as a group. Leadership may be defined simply as influence, the art or process of influencing people so that they will strive willingly towards the realization of common goals. The essence of leadership is followership. Thus, leadership process is an interplay of three elements-the leader, the follower and the situation.

#### 9.1.1 Characteristics of Leadership

An analysis of the definitions of leadership brings out following characteristics of leadership :

- (1) Leadership is a personal quality.
- (2) Leadership presupposes the existence of a group of followers. There can be no leadership without followers.

- (3) Leadership tries to influence the individuals to behave in a particular way. Successful leaders are able to influence the behaviour, attitudes and beliefs of the followers.
- (4) Leadership arises out of functioning for a common goal.
- (5) Leadership is a continuous process of influencing behaviour.
- (6) Leadership is related to a particular situation at a given point of time under a specific set of circumstances. Thus, leadership style will be different under different circumstances.

### 9.1.2 Difference between Leadership and Management

Leadership and management are different from each other. Following are the two points of distinction:

- (1) Leadership is a part of management. Leadership is one of the managerial functions.
- (2) Management is for the formal and organized groups while leadership can be of completely unorganized, informal groups. Leadership can be formal as well as informal.

### 9.1.3 Qualities of a Successful Leader

A leader must possess certain exemplary qualities by virtue of which he may be able to lead and guide his subordinates.

From a holistic perspective, the qualities which are necessary for a successful leader can be stated as follows :

- (1) **Physical energy and stamina** – A leader should have a good personality, charming manners, and ability to work hard. A leader will be successful only when he acts with the group as a member and works hard. A leader can help a business enterprise to achieve its objectives or goals.
- (2) **Intelligence** – Leaders should have somewhat higher intelligence than the average of their subordinates. They should possess the ability to think scientifically, analyse accurately and interpret clearly and concisely and problems faced by the group.
- (3) **Vision and foresight** – A leader should exhibit his trait of looking forward. He must have foresight to see and feel the future. He should take into account the happenings which are about to occur in future. This will enable him to maintain his influence over his subordinates.
- (4) **Initiative** – The main task of a leader is to initiate suitable sequence of actions in proper time. Hence, leaders must possess a strong, crucial motivation to keep accomplishing something.
- (5) **Self-confidence** – Self-confidence is essential to motivate the subordinates and boost up their morale. He should have confidence in himself whenever he takes any decision or initiates any cause of action. For this a leader should have conceptual clarity about the things, he is going to do. A confused leader may cause damage to the group or organization.
- (6) **Open mindedness or Flexibility** – A leader should be flexible or open-minded, i.e., he should be ready to absorb new ideas as may be demanded by the situation. He should be prepared to accommodate other's view points and alter his decision, if need be.
- (7) **Sense of Responsibility** – A leader should be prepared to shoulder the responsibility for the consequences of any steps he contemplates or takes. He should be aware of the duties and obligations associated with the position held by him.
- (8) **Human relations** – A leader should possess the human relations attitude. He should be able to deal with people and secure their willing cooperation. He should try to develop social understanding with the people. He should try to achieve the voluntary cooperation of the subordinates.

### 9.1.4 Leadership Styles

On the basis of how leaders use their power, leadership styles can be classified into three broad categories -autocratic, participative and free-rein.



#### 9.1.4.1 Autocratic or Authoritarian Leadership

An autocratic leader exercises complete control over the subordinates. He centralizes power in himself and takes all decisions without consulting the subordinates. He dominates and drives his group through coercion and command. He loves power and never delegates authority. The leader gives orders and expects the subordinates to follow them ungrudgingly and unquestioningly. He uses rewards and holds threat of penalties to direct the subordinates.

##### Advantages

- (i) Autocratic leadership style permits quick decision making.
- (ii) It provides strong motivation and satisfaction to the leader who dictates terms.
- (iii) Less competent subordinates are needed at lower levels.
- (iv) The style may yield positive results when promptness is required.

##### Disadvantages

- (i) Autocratic style leads to frustration, low morale and conflict among subordinates.
- (ii) Subordinates tend to shirk responsibility and initiative.
- (iii) Full potential of subordinates and their creative ideas are not utilized.
- (iv) Organisational continuity is threatened in the absence of the leader because subordinates get no opportunity for development.

Autocratic leadership style may be appropriate when subordinates are uneducated, unskilled and submissive. Lack of knowledge and experience on the part of subordinates make it necessary that the leader takes decisions himself. This style may also be desirable when the company endorses fear and punishment as accepted disciplinary techniques. When a leader prefers to be dominant in decision-making and there is little room for error in final accomplishment, autocratic leadership may enhance morale and improve productivity.

#### 9.1.4.2 Democratic or Participative Leadership

A consultative or democratic leader takes decisions in consultation and participation with the subordinates. He decentralizes authority and allows the subordinates to share his power. The leader does what the group wants and follows the majority opinion. He keeps the followers informed about matters affecting them. A democratic leader provides freedom of thinking and expression. He listens to the suggestions, grievances and opinions of the subordinates.

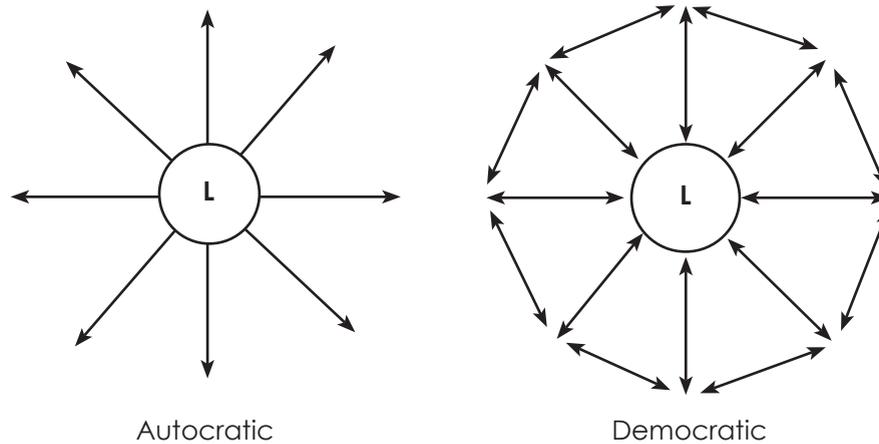
##### Advantages

- (i) Consultative leadership improves the job satisfaction and morale of subordinates.
- (ii) It cultivates the decision-making ability of subordinates.
- (iii) The leader multiplies his abilities through the contribution of his followers,
- (iv) It develops positive attitudes of the leader and reduces resistance to change.
- (v) The quality of decisions is improved.
- (vi) Labour absenteeism and labour turnover are reduced .

##### Disadvantages

- (i) Democratic style is time-consuming and may result in delays in decision-making.
- (ii) It may not yield positive results when subordinates prefer minimum interaction with the leader.
- (iii) Over a period of time subordinates may develop the habit of expecting to be consulted.

- (iv) Consultation may be interpreted as a sign of incompetence on the part of the leader to deal with problems.
- (v) It may be used as a means of passing the buck to others and abdicating responsibility.
- (vi) It requires considerable communicating and persuasive skills on the part of the leader.



**Fig. 9.1**

Participative leadership is considered to be more effective than autocratic style though there is no empirical-proof for this. Consultative style is more compatible with the prevailing value system which favours freedom of expression and independent thinking. The choice of leadership style depends upon the immediate goal and on the subordinates. If the immediate goal is increase in productivity or subordinates have low need for independence, autocratic style may be preferable. But when the goal is job satisfaction and employees have a high need for independence, consultative style may be more effective. Consultative style is also appropriate where subordinates have accepted the goals of the organisation and the leader really wants to share decision-making with the subordinates. .

#### **9.1.4.3 Free-rein or Laissez-fair Leadership**

Free-rein leadership involves complete delegation of authority so that subordinates themselves take decisions. The free rein leader avoids power and relinquishes the leadership position. He serves only as a contact to bring the information and resources needed by the subordinates.

#### **Advantages**

- (i) Positive effect on job satisfaction and morale of subordinates.
- (ii) Maximum possible scope for development of subordinates,
- (iii) Full utilization of the potential of subordinates.

#### **Disadvantages**

- (iv) Subordinates do not get the guidance and support of the leader.
- (v) It ignores the leaders contribution just as autocratic style ignores the contribution of the subordinates.
- (vi) Subordinates may move in different directions and may work at cross purposes which may degenerate into chaos.

Free rein style may be appropriate when the subordinates are well trained, highly knowledgeable, self motivated and ready to assume responsibility.

### 9.1.5 Leadership Continuum

Tannenbaum and Schmidt have developed the concept of leadership continuum to highlight the range of possible leadership styles. At the left end of the continuum there is 'boss centered' (autocratic) leadership style while at the right end is the 'subordinate centered' (free-rein) - style. As one moves from the left extreme to the right extreme, the degree of control goes down and the freedom of subordinates goes up.

1. *Manager makes decision and announces it.* It is an extreme form of autocratic leadership whereby the boss takes the decision and asks the subordinates to implement it.
2. *Manager sells the decision.* In this style the boss alone takes the decision and persuades the subordinates to accept it.
3. *Manager presents ideas and invites questions.* This style involves greater involvement of subordinates. The boss arrives at the decision and asks subordinates to express their views on it.
4. *Manager presents tentative decision subject to change.* Herein the boss takes a tentative decision and modifies it in the light of views expressed by the subordinates.
5. *Manager presents problems, gets suggestions and takes decision.* In this case the boss takes the decision after hearing the suggestions from subordinates.
6. *Manager defines the limits and asks the group to make decision.* Under this style of leadership the boss gives the freedom to subordinates to take decision subject to predetermined limits.
7. *Manager permits subordinates to function within the limits defined by him.* This style involves full participation of subordinates. The boss defines overall limits. Subordinates are free to decide and act within these limits.

The continuum approach to leadership provides a wide range of leader behaviors. It identifies the behavioral alternatives available to a manager and highlights the dynamic nature of leadership. It also suggests that the leadership style should be adapted to the requirements of the particular situation. While choosing the appropriate style, a manager should consider the following factors -

- (1) **Forces in the manager** - Manager's value system, his confidence in the subordinates, his leadership inclinations and his tolerance of ambiguity.
- (2) **Forces in the subordinates** - Subordinates' need for independence, their tolerance for ambiguity, their willingness to assume responsibility for decision making, their interest in and understanding of problems, their understanding of and identification with organisational goals their experience with and expectations of leadership.
- (3) **Forces in the situation** - Type of organisation, nature of problems, group effectiveness, time pressure, etc.

### 9.1.6 Likert's System of Management

Rensis Likert and his associates of the University of Michigan, U.S.A. conducted an extensive survey of management style and patterns in large number of organizations. Likert developed a continuum of four system of management. These systems indicate the stages of evolution in the patterns of management in organisations. These are based on several variables namely leadership, motivation, communication, interaction, influence, decision- making process, goal-setting and control process. A brief description of the Likert's four management systems is given below -

**System 1 - Exploitative Autocratic-** The managers under this system make all work- related decisions and order their subordinates to carry out the decisions. The managers also define standards and methods of performance. The subordinates have absolutely no say in the decision-making process. The communication between the manager and his subordinates is highly formal in nature and downward in direction. Such managers believe in threats and punishments to get things done. They exercise strict supervision and control over the subordinates.

**System 2 - Benevolent Autocratic**– System 2 managers are also autocratic but they are not exploitative. They adopt a paternalistic approach towards the subordinates. They allow some freedom to subordinates to carry out their tasks within the prescribed limits. The managers adopt patronising attitudes towards the obedient and faithful subordinates. They are rewarded for accomplishment of goals. But the subordinates who do not their tasks are treated harshly. Thus carrot and stick approach to motivation is adopted under this system.

**System 3 - Consultative**– Managers under this system set goals and issue orders after discussing them with the subordinates. They take major decisions themselves and allow subordinates to take the routine decisions. Subordinates are free to discuss the work-related matters with the managers. Thus there is two-way communication in the organisation. Managers trust subordinates to carry out their tasks. Greater emphasis is placed on rewards than on penalties to motivate the subordinates. The control system tends to be goal-oriented and flexible.

**System 4 - Democratic**– Under this system, goals are set and work related decisions are taken by the subordinates. Supervision and control are group- oriented. Managers are friendly and supportive in their attitudes towards the subordinates. Subordinates are permitted self-appraisal on the basis of mutually set goals. In addition to economic rewards, subordinates are given a sense of purpose and feeling of worth. The communication system is completely open. Likert suggested that System 4 is the ideal system towards which organizations should Work.

### 9.1.7 Contingency Approach to Leadership

It is clear from the foregoing description that leadership is a product of many forces that act and interact simultaneously. Every manager must achieve some degree of integration of these varying and complex forces otherwise a void in his leadership may arise. An integrated model of leadership has been proposed by George Terry.

Leadership consists of four main variables:

1. **The leader.** Leader's personal values (deep beliefs and convictions) shape his perceptions and behaviour. Leader's confidence in the group members, extent of power sharing and general circumstances the leader prefers are important characteristics. Leader's awareness of self is also significant.
2. **The followers.** The forces within the followers include identification with the leader's objectives, interest and involvement in solving problems, knowledge and experience, need for independence, etc.
3. **The organisation.** Nature and type of organisation exercise significant influence on leadership. When the degree of interdependence between specialised units is high, lateral relationships are essential for coordination. This is because the followers tend to centre their attention in their own work and do not see the impact of their actions on others. Similarly, technology governs the degree to which the task is structured. In case of highly structured tasks, the leader has more influence because, employees' work behaviour is specified and major decisions are centralised. Standard operating instructions and detailed manuals are provided and little is left for the group members to decide. When the task is uncertain a permissive and passive leadership tends to be more effective because exact make-up of work is unknown.
4. **The environment.** Leadership should be in harmony with the external environment. Social values, economic and political conditions, etc., bring about changes that lead to a redefinition of acceptable and effective leadership.

### 9.1.8 Leadership Effectiveness

In business enterprises, managers at various level assume the role of leadership in relation to their subordinates for getting the right things done in a proper manner to achieve a certain set of goals. The effectiveness of managers as leaders is critical to organisational survival and success. Hence there is a high premium on leadership effectiveness in business enterprises.



There are at least three major views on the determinants of leadership effectiveness. One view is that effectiveness is a function of the personal qualities or traits of the individuals who assume the role of leadership.

The second view is that leadership effectiveness is a matter of what leaders do and how they behave. This is known as the behavioural approach. The two most important dimensions of the behaviour of leaders are productivity orientation and employee satisfaction orientation.

The third view is that leadership effectiveness is a function of interaction among at least three variables: the leader, the group of followers and the tasks situations. This is known as the situational or contingency approach to leadership as discussed earlier.

On a careful examination of the above discussed three views on the determinants of leadership effectiveness, we may make the following observations :

(a) Effective leadership requires certain basic qualities among persons who assume the role of leaders. These are necessary but not sufficient.

(b) There is no ideal leadership style or behaviour generally applicable for all situations.

Leadership effectiveness can be secured or enhanced by tailoring the style to the demands of each situation.

(c) The important situational factors which exert considerable influence on leadership effectiveness are: task complexities, the skills and attitudes of the group of followers, their relations with the leader and the position power of the leader himself.

### 9.1.9 Measures for Developing Leadership Ability of Managers

It is at once necessary and possible for managers to develop and improve their leadership abilities. It is necessary because managers have to get things done through their subordinates. They will be able to get things done effectively if they have leadership ability. It is possible because they are several means and techniques of acquiring leadership abilities. Also, leadership abilities are not totally inborn or genetic. They can be acquired and learnt by training and by other means. The measures for developing leadership ability of managers are explained as follows:

(a) **Leadership training:** Training programmes are offered to expose managers to several leadership situations and teach them how to tackle them. The situations are partly simulated and partly real. The trainers create the situations wherein the managers undergoing leadership training are provided opportunities to diagnose problems, think of ways and means of tackling them which partly involve testing of various styles of leadership against realities. Leadership training gives insights and experiences of managers on appropriate attitudes and behaviour which they have to adopt in tackling diverse situations, on how to gain initiative and command over a situation how to inspire and motivate people, that measures are necessary to inject discipline, cohesiveness and team work ethic in the group, and so on. The managers under training are to be given immediate feedback on their leadership performance.

(b) **Internal organisational exposure:** Another measure to develop the leadership ability of managers is to expose them within the organisation itself to critical situations calling for application of leadership abilities. Managers may be put in charge of committees assigned with the task of project implementation, coordination and control. Managers may also be placed in situations concerning people's problems - for example, how to improve the lowered morale of a work group, how to resolve internal conflict, how to induce a sense of involvement of work groups in the organisation and so on.

(c) **Autonomy and accountability:** Managers may be able to sharpen their leadership abilities under conditions of relative freedom. They should be allowed a large amount of freedom to evolve their own methods of tackling situations calling for critical leadership abilities. At the same time they should be provided with the required organisational support in the form of authority (position

power), status, top management support and so on. They should be given adequate discretion dispensing rewards and penalties to their subordinates, within the framework of certain norms and rules.

**(d) Opportunities for interaction:** Managers should also have opportunities to interact with their subordinates in a more intense and continuous manner. This is partly a matter of availability to time. Many managers get themselves so extremely busy with their own work that they find little time to talk or listen to their subordinates, to guide them, to understand their viewpoints, to be supportive to them and to develop them.

## 9.2 MOTIVATION

### 9.2.1. Meaning & Nature

The term 'motivation' has been derived from the word 'motive'. Motive means the urge to do something. Motivation may be defined as the process of inducing or inspiring people to take the desired course of action.

According to Stephen Robbins, "Motivation is the willingness to exert high levels of effort towards organisational goals, conditioned by the efforts ability to satisfy some individual needs."

The process of motivation begins with the awareness of a need. Feeling of an unsatisfied need causes tension. A person takes some *action* to satisfy his need. If the action succeeds to satisfy the need, the person feels *motivated*. In case the action fails, the person takes a different action. When the present need is satisfied, a *new need* arises and the process is repeated.

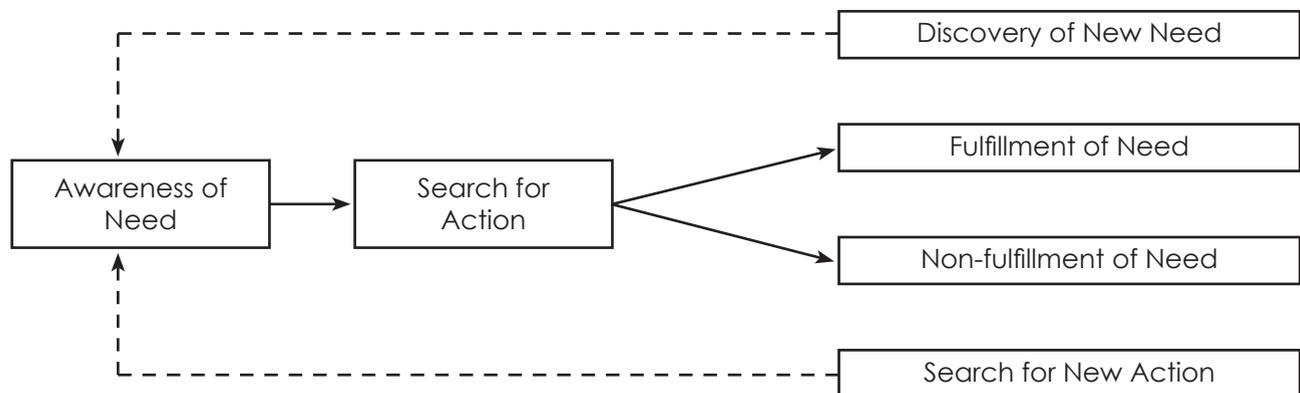


Fig. 9.2

Thus, motivation involves interaction between needs and incentives. Incentives are the inducements which are used to motivate people. An incentive has motivational power because it helps to satisfy some need. Several financial and non-financial incentives are used to motivate people.

On the basis of the above description, the following *characteristics of motivation* can be identified:

1. **Motivation is a psychological concept-** It is based on human needs which generate within an individual. Needs are feelings in the mind of a person that he lacks certain things. Such feelings influence the behaviour and activities of the individual.
2. **Motivation is total, not piece-meal.** A person cannot be motivated in parts. An employee is an indivisible unit and his needs are interrelated. He cannot be motivated by fulfilling some of his needs partly.



3. **Motivation is a continuous process**– It is not a time bound programme or a touch-and- go affair. Human needs are infinite. As soon as one need is satisfied new ones arise. In the words of McGregor, *“man is a wanting animal, as soon as one of his needs is satisfied another appears in its place. This process is unending.”* Satisfaction of one need gives feeling of another and the process continues.
4. **Motivation causes goal-directed behaviour**– A person behaves in such a way that he can satisfy his goals or needs. A person will work so long as he feels his actions are fulfilling his strongly felt needs. He will not pursue-the activity and will lose interest in his work if he feels that it is not satisfying his needs.
5. **Motivation may be financial or non-financial**– The form of motivation depends upon the type of needs. Financial incentives include pay, allowances, bonus and perquisites. Non- financial incentives consist of recognition, praise, responsibility, participation in decision-making, challenging job, etc.
6. **Motivation is a complex process**– There is no universal theory or approach to motivation. Moreover, individuals differ in what motivates them. Therefore, a manager has to analyse and understand a variety of needs and has to use a variety of rewards to satisfy them. He should not expect overnight results.

### 9.2.2. Importance of Motivation

Motivation is one of the most crucial factors that determine the efficiency and effectiveness of an individual in organisation. All organisational facilities will remain useless unless people are motivated to utilise these facilities in a productive manner. Motivation is an integral part of management process and every manager must motivate his subordinates to create in them the will to work. High motivation provides the following advantages:

1. **Higher efficiency**– Motivation is an effective instrument in the hands of management to maximise efficiency of operations. A worker may be very competent but no activity can take place until the individual is willing to perform that activity. What employees do depends largely on how much and why they want to do. Motivated employees give greater performance than demotivated ones.
2. **Optimum utilisation of resources**– Motivation inspires employees to make best possible use of different factors of production. They work wholeheartedly to apply their abilities and potential in minimising waste and cost. The enterprise can make maximum use of its physical and financial resources.
3. **Reduction in labour turnover**– High motivation leads to job satisfaction of workers. Opportunities for need satisfaction make employees loyal and committed to the organisation. As a result labour absenteeism and turnover are low.
4. **Better industrial relations**– Increased labour productivity in turn results in higher wages for employees. Motivational schemes create integration of individual interests with organisational objectives. There arises a sense of belonging and mutual co-operation at all levels. Motivation will foster team spirit among workers. This will reduce labour unrest and create better relations between management and workers.
5. **Easier selection**– An enterprise that offers abundant financial and non-financial incentives enjoys reputation in the labour market. Therefore, it can easily attract competent persons for filling various vacancies.
6. **Facilitates change**– High motivation helps to reduce resistance to change. An organisation has to incorporate changes to cope with environmental changes. Properly motivated employees accept, introduce and implement these changes keeping the organisation effective.

### 9.2.3. Theories of Motivation

There are several theories of motivation. Some are called content theories and others are called process theories. These theories can be summed up as under:

1. Maslow's need hierarchy theory
2. Herzberg's two-factor theory
3. Theory X and Theory Y by McGregor
4. Alderfer's ERG (Existence, Relatedness and Growth) theory
5. Achievement motivation model by McClelland
6. J. Stacy Adam's Equity Theory
7. Victor Vroom's Expectancy Theory

Only the first three theories have been discussed since they are the most important ones :-

#### 9.2.3.1 McGregor's Model

Prof. Douglas McGregor has developed a theory of motivation on the basis of hypotheses relating to human behaviour. According to McGregor, the function of motivating people involves certain assumptions about human nature. There are two alternative sets of assumptions which McGregor has described as Theory X and Theory Y.

**Theory X** – Theory X of motivation is based on the following assumptions:

- (1) The average individual is by nature indolent and will avoid work if he can.
- (2) The average person lacks ambition, dislikes responsibility, and prefers to be led.
- (3) An average human being is inherently self-centred, and indifferent to organisational goals.
- (4) Most people are by nature resistant to change and want security above all.
- (5) The average individual is gullible, not very bright, the ready victim of the schemer.

On the basis of these assumptions, the conventional view of management puts forward the following propositions:

- (1) Management is responsible for organising the elements of productive enterprise—money, materials, equipment, people—in the interest of economic gain.
- (2) With respect to people, management involves directing their efforts, motivating them, controlling their actions and modifying their behaviour to fit the needs of the organisation.
- (3) Without active intervention by management, people would be passive—even resistant to organizational needs. They must, therefore, be persuaded, rewarded, punished and controlled.

The above assumptions are negative in nature. Therefore, Theory X is a conventional or traditional approach to motivation. External control is considered appropriate for dealing with unreliable, irresponsible and immature people. According to McGregor, an organisation built upon Theory 'X' notions will be one in which there is close supervision and control of subordinates and high centralisation of authority. Leadership in such an organisation will tend to be autocratic, and workers will have very little (if any) say in decisions affecting them. The climate in a Theory X organisation would be impersonal—this theory implies use of 'carrot and stick approach'.

**Theory Y** – Theory Y is based on a faulty conception of human nature. McGregor recognised certain needs that Theory X fails to take into account. These relate to self-fulfilment, ego satisfaction and the social needs of individual workers. To meet these human needs in business, McGregor suggested a counter approach to management which he called Theory Y. The theory proposes that:

- (1) Management is responsible for organising the elements of productive enterprise in the interest of economic and social ends.



- (2) People are not by nature passive or resistant to organisational needs. They become so as a result of experience.
- (3) Motivation, potential for development, capacity for assuming responsibility and readiness to direct behaviour toward organisational goals are present in people, management does not put them there. It is the responsibility of management to make it possible for people to recognise and develop these characteristics for themselves.
- (4) The essential task of management is to arrange organisational conditions and methods of operations so that people can achieve their own goals best by directing their own efforts towards organisational goals.

Theory Y is based upon the following assumptions:

- (1) The expenditure of physical and mental effort is as natural as play and rest. The average human being has no inherent dislike for work. Work, if meaningful, should be a source of satisfaction and it can be voluntarily performed.
- (2) Man will exercise self-control "and self-direction in the service of objectives to which he is committed. External control or threat of punishment is not the only means of motivating people to work and achieve organisational goals.
- (3) Commitment to objectives is a result of the rewards associated with their achievement.  
The most significant of such rewards, e.g., the satisfaction of ego and self-development needs, can be the direct result of effort directed towards the organisational objectives. Once the people have selected their goal, they will pursue it even without close supervision and control .
- (4) The average human being, under proper conditions, does not shun responsibility. He is ready not only to accept responsibility but also to seek it. Avoidance of responsibility, lack of ambition, etc., are consequences of experience rather than being inherent in human nature.
- (5) The capacity to exercise a relatively high degree of imagination, ingenuity and creativity in the solution of organisational problems is widely, not narrowly, distributed in the population.
- (6) Under conditions of modern industrial life, the intellectual potentialities of people are only partially utilised. In reality, people have unlimited potential.

Theory Y represents a modern and dynamic nature of human beings. It is based on assumptions which are nearer to reality. An organisation designed on the basis of Theory Y is characterised by decentralisation of authority, job enrichment, participative leadership and two-way communication system. The focus is on self-control and responsible jobs. Theory X places exclusive reliance on external control of human behaviour while Theory Y relies on self- control and self-regulation. "This difference is the difference between treating people as children and treating them as mature adults. After generations of the former we cannot expect to shift to the latter overnight."

#### Comparison between Theory X and Theory Y

Theory X	Theory Y
1. Inherent dislike for work	Work is natural like rest or play.
2. Unambition and prefer to be directed by others.	Ambition and capable of directing their others own behaviour.
3. Avoid responsibility.	Accept and seek responsibility under proper conditions.
4. Lack creativity and resist change	Creativity widely spread.
5. Focus on lower level (Physiological and safety)	Bothe lower level and higher order needs need to motivate workers like social, esteem and self-actualisation are sources of motivation.

6. External control and close supervision required to achieve organisational objectives.	Self-direction and self-control.
7. Centralisation of authority and autocrat leadership.	Decentralisation and participation in leadership decision-making. Democratic leadership.
8. People lack self-motivation	People are self-motivated.

McGregor's theory of motivation is simple. It helps to crystallize and put into right perspective the findings of the Hawthorne Experiments. It has generated wide ranging and lasting interest in the field of motivation. This theory offers a convenient framework for analysing the relationship between motivation and leadership style.

Despite its significance, McGregor's theory has been criticised for various reasons.

- *First*, it tends to over-generalise and over-simplify people as being one way or the other. People cannot be put into two extreme patterns or stereotypes.
- *Secondly*, McGregor's theory squeezes all managerial styles and philosophies into two extremes of conduct which is devoid of reality.
- *Thirdly*, McGregor suggests tacitly that job itself is the key to motivation. But all persons do not look for motivation in the job and not all work can be made intrinsically challenging and rewarding.
- *Lastly*, some managers may have Theory Y assumptions about human nature, but *they* may find it necessary to behave in a very directive and controlling manner with some people in the short run to help them grow up in a developmental sense until they are truly Y people.

A question often posed is which theory (X or Y) is better. Most people believe that Theory Y is more desirable and productive. But it may not be the best approach for all situations. Theory X might be more suitable in some crisis situations but less appropriate in more routine and formalised situations: In some under-developed countries like India Theory X may still be useful at the lower levels of organisation.



**Fig. 9.3** Abraham Maslow's Need Hierarchy Theory

Adopted from : "Maslow's Hierachy : Applications for the Workplace"

### 9.2.3.2 Maslow's Model

Abraham H. Maslow, an eminent American psychologist, developed a general theory of motivation, known as the 'Need hierarchy theory'. The salient features of this theory are as follows:

- (i) The urge to fulfil needs is a prime factor in motivation of people at work. Human beings strive to fulfil a wide range of needs. Human needs are multiple, complex and interrelated.
- (ii) Human needs form a particular structure or hierarchy. Physiological needs are at the base of the hierarchy while self-actualisation needs are at the apex. Safety (security) needs, social needs and esteem (ego) needs are positioned in between. As one proceeds from base towards apex, needs become less essential.
- (iii) Lower-level-needs must at least partially be satisfied before higher-level needs emerge. In other words, a higher-level need does not become an active motivating force until the preceding lower-order needs are satisfied. Human beings strive to gratify their needs in a sequential manner starting from the base of the hierarchy. All needs are not felt at the same time.
- (iv) As soon as one need is satisfied, another need emerges. This process of need satisfaction continues from birth to death. Man is a wanting animal.
- (v) A satisfied need is not a motivator, *i.e.*, it ceases to influence human behaviour. It is the unsatisfied needs which regulate an individual's behaviour.
- (vi) Various need levels are inter-dependent and overlapping. Each higher level need emerges before the lower level need is completely satisfied.

As shown in Fig. 9.3 there are five categories of human needs:

1. **Physiological needs**– These are biological needs required to preserve human life. Therefore, these needs are also known as *survival needs*. They include needs for food, drink, air, sleep, etc. These needs must be satisfied first of all and, therefore, they are a powerful motivating force when thwarted. 'Man lives by bread alone' when there is no bread. Physiological needs must be satisfied repeatedly but they are essentially finite. For example, an individual requires a limited amount of food but he requires it everyday.
2. **Safety needs**– Once physiological needs are reasonably satisfied, a person wants protection from physical dangers and economic security. Safety needs are thus concerned with protection from danger, deprivation and threat. These needs are finite but they may serve as motivators in case of arbitrary and unpredictable management actions. Such actions create uncertainty and people seek job security. Organisations can influence these needs through pension schemes, insurance plans, fear of dismissal, etc.
3. **Social needs**– Man is a social animal as he seeks affiliation (association) with others. Social needs refer to need for belonging, need for acceptance, need for love and affection, etc. Such needs are infinite as they are considered as secondary needs because they are not essential to preserve human life. They represent needs of the mind and spirit rather than of the physical body. Organisations can influence these needs through supervision, communication system, work groups, etc.
4. **Esteem needs**– Esteem needs are of two types: self-esteem and esteem of others. Self-esteem needs include self-respect, self-confidence, competence, achievement, knowledge and independence. Esteem of others includes reputation, status, recognition. These needs are infinite and thwarting them results in feelings of inferiority, weaknesses and helplessness.
5. **Self-actualization needs**– These are the needs for realising one's full potential, for continued self-development, for being creative. It is the desire of becoming what one is capable of becoming. It is an infinite and growth need. It is psychological in nature and very few persons satisfy it. The conditions of modern industrial life provide limited opportunity for the satisfaction of self-actualisation.

**Evaluation**– Need hierarchy represents a typical pattern that operates most of the time. It must not be viewed as a rigid structure to be applied in all situations.

Maslow's need priority model of motivation has gained extensive popularity because it is simple and logical. It is compatible with the economic theory of demand. The theory helps to explain why a person behaves differently in two similar situations. It provides an insight into what is common to all. It extends to all areas of human life and is not limited to work situation alone. But there is little empirical support for it because its propositions could not be vigorously tested through empirical research. The theory could not be validated but it is said to contain some fundamental truths which do not require any proof. However, the theory is widely criticised for the following reasons:

- (i) Needs are not the only determinant of behaviour. People seek objects and engage in behaviour that are in no way connected with the gratification of needs. There are other motivating factors like perceptions, expectations, experiences, etc.
- (ii) The theory gives an over simplification of human needs and motivation. Need recognition and fulfillment do not always follow the specific sequence of hierarchy suggested by Maslow. Need classification is somewhat artificial and arbitrary as human needs cannot be classified into neat watertight compartments. Therefore, the theory may not have universal validity.
- (iii) The hierarchy of needs is not always fixed. Different people may have different orders. For example, in case of creative people like singers, painters, etc., self-actualisation need may become a dominant motivating force even before the lower order needs are satisfied. Similarly, the need priorities of the same individual may change over time. As a result, a manager cannot keep up with a continuously revolving set of needs. Thus, Maslow's model presents a somewhat static picture of need structure. The theory does not recognise individual differences. Individuals differ in the relative intensity of their different needs.
- (iv) Maslow's theory is based on a relatively small sample. It is a clinically derived theory and its unit of analysis is the individual. That is why Maslow presented his model with apologies to those who insisted on conventional reliability, validity, sampling, etc.
- (v) There is no definite evidence that once a need is satisfied it loses its motivating force. It is also doubtful that satisfaction of one need automatically activates the next need in the hierarchy. Some persons will not aspire after their lower-order needs have been satisfied. Human behaviour is the outcome of several needs acting simultaneously.

The same need may not lead to the same response in all individuals. Similarly, one particular behaviour may be the result of different needs. There is lack of direct cause and effect relationship between need and behaviour.

Despite these limitations, Maslow's theory has a common sense appeal for managers. It is still relevant because needs are important for understanding behaviour. The theory provides a convenient conceptual framework for the study of motivation. It helps to explain inter-personal and intra-personal differences in human behaviour.

### **9.2.3.3 Herzberg's Model**

In the late fifties, Frederick Herzberg and his associates conducted interviews of 200 engineers and accountants in the Pittsburgh area of the United States. These persons were asked to relate elements of their jobs which made them happy or unhappy. An analysis of their answers revealed that feelings of unhappiness or dissatisfaction were related to the environment in which people were working. On the contrary, feelings of happiness or satisfaction were related to their jobs.

According to Herzberg, maintenance or hygiene factors are necessary to maintain a reasonable level of satisfaction among employees. These factors do not provide satisfaction to the employees but their absence will dissatisfy them. Therefore, these factors are called dissatisfiers. These are not intrinsic parts





### Maslow Vs. Herzberg Models

Point of Difference	Maslow's Model	Herzberg's Model
1. Formulation	In terms of needs.	In terms of rewards or incentives.
2. Order of needs	Hierarchical or sequential arrangement of needs.	No such arrangement.
3. Nature of theory	Descriptive.	Prescriptive.
4. Essence of theory	Unsatisfied needs motivate individuals.	Gratified needs regulate behaviour and performance.
5. Motivator	Any need can be a motivator if it is relatively unsatisfied.	Only higher order needs serve as motivators.
6. Applicability	Takes a general view of the motivational problems of all workers.	Takes a microview and deals with work-oriented motivational problems of professional workers.

#### 9.2.4. Design of Reward System - Linkage to Motivation

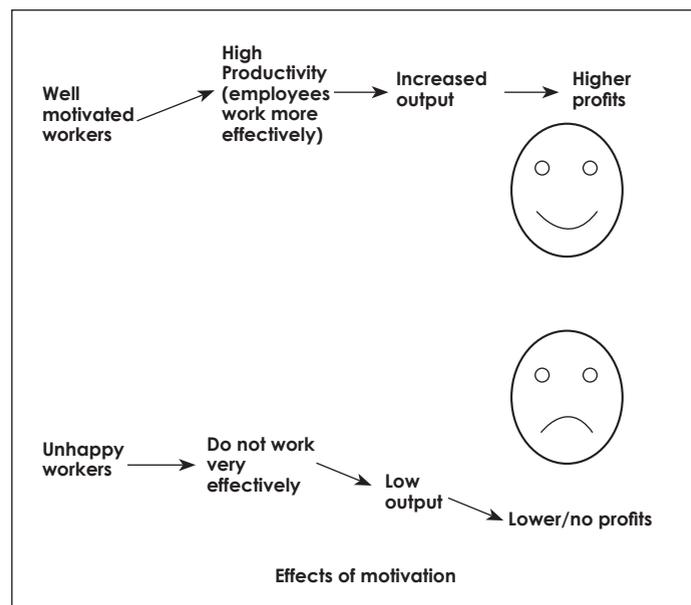


Fig. 9.6

In order to motivate their employees, business firms offer several types of rewards. These rewards generally involve payment of money in cash or in kind. The amount of reward is linked in some way to the job performance of an employee. Such rewards are called merit rewards. They do not become part of an employee's base salary each year.

Reward systems can be designed on individual basis or group basis. Individual reward systems can be in the form of piece work, production bonus and performance based commissions. Under an individual based reward system, the amount of reward paid to an employee is related to his or her job performance. Group reward systems are generally in the form of gain sharing and profit sharing.

Under a group reward system every member of a group is paid the same reward on the basis of group performance. Group rewards are useful when it is difficult to measure each individual employee's performance and when teamwork is important.

While designing a reward system, the following steps are to be considered: (i) Decide the purpose of developing a reward system.

- (i) Choose the basis of rewards keeping in view the nature of work and possibility of measuring performance.
- (ii) Determine the level of performance which entitles an employee to reward, (iv) Decide the amount of reward and the form of its payment,
- (iii) Communicate and explain the reward system to employees in order to secure their acceptance and cooperation in the administration of the reward system.

# Study Note - 10

## GROUP DYNAMICS



This Study Note includes

### 10. Group Dynamics - Introduction

#### 10. GROUP DYNAMICS - INTRODUCTION

With the origin of the complex societies there came into being the different social groups that are vital significant for the human or individual welfare. A group comes into being when there is need to achieve the wants of the members in the course of interaction the members develop a group ideology which regulates the members develop a group ideology which regulates their attitudes and actions and influence their satisfaction. The group has a specific structure and the members interact within. The group dynamics is dedicated in advancing the knowledge about the groups and is employed to study the organizational behavior and stress on the dynamics of members of the informal or formal groups.

##### 10.1. Definition

A group is defined as two or more individuals interacting and interdependent, who come together to achieve particular objectives.

The group dynamics refers to changes which take place within groups and is concerned with the interaction and forces obtained between group members in social settings. It is a study of forces operating within a group. A group doesn't simply mean individuals possessing same identical features. For instance, A collection of students or musicians doesn't form a group. These are simply class. There are two principal types of group interaction, one exists when people are discussing ideas and is generally called a meeting, and the other exists when people perform task together and is called a team.

A group can be identified by:

1. Studying the perception group and cognition of each of the group members to determine as to which other individuals exist for each of the members psychologically.
2. Analysis of the group itself and the behavior of each of its members to ascertain as to whether or not a particular individuals fits in as a member.

##### 10.2. Classification of Groups

The groups are of many types as:

1. **Psychological vs. Social Organizations:** A psychological group may be defined as one in which the two or more persons who are interdependent as each members nature influences every other person, members share an ideology and have common tasks. These include families, friendship circles, political clubs, work, educational, religious, neighborhood, and recreational groups.

The *social groups* may be defined as integrated system of interrelated psychological groups formed to accomplish a defined function or objective. A political party with its many local political clubs, friendship circles are the social organizations.

2. **Formal vs. Informal groups:** *Formal groups* refer to those which are established under the legal or formal authority with the view to achieve a particular end result and the group is designated by the organizational structure, having work assignments establishing tasks. Here behavior of members are stipulated by and directed towards organizational goals. e.g People making up the airline flight crew, trade unions.

*Informal groups* refers to the aggregate of the personal contacts and interaction and the network of relationships among individuals obtained in the formal groups. These groups may take the form of the interest or friendship groups. They are natural formations appearing in response to the need for social contact.

3. **Primary vs. Secondary groups:** The primary groups are characterized by small size, face to face interactions and intimacy among the members of the group. The examples are family groups, play groups and neighborhood groups. The *secondary groups* are characterized by large size and individual's identification with the values and beliefs prevailing in them rather than actual interactions. e.g. occupational associations and ethnic groups.
4. **Membership vs. Reference groups:** The *membership group* is those where the individual actually belongs and *reference group* is one in which they would like to belong.
5. **Command vs. Task groups:** The *command group* are formed by subordinates reporting directly to the particular manager and are determined by the formal organizational chart. E.g. an assistant regional transport officer and his two transport supervisors form a command group. The task groups are composed of people who work together to perform a task but involve a cross-command relationship. Its boundaries are not located within its immediate hierarchical superior. E.g. for finding out who was responsible for causing wrong medication order would require liaison between ward in charge, senior sisters and head nurse.
6. **Interest vs. Friendship group:** The *interest group* involves people who come together to accomplish a particular goal with which they are concerned. Office employees joining hands to go to vacation or get vacation schedule changed form an interest group. The friendship group are formed by people having one or more common features. The people coming from a particular area or having same language to speak belong to a friendship group.

**Mayo and Lombard classify the informal groups into:**

- (a) **Natural Groups:** It reveals no too little internal structure.
- (b) **Family Groups:** These possess a core of regulars who exerts marked influence on the behavior of the members.
- (c) **Organized Groups:** These possess acknowledged leaders who themselves dedicatedly with intelligence and skill attain group integrity.

**Sayles classifies informal groups into four categories as:**

- (a) **Apathetic groups:** These groups possess consistently indifferent attitudes towards informal groups and are characterized by dispersed, lack of cohesiveness, internal disunity and conflict.
- (b) **Erratic Groups:** These groups fluctuate between antagonism and cooperation marked by the poorly controlled pressure tactics - behavior inconsistency - quick conversion to good relations with management, centralized and union formation activities.
- (c) **Strategic Groups:** There is consistent antagonism, continuous pressures, high degree of internal unite and usually good production record in the long run.
- (d) **Conservative groups:** These groups are marked by the usual cooperation, limited pressures for highly specific objectives, moderate internal unity and self - assurance

**Dalton's analysis classifies informal groups as:**

- (a) **Horizontal groups:** These are associations of the worker, managers or any other members of equal ranks engaged in performing more or less similar works.
- (b) **Vertical groups:** These are composed of members from varied kevels within a particular department, e.g., workers, foreman, managers.
- (c) **Mixed Groups:** Refers to groups composed of members of varied ranks, department and physical location

### 10.3. Reasons for Group Formation

People seek to join groups since the groups give the members a stability and enhances their achievement capacity. The main reasons propelling individuals to join groups are:

1. **Have a sense of security:** The group enables the person to reduce a sense of insecurity and have stronger feeling with few self-doubts and more resistant to threats when they are a part of the group.
2. **Have a status:** The persons in a group can be easily recognized and a status is achieved by them.
3. **Develop Self-esteem:** The groups can help a person develop a sense of “to - belong”. This provides with feeling, of self-worth and develops confidence in its members.
4. **Affiliation:** The groups can fulfill social needs. People enjoy the regular interaction that comes with the group membership.
5. **Power:** The power is derived on the strength of closeness of the group members with greater power achieved when in group then if a person is alone or individually.
6. **Goal achievement:** The goal can be achieved more easily when a group effort is present as “United we stand, divided we fall”. The pool of talents, knowledge or power of doing things and management for job - accomplishment is present when individuals act in groups.

### 10.4. Functions of the Groups

1. **Formal or organizational functions;** These relates to basic mission attainment by the organization. The group completes the work, creates ideas and embraces all activities for which they are accountable.
2. **Psychological Personal functions:** The group formation facilitates psychological functioning, satisfaction of the needs, outlet for affiliation and helps in getting stability and enhancing the achievements.
3. **Mixed or Multiple functions:** The formal as well as informal both kinds of roles are taken up by the members of the group. The formal group can try to fulfill various psychological roles and leading to increased loyalty, commitment and energy for effective attainment of the administrative and organizational goals.

#### 10.4.1. Group Dynamics

The group dynamics is that division of social psychology that investigates the formation and change in the structure and functions of the psychological grouping of people into self-directing wholes.

It was at the Massachusetts Institute of Technology that the Research Centre for the group dynamics was founded in 1945 and later in 1948 was moved to the University of Michigan. It was founded by Kurt Lewin to study group decision, group productivity, group interaction, group cohesiveness and group communication. The underlying assumption was that the laws of the group behavior can be established independently of the goals or specific activities of group irrespective of the structure of the group. A variety of experiments later on by Herbert Spenser, Allport, Georg Simmel, put forward the concept of group dynamics as a technique of fostering the conciliation between individuals and groups with an idea to formulate principles which underlie group behavior, and devise principles of group decisions and actions. The word ‘dynamics’ comes from the Greek word meaning force. Hence, group dynamics refers to the forces operating within a group in a social organization.

#### 10.4.2 Group Decision Making

(Also known as collaborative decision making) is a situation faced when individuals collectively make a choice from a set of alternatives before them. This decision is no longer attributable to any single individual who is a member of the group. This is because all the individuals and social group processes such as social influence contribute to the outcome. The decisions made by groups are often different from those

made by individuals. Group polarization is one clear example: groups tend to make decisions that are more extreme than those of its individual members, in the direction of the individual inclinations.

### 10.5. Stages of Group Formation

Group Development is a dynamic process, and probably never reach a state of complete stability. There is strong evidence that groups pass through the standard sequence of the following stages:

1. **Forming:** This is characterized by the great deal of uncertainty about groups purpose structure and the leadership. Members are testing waters to determine the type of action needed or behavior required. The stage is completed when the members have begun to think that they are the parts of the group.
2. **Storming:** The members accept the existence of the group but they are still resisting the constraints the group poses on them. There is conflict as to who will control the group. When this stage completes there does a relatively clear hierarchy of leadership exist in the group.
3. **Norming:** This is the one in which there is close relationship between the members and the group demonstrates cohesiveness. There is sense of group identify and this stage is complete when the group structure solidifies and the group has assimilated a common set of expectations defining the behavior.
4. **Performing:** The structure at this point is fully functional and accepted. The group energy is has moved from getting to know and understand each other to performing a task at hand. For permanent work groups this is the last stage. But for the temporary committees, teams, task forces, and similar groups the Adjourning Stage is the last.
5. **Adjourning:** The groups prepare to disband. The high task performance is no longer the required goal. The attention is towards the wrapping up of the activities and responses of the group members. The responses of group members vary in this stage. Some are upbeat, basking in the groups accomplishment. Some are depressed over the loss of colleagues and friends made during the course.

### 10.6. Principles of the Group Dynamics

1. The members of the group must have a strong sense of belonging to the group. The barrier between the leaders and to be led must he broken down.
2. The more attraction a group is to its members, the greater influence it would exercise on its members.
3. The grater the prestige of the group member in the eyes of the member in the eyes of the members , the greater influence he would exercise on the theme.
4. The successful efforts to change individuals sub parts of the group would result in making them confirm to the norms of the group.
5. The pressures for change when strong can he established in the group by creating a shared perception by the members for the need for the change.
6. Information relating to the need for change, plans for change and the consequence of the changes must be shared by the members of the group.
7. The changes in one pact of the groups may produce stress in the other parts, which can he reduced only by eliminating the change or by bringing about readjustments in the related parts.
8. The groups arise and function owing to common motives.
9. The groups survive by pacing the members into functional hierarchy and facilitating the action towards the coal.
10. The intergroup relations, group organization, member participation is essential for effectiveness of a croup.



### 10.7. Features of Group Dynamics

Group Dynamics refers to the study of forces operating within a group. Following are some of its salient features:

- Group dynamics is **concerned with group**. Wherever a group exists the individuals interact and members are continuously changing and adjusting relationship with respect to each other.
- **Changes** go on occurring like introduction of the new members, changes in leadership, presence of old and new members and the rate of change - fast or slow.
- There may be **rigidity or flexibility** (cohesiveness or conflict) that influence a group dynamics.
- The **group organization** is essential. It leads to greater group effectiveness, participation, cooperation and a constructive morale.
- Dynamic groups are always in **continuous process** of restructuring, adjusting and readjusting members to one another for the purpose of reducing the tensions, eliminating the conflicts and solving the problems which its members have in common.

### 10.8. Group Cohesiveness

Cohesion in a group develops if the needs, hopes and expectations of members are realised. Group Cohesiveness is an important indicator of how much influence the group as a whole exerts over the individual members. It can be defined as the degree to which members are attracted to one another and share their common goals. Cohesiveness causes harmonious behavior among group members, and aids in functioning as one unit towards achievement of its goals.

**Features of Cohesive Groups:** Groups in high cohesion are likely to exhibit the following characteristics:

- They have relatively few members.
- Members have similar interests and backgrounds.
- They enjoy a high degree of status within the organization.
- Members have ready access to one another, that facilitates maintenance of interpersonal communication.
- Leader of such groups rewards co-operative behavior.
- They are pressured or threatened by some common outside force.
- They enjoy a history of past success.

### 10.9. Conclusion

The groups operate on a common task and common attitudes. The group dynamics is concerned with the interaction between the group members in a social situation. This is concerned with the gaining in the knowledge of the group, how they develop and their effect on the individual members and the organization in which they function.

The group dynamics is essential to study since it helps to find how the relationships are made within a group and how the forces act within the group members in a social setting. This helps to recognize the formation of group and how a group should be organized, lead and promoted.



# Study Note - 11

## ORGANIZATIONAL CONFLICTS



### This Study Note includes

- 11.1. Meaning of Conflict
- 11.2. Causes of Organizational Conflict
- 11.3. Ways of Managing Conflict in Organizations
- 11.4. Conflict Control & Organizational Strategy
- 11.5. Causes of Interpersonal Conflict
- 11.6. Types of Conflict
- 11.7. Strategies of Dealing with Conflict in Organizations
- 11.8. Strategies to Manage Workplace Conflict

### Introduction

Conflict is inevitable whenever two or more people interact, whether in the workplace or at home. Conflict can occur between two or more individuals, two or more groups, or an individual and a group. When dealing with conflict in an organization, it is important to remember to address the issue, not the people. Types of conflict that can occur in any organization include unclear definitions of role responsibility, conflict of interest, lack of resources and interpersonal relationships within the workplace.

### 11.1 MEANING OF CONFLICT

At the workplace, people internalize the existence of a conflict when opinions regarding a task or a decision are perceived as incompatible. Rahim (2000) defined conflict as a natural outcome of human interaction which begins, when one individual perceives that his or her goals, attitudes, values or beliefs are incongruent with those of another individual. This incompatibility or incongruence can arise within an individual, between two individuals or between groups of individuals.

The probable types of conflict in organizations originate due to :

**Unclear Definition of Responsibility** – When it is unclear who is responsible for what area of a project or task, conflict can occur. Territorial issues arise when decisions are made that appear to cross boundaries of responsibility. To prevent this from happening it is imperative that the roles and responsibilities of all the players are spelled out clearly and agreed upon by everyone involved before the project is started.

**Conflict of Interest** – Understanding how personal interests and goals fit within the structure of the organization will alleviate conflict of interest problems. When an individual's personal goals are at odds with the goals of the organization, the individual may be tempted to fight for his personal goals, creating a conflict situation that will hamper success of the project.

**Inadequacy of Resources** – Competition for resources, including money, time and materials, will cause the teams to undercut each other, leading to conflict between departments or other work groups. Valuable resources need to be protected, as well as distributed fairly among all the groups. Starting out a project with a clear picture of the resources available will help manage some of this conflict.

**Interpersonal Relationships** – The personalities of the people involved in the organizational structure play an important part in conflict resolution. Often the conflict is a result of interpersonal relationships

where the parties to the conflict are unable to resolve personal issues with each other. It is not always easy to set aside personal prejudices when entering the workplace, but it is important to recognize what those prejudices are and deal with them before conflict arises.

### 11.2 CAUSES OF ORGANIZATIONAL CONFLICT

In order to survive, a company must focus its efforts on generating revenue in the face of competition. According to Ryan Bannerman Associates, sometimes the need to focus on beating the competition can get derailed by internal organizational conflict. In order to keep employees focused on being productive and bettering the competition, it is necessary to understand the causes of organizational conflict.

**Managerial Expectations** – It is the job of an employee to meet the expectations of his manager, but if those expectations are misunderstood, conflict can arise. Managers need to spend time clearly communicating their goals to employees and then confirming those goals in writing. A manager should also encourage his/her employees to ask questions about their goals, and hold regular meetings to discuss the goals and how best to reach them.

**Breakdown in Communication** – If a department requires information from another department in order to do its job, and the second department does not respond to the request for information, a conflict can arise. Some interdepartmental disagreements might trigger a nonresponsive attitude that can quickly become an internal conflict. Another way of creating this sort of conflict is by giving a circular response such as an issue being perpetually “under review.” When people or departments are late in responding to information requests, or they are withholding information on purpose, it is best to address the situation immediately with a personal meeting with both sides to resolve the situation.

**Misunderstanding the Information** – According to mediation expert Robert D. Benjamin, internal conflict can sometimes arise as the result of a simple misunderstanding. One person may misunderstand information, and that can trigger a series of conflicts. In order to deal with this kind of situation, it is best to have the person admit her misunderstanding and work with the affected parties to remedy the situation. For example, if the production manager misunderstands the product manufacturing goals, then the sales manager may not have enough product to sell. Taking responsibility for a mistake can quickly diffuse a potential organizational conflict.

**Lack of Accountability** – Organizational conflict might arise from frustration. One source of frustration is a lack of accountability. If something has gone wrong, and no one is willing to take responsibility for the problem, this lack of accountability can start to permeate throughout the entire company until the issue is resolved. One way to combat a lack of accountability is to have anyone who comes into contact with a document sign his name to it and include the date. The paper trail may sometimes find the source of the problem, which can then be addressed.

### 11.3 WAYS OF MANAGING CONFLICTS IN ORGANIZATIONS

Conflict is inevitable in small businesses. Conflict can arise from a variety of sources, and between supervisors and subordinates, between co-workers, and between employees and customers. Managers and organizations can choose to see conflict as inherently negative, acting to suppress it at every opportunity, or as inherently positive, leveraging conflict to affect positive change.

**Positive Perspective** – To accept conflict as a natural growth process that influences the company culture to view constructive conflict positively. Conflict can be an asset to your small business if it is handled properly. It can help the organization to learn from its mistakes and identify areas of needed improvement. Innovation can be inspired from creative solutions to internal or external conflicts, and new ways of thinking can emerge.



**Grievance Procedure** – Creation of a formal grievance procedure for all employees. Let employees at all levels of the organization know that their voices will always be heard, and respond promptly and reasonably to employees; issues. This can prevent bad feelings from growing into resentment and bitterness. Conflict is best handled quickly and openly. If the company culture is sufficiently friendly toward constructive conflict, the staff should see the value of letting their complaints, ideas and issues be heard.

**Get to the Cause** – It is necessary to focus on deep-rooted causes rather than superficial effects when assessing conflicts. Parties to a conflict often claim to have issues with the behavior of co-workers or the outcome of company policies and work procedures, but these issues are likely being caused by something deeper. Attempting to resolve the conflict by addressing surface issues will rarely create meaningful change or lasting solutions.

**Equal Attention and Importance** – It is necessary to give all parties to a conflict an equal voice, regardless of their position, length of service or political influence. Conflict participants can become defensive if they feel they are being marginalized or are going through a process leading to a predetermined outcome. It can be tempting to take the word of managers over front-line employees, or to take the word of a loyal employee over a new employee, but it should be remembered that the most trusted associates are not necessarily infallible. To go beyond simply giving everyone an equal chance to speak; to give their arguments an equal weight in one's mind when mediating a conflict is important.

**Resolution Participation** – Involvement of all parties, when drafting conflict resolutions is necessary. The theory of Management By Objectives (MBO) states that employees are generally more committed to goals that they have helped to create. The same holds true for conflict resolutions. There is more than one side to every conflict, and all sides should benefit from conflict resolution. Seeking resolutions that will prevent the conflict from occurring again, rather than simply delaying a repeat occurrence has positive outcomes.

#### 11.4 CONFLICT CONTROL & ORGANIZATIONAL STRATEGY

Conflict makes many people so uncomfortable that they prefer to avoid or suppress it rather than dealing with it. However, conflict happens in every area of human life, and suppressing conflict may cause more problems than allowing it to develop and resolve itself. Sometimes, conflict can even cause significant improvements for all parties in the situation. Good managers therefore need to understand the risks and benefits associated with conflict and know how to manage it when it occurs.

**Reasons for Conflict** – Conflict happens because people have different beliefs, priorities and interests, and sometimes those interests clash. Sometimes people can resolve their differences without conflict, and sometimes they either can't or don't choose to. Conflicts can occur between individuals or between groups. "Task conflicts" occur when people disagree about the facts of the situation or how those facts should be interpreted or applied. "Interpersonal conflict" occurs when people do not get along on a personal level. "Procedural conflict" occurs when people share the same goals but disagree on how they should be achieved. Conflict often occurs when people feel threatened somehow. The threat may be toward the perceived territory, status, rights, property or value system of the person or group.

**Benefits of Conflict** – Most people see conflict as an unpleasant and negative experience, and most companies traditionally used a strategy of suppressing conflict in all circumstances. This approach ignores that conflicts can occur for valid reasons. In a "task conflict" about the interpretation of facts, the company could benefit from re-examining the disputed facts. In a "procedural conflict" about the methods used to achieve the company's goals, the conflict could lead to new and superior ways of doing business. Poorly managed conflict can cause delay, harm morale and reduce efficiency across the organization, but intelligently managed conflict can encourage creative problem solving and make the company more adaptive. Companies with effective conflict-management strategies try to see each conflict as an opportunity to improve the relationship and make the company more competitive.

**Less Effective Strategies for Conflict** – In any conflict, one can try to get one's own way completely, can let the other party prevail, can ignore the problem, can compromise or can collaborate. Trying to get one's own way completely only works if there is enough power to dominate the other party. It leaves the other side dissatisfied and resentful, and it only lasts if the power dynamic doesn't change. However, this strategy can be used doesn't only when one need to have a good ongoing relationship with the other side and those on the other side have no way to prevent you from doing what you want. Letting the other side prevail on a minor issue can help in maintain a good relationship for the future, but if one uses this strategy too often or on significant issues one can end up in an inferior position. Ignoring conflict works only as a delaying tactic and can escalate the conflict in the long run.

**Effective Strategies for Conflict** – Just because managers have more power than employees, they always have the option of simply imposing their authority or ignoring the employees' concerns. If one uses this power too often or in ways that seem arbitrary, one can alienate the work force. Effective managers rely on authority only sparingly and prefer to resolve conflict through either compromise or collaboration. When one compromises, both parties get what they want and give up part of what others want. Compromise can resolve a conflict but can also leave both parties unhappy with the results. When one collaborates with the other side, both try to find a new and different solution that benefits them equally. Collaboration can result in new and creative solutions that satisfy both sides and improve performance. Successful collaboration depends on the ability to listen and truly understand what the other side needs or wants.

## 11.5 CAUSES OF INTERPERSONAL CONFLICTS

- *Group Identification and Intergroup Bias*
  - Intergroup bias occurs because of self-esteem. Identifying with the successes of one's own group and disassociating oneself from outgroup failures boosts self-esteem and provides comforting feelings of social solidarity.
- *Interdependence*
  - When individuals or sub-units are mutually dependent on each other to accomplish *their own* goals, the potential for conflict exists. Interdependence can set the stage for conflict for two reasons: 1) it necessitates interaction between the parties so that they can coordinate their interests, 2) interdependence implies that each party has some power over the other.
- *Differences in Power, Status, and Culture*
  - Power – If dependence is not mutual, but one way, the potential for conflict increases.
  - Status – Status differences provide little impetus for conflict when people of lower status are dependent on those of higher status.
  - Culture – When two or more very different cultures develop in an organization, the clash in beliefs and values can result in overt conflict.
- *Ambiguity*
  - Ambiguous goals, jurisdictions, or performance criteria can lead to conflict. Under such ambiguity, the formal and informal rules that govern interaction break down.
- *Scarce Resources*
  - Differences in power are magnified when resources become scarce.



## 11.6 TYPES OF CONFLICT

- **Relationship conflict:**– Interpersonal tensions among individuals that have to do with their relationship per se, not the task at hand.
- **Task conflict:**– disagreements about the nature of the work to be done.
- **Process conflict:**– disagreements about how work should be organized and accomplished.

## 11.7 STRATEGIES OF DEALING WITH CONFLICTS IN ORGANIZATIONS

- **Avoiding:**– a conflict management style characterized by low assertiveness of one's own interests and low cooperation with the other party.
- **Accommodating:**– a conflict management style in which one cooperates with the other party, while not asserting one's own interests.
- **Competing:**– a conflict management style that maximizes assertiveness and minimizes cooperation.
- **Compromise:**– a conflict management style that combines intermediate levels of assertiveness and cooperation.
- **Collaborating:**– a conflict management style that maximizes both assertiveness and cooperation.

### 11.7.1. Managing Conflict with Negotiation

- **Negotiation:**– a decision-making process among interdependent parties who do not share identical preferences.
- **Distributive negotiation:**– win-lose negotiation in which a fixed amount of assets is divided between parties.
- **Integrative Negotiation:**– win-win negotiation that assumes that mutual problem solving can enlarge the assets to be divided between parties.
- **Distributive Negotiation Tactics**
  - Threats – *Threat* consists of implying that one will punish the party if he/she does not concede to your position.
  - Firmness vs. Concessions – Sticking to your target position, offering few concessions, and waiting for the other party to give in.
  - Persuasion – verbal persuasion or debate is common in negotiations (technical merits & fairness of opponent's position)

## 11.8 STRATEGIES TO MANAGE WORKPLACE CONFLICTS

The following strategies may be adopted to manage workplace conflict:-

**Understand the situation** – Few situations are exactly as they seem or are as presented by others. Before trying to settle the conflict ensure one has investigated both sides of the issue.

**Acknowledge the problem** – I remember an exchange between two board members. One member was frustrated with the direction the organization was taking. He told the other, “Just don't worry about it. It isn't that important.” Keep in mind what appears to be a small issue to you can be a major issue with another. Acknowledging the frustration and concerns is an important step in resolving the conflict.

**Be patient** – The old adage, “Haste makes waste,” has more truth in it than we sometimes realize. Take time to evaluate all information. A too-quick decision does more harm than good when it turns out to be the wrong decision and further alienating the individual involved.

**Avoid using coercion and intimidation** – Emotional outbursts or coercing people may stop the problem temporarily, but do not fool yourself into thinking it is a long-term solution. Odds are the problem will resurface. At that point not only will the initial problem be difficult to deal with, but also the angry feelings that have formed below the surface during the interim.

**Focus on the problem, not the individual** – Most people have known at least one “problematic individual” during their work experience. Avoid forming own pre-conceived attitudes about individuals. Person X may not be the most congenial individual or they may just have a personality conflict with someone on your staff. This does not mean they do not have a legitimate problem or issue. Focus on identifying and resolving the conflict. If, after careful and thorough analysis, one determines the individual is the problem, then focus on the individual at that point.

**Establish guidelines** – Before conducting a formal meeting between individuals one should get both parties to agree to a few meeting guidelines. People should be allowed to express themselves calmly—as unemotionally as possible. It is necessary to have them agree to attempt to understand each other’s perspective. It is necessary to them if they violate the guidelines the meeting will come to an end.

**Keep the communication open** – The ultimate goal in conflict resolution is for both parties to resolve the issue between themselves. Both parties should be allowed to express their viewpoint, but also share one’s perspective. One should attempt to facilitate the meeting and help them pinpoint the real issue causing conflict.

**Act decisively** – Once you have taken time to gather information, talked to all the parties involved, and reviewed all the circumstances, it is important to make one’s decision and act. Taking too long to make a decision could damage the credibility and people’s perception. They may view the manager as either too weak, too uncaring, or both, to handle the problem. Not everyone will agree with the decision, but at least they will be informed of the locus standi.



## Questions with solved examples :

### MULTIPLE CHOICE QUESTIONS

1. Planning is based on – (a) decision-making, (b) forecasting, (c) staffing  
**Hint** – Planning is setting objectives and deciding how to accomplish them.  
**Correct Answer** – (b) Forecasting is the basis for planning.  
**Wrong Answers** – (a) Decision-making is related to planning.  
(c) Staffing is the activity of personnel department.
2. Planning do not consider – (a) choice, (b) communication, (c) machines.  
**Hint:** Planning involves setting missions and objectives.  
**Correct Answer** – (c) Machinery is an asset and its deployment will be as per plans.  
**Wrong Answers** – (a) Planning involves choice.  
(b) Communication is a basis for planning.
3. Strategic plans are – (a) single use plans, (b) long range plans, (c) for lower management levels.  
**Hint** – Strategic plans are long range plans.  
**Correct Answer:** (b) Long-term period is considered by strategic plans  
**Wrong Answers:** (a) They are not strategic plans  
(c) It is a level of management.
4. Short-term plans guides – (a) lower level management, (b) bridges gap between past and present  
(c) forecasting.  
**Hint** – Short-term plans guide the lower level of management.  
**Correct Answer** – (a) Lower level of management uses short-term plans.  
**Wrong Answers** (b) Bridging gap between past and present is a basis of planning.  
(c) Forecasting is a basis of planning.
5. Participating in the planning process makes: (a) effective planning, (b) cost reduction,  
(c) increase output.  
**Hint** – Effective planning is also based on participation in planning process.  
**Correct Answer** – (a) Effective planning requires participation in planning process.  
**Wrong Answers** – (b) Cost reduction is not the work of planning.  
(c) Increase of output depends on the production department.
6. Negative attitude and Commitment are not the basis for: (a) effective planning,  
(b) environment, (c) resistance.  
**Hint** – Negative attitude and commitment stands as an obstacle to effective planning.  
**Correct Answer** – (a) Negative attitude is a barrier for effective planning.  
**Wrong Answers** – (b) Environment is an obstacle of negative attitude and commitment.  
(c) Resistance is limitation of planning.

7. Planning is – (a) looking ahead, (b) guiding people, (c) delegation of authority.  
**Hint** – Planning is looking ahead for the future.  
**Correct Answer** – (a) Planning is setting goals for the future.  
**Wrong Answers** – (b) Guiding people is a directing function.  
(c) Delegation of authority is a process of transferring power from superior to subordinate.
8. Single use plans are – (a) applicable in non-recurring situation, (b) deals with recurring situations, (c) budgets.  
**Hint** – Single use plans are designed to deal with a unique, non-recurring situation.  
**Correct Answer** – (a) Single use plans are applicable in non-recurring situations.  
**Wrong Answers** – (b) Standing plans deal with recurring situations.  
(c) Budget is a statement of expected results expressed in numerical terms.
9. Programs are a complex of – (a) budgets, (b) goals & policies, (c) rules.  
**Hint** – Programs are complex of goals, policies, rules, procedures, tasks.  
**Correct Answer** – (b) Goals and policies are part of programs.  
**Wrong Answers** – (a) Budgets are not a part of programs.  
(c) Rules spell out specific actions which is also a part of program.
10. The limitations of planning are– (a) proper environment, (b) planning premises, (c) wrong information.  
**Hint** – Wrong information and time involved are the limitations of planning.  
**Correct Answer** – (c) Wrong information is the barrier to planning.  
**Wrong Answers** – (a) Proper environment is a pre-requisite for planning.  
(b) Planning premises are pre-requisites for planning.
11. Selection devices must – (a) be explained, (b) match the job in question, (c) to be cost-effective  
**Hint** – Selection Devices must match the job in question.  
**Correct Answer** – (b) The basic criterion for an effective selection device is to match the job in question.  
**Wrong Answers** – (a) Selection devices are not explained.  
(c) Cost-effectiveness is the secondary criterion
12. The popular on-the-job training methods include – (a) job rotation, (b) classroom lectures, (c) films.  
**Hint** – On-the-job training methods allow the workers to work in a realistic work environment and gather experiences.  
**Correct Answer** – (a) Job rotation helps the workers to gather experience of work in various positions.  
**Wrong Answers** – (b) Classroom lectures is the method of off-the-job  
(c) Films are the methods of off the job training.



13. Need refers to – (a) control information and performance review, (b) key result areas and statement of objectives, (c) agree what you expect from me.  
**Hint** – Need states agree what you refer from me and give me an opportunity to perform.  
**Correct Answer** – (c) It is feature of need.  
**Wrong Answers** – (a) Control information and performance review is the feature of need.  
(b) Key result areas and statement of objectives is the feature of need.
14. Staffing refers to – (a) measuring performance, (b) managing the positions, (c) management in action.  
**Hint** – Staffing refers to appointing the right person for the right job.  
**Correct Answer** – (b) Managing the positions means appointing right person for the right job.  
**Wrong Answers** – (a) Measuring performance is a controlling function  
(c) Management in action is a directing function.
15. Non-financial incentives have many things to do with – (a) Directing, (b) Motivation, (c) Planning.  
**Hint** – The workers always prefer good behaviour and a proper work environment a part from financial incentives.  
**Correct Answer** – (b) Motivation is an important variable which influences human performance at work.  
**Wrong Answers** – (a) Directing is management in action  
(c) Planning is a thinking function.
16. Staffing needs – (a) man power planning, (b) authority, (c) communication.  
**Hint** – Staffing needs estimates of present and future needs of managerial man power and therefore it needs some pre-thinking.  
**Correct Answer** – (a) Staffing is man power planning – putting right person in the right job. The person must be fit for the job.  
**Wrong Answers** – (b) Authority is the power entrusted to a position in an organization structure.  
(c) Communication is the transfer / exchange of information, facts, opinion, emotion from one person to another.
17. HRD refers to – (a) remuneration, (b) development, (c) controlling.  
**Hint** – Macro HRD means development of a human being during his/her work career.  
**Correct Answer** – (b) Development of an individual is the fundamental of human resource development (HRD).  
**Wrong Answers** – (a) Remuneration is the compensation for labour  
(c) Controlling is measuring performances and identifying deviations and its causes.
18. Recruitment covers – (a) selection, (b) job analysis, (c) time.  
**Hint** – Recruitment covers job analysis, job design and job descriptions.  
**Correct Answer** – (b) Job analysis is a review of the content of the job and necessary competences it requires.  
**Wrong Answers** – (a) Selection is making a choice among the personnel.  
(c) Recruitment do not consider time factor.

19. Training is the process of: (a) motivation (b) increasing knowledge and skill (c) testing.  
**Hint** – Training is the process of increasing the knowledge and skills of an employee for doing a particular job.  
**Correct Answer** – (b) Increasing knowledge and skill is the basic for training.  
**Wrong Answers** – (a) Motivation influences human behaviour.  
(c) Testing is a tool for recruitment.
20. Vestibule training provides the worker with – (a) on the job training, (b) off the job training, (c) real life presentations off the job  
**Hint** – The worker is provided with a real life presentation but not on the job directly.  
**Correct Answer** – (c) Real life presentations off the job but creating a real atmosphere for work are the essence of vestibule training.  
**Wrong Answers** – (a) Vestibule training is not on the job.  
(b) Off the job may be without real life presentations also.
21. Direction refers to – (a) planning, (b) organizing, (c) driving.  
**Hint** – Direction refers to a driving force of an organization.  
**Correct Answer** – (c) Directing is the forceful driving of an organization.  
**Wrong Answers** – (a) Planning is estimation of the future.  
(b) Organizing all the factors of production and elements of management.
22. Mary Follett pointed that reform was possible provided the following consideration were taken into account – (i) building up new attitudes, (ii) planning and (iii) negative attitudes.  
**Hint** – As per Mary Follet, reform is possible if we consider building up new attitudes.  
**Correct Answer** – (a) Building up new attitudes referred by Mary Follet.  
**Wrong Answers** – (b) Planning is an estimation of the future.  
(c) Reform is not possible due to negative attitudes.
23. The characteristics of direction include – (a) guiding, (b) motivating, (c) planning.  
**Hint** – Guiding is an important characteristic of direction.  
**Correct Answer** – (a) Guiding is an important characteristic of direction.  
**Wrong Answers** – (b) Motivation influences human behaviour.  
(c) Planning is the primary function of management.
24. Direction is a – (a) discrete process, (b) continuous process, (c) circular process.  
**Hint** – Directing is never completed.  
**Correct Answer** – (b) Direction is a continuous process.  
**Wrong Answers** – (a) Direction is not a discrete process.  
(c) Direction is not a circular process.
25. The principles of direction do not include – (a) to have a thorough knowledge about the terms to bind the employees and the organization, (b) to remove the inefficient employees, (c) labour turnover.  
**Hint** – Labour turn over refers to the number of employees leaving the job during the year.  
**Correct Answer** – (c) Labour turnover is not the principle of direction.  
**Wrong Answers** – (a) The principle of direction is to have a thorough knowledge about the terms to bind the employees and the organization.  
(b) To remove the inefficient employees is the principle of direction.



26. The techniques of direction excludes: (a) an alternative device of communication, (b) supervisory techniques, (c) coordination.  
**Hint** – Coordination refers to the link between the different functions of management.  
**Correct Answer** – (c) Coordination is exclusive of direction.  
**Wrong Answers** – (a) The techniques of direction include an alternative device of communication.  
(b) Supervisory techniques are techniques of direction.
27. Maslow in his hierarchy has not considered – (a) psychological needs, (b) security needs, (c) wealthy needs.  
**Hint** – Wealth is not considered in Maslow's need hierarchy.  
**Correct Answer** – (c) Wealth needs are not considered in need hierarchy by Maslow.  
**Wrong Answers** – (a) Psychological needs are considered in Maslow's need hierarchy.  
(b) Security needs are considered in Maslow's hierarchy.
28. The features of leadership do not include – (a) representation, (b) initiation, (c) planning.  
**Hint** – Planning is not a part of leadership.  
**Correct Answer** – (c) Planning is not the function performed by a leader.  
**Wrong Answers** – (a) Representation is a feature of leadership.  
(b) Initiation is a feature of leadership.
29. Leadership has a lot of characteristics and a leader must not maintain this trait in his behaviour – (a) coexistence, (b) taking responsibility, (c) avoiding responsibility.  
**Hint** – Avoiding responsibility is not a character of a good leader.  
**Correct Answer** – (c) Avoiding responsibility is a negative character of a leader.  
**Wrong Answers** – (a) Coexistence is a characteristic of leadership.  
(b) Taking responsibility is a character of a good leader.
30. Communication is a – (a) two-way process, (b) one-way process, (c) discrete process.  
**Hint** – Communication is a transfer of information from one person to another and getting the feedback to check the efficiency of the message communicated.  
**Correct Answer** – (a) It is a two-way process.  
**Wrong Answers** – (b) It is not a one-way process.  
(c) It is not a discrete process.
31. Control is a function aimed at – (a) economic development, (b) staffing, (c) organizational development.  
**Hint** – Control is an essential function of management in every organization aimed at attainment of organizational objectives.  
**Correct Answer** – (c) Organization development depends on effective control.  
**Wrong Answers** – (a) Economic development is also an objective of control.  
(b) Staffing is right man for the right job.
32. Control is a – (a) static activity, (b) plan, (c) pervasive function.  
**Hint** – Control is a pervasive function applicable in all environments.  
**Correct Answer** – (c) Pervasive function is applicable in all environments  
**Wrong Answers:** (a) Static activity refers to rigidity. Control is a dynamic process.  
(b) Plan is a management function.

33. The objective of control is – (a) take corrective actions, (b) make plans, (c) prepare manpower planning.  
**Hint** – Control aims in taking corrective actions.  
**Correct Answer** – (a) Taking corrective action is an objective of control.  
**Wrong Answers** – (b) Making plans  
(c) Man-power planning is the activity of Personnel department.
34. Detecting irregularities is possible through – (a) controlling, (b) staffing, (c) decision-making.  
**Hint** – Controlling helps in detecting irregularities.  
**Correct Answer** – (a) Controlling helps in detecting errors and irregularities.  
**Wrong Answers** – (b) Staffing is right person for the right job.  
(c) Decision-making is a management function.
35. Strategic control is implemented with – (a) micro perspective, (b) department perspective, (c) macro perspective.  
**Hint** – Strategic control aims organisational perspective.  
**Correct Answer** – (c) Macro perspective means considering the whole organization.  
**Wrong Answers** – (a) Micro perspective means considering the whole operational control.  
(b) Department perspective means tactical control.
36. Deviation is a term used in – (a) controlling (b) motivation (c) directing.  
**Hint** – Deviation is the term used when the actual performance is not equal to the standard performance.  
**Correct Answer** – (a) Controlling helps in measuring deviations.  
**Wrong answers** – (b) Motivation influences human behaviour.  
(c) Directing means commanding, which has no relation with deviation.
37. Controlling plays an important role in helping – (a) increase the costs, (b) Fixing standards, (c) Identify opportunities.  
**Hint** – Controlling plays an important role in identifying opportunities.  
**Correct answer** – (c) Controlling plays an important role in identifying opportunities.  
**Wrong answers** – (a) Reduction in costs is the aim of controlling through proper use of resources.  
(b) Fixing standards is not the task of controlling.
38. Difficulty in controlling the external factors is a drawback for – (a) controlling (b) motivation (c) staffing  
**Hint** – Controlling fails to combat the external forces.  
**Correct answer** – (a) Controlling fails to combat the external forces.  
**Wrong answers** – (b) Motivation influences human behaviour.  
(c) Staffing is appointing right person for the right job.
39. Effective control requires – (a) flexibility (b) rigidity (c) high cost  
**Hint** – effective control requires flexibility to adopt with the changed circumstances.  
**Correct answer** – (a) The control system must be flexible.  
**Wrong answers** – (b) Rigidity is not a requirement of effective control system.  
(c) High cost is not desirable for an effective control system.



40. The standard performances needs to be adjusted after measuring with – (a) actual performances (b) costs (c) time involved.  
**Hint** – The actual performances should be measured with standards and the standard performances need to be adjusted through controlling techniques and review procedures.  
**Correct answer** – (a) Actual performances compared with the standard performance leads to adjustment of pre-determined standards.  
**Wrong Answers** – (b) Cost has relation with fixing of standards.  
(c) Standards have less relevance with time.
41. Organizing refers to – (a) planning, (b) delegation of authority, (c) training.  
**Hint** – Organizing is the process of identifying and grouping the work to be performed, defining and delegating responsibility and authority and establishing relationships.  
**Correct Answer** – (b) Organizing also delegates authority.  
**Wrong Answers** – (a) Planning is a function of management.  
(c) Training is possible through organized activities.
42. Organizing aims to serve – (a) common purpose, (b) corruption, (c) authority structure.  
**Hint** – Organizing aims to serve authority structure must take into account people's limitations and customs.  
**Correct Answer** – (c) Serving the authority structure is one of the purpose of organizing.  
**Wrong Answers** – (a) Organizing is characterized to involve a common purpose.  
(b) Organizing checks corruption.
43. Organizing destroys – (a) individual relationships, (b) plans, (c) simplicity in the organization.  
**Hint** – Organizing sometimes causes harmful effects mainly due to mistakes in certain practices.  
**Correct Answer** – (c) Simplicity of the organization is destroyed through wrong organizing practices.  
**Wrong Answers** – (a) Individual relationships are not hampered directly.  
(b) Plans are to be strictly followed to achieve organizational goals.
44. The principle of objective states – (a) delegation of authority, (b) existence for a purpose, (c) formal organization.  
**Hint** – An organization must exist for a purpose is the principle of objective.  
**Correct Answer** – (b) Existence for a purpose is the principle of objective.  
**Wrong Answers** – (a) Delegation of authority is through decentralization.  
(b) Formal organization refers to well-defined authority structure.
45. For Effective Organizing, an Organization Required – (a) Principle of Balance (b) Span of Management (c) Organization Process.  
**Hint** – For effective organizing certain pre-requisites are to be satisfied including clearly defined organizational levels and span of management.  
**Correct Answer** – (b) Span of management must be clearly defined for making organizing an effective one.  
**Wrong Answers** – (a) Principle of balance refers to maintaining a balance between various functional areas of an organization.  
(c) Organization process is not a pre-requisite for effective organizing.

46. The Structure of Organization Includes – (a) Identification and classification of Required Activities, (b) Informal Organization, (c) Establishing Enterprise Objectives.  
**Hint** – The structure of organization is thought of identification and classification of required activities, grouping of activities necessary to attain certain objectives.  
**Correct Answer** – (a) The identification and classification of required activities is a part of the organization structure.  
**Wrong Answers** – (b) Informal organization is a network of personal and social relations not established or required by the formal organization.  
(c) Establishing enterprise objectives is a step in the process of organizing.
47. The degree to which an organization relies on rules and procedures to direct the behaviour of employees is – (a) complexity, (b) formalization, (c) centralization.  
**Hint** – It is a measure of the degree of reliability on rules and procedures to direct the employee behaviour.  
**Correct Answer** – (b) Formalization is the measure of the degree of reliability on rules and procedures to direct employee behaviour.  
**Wrong Answers** – (a) Complexity considers the amount of differentiation in an organization.  
(c) Centralization considers where the decision making authority lies.
48. In a formal organization, “power” is associated with – (a) an individual, (b) position, (c) relationship.  
**Hint** – Power is associated with position in formal organization.  
**Correct Answer** – (b) In a formal organization, power is associated with position.  
**Wrong Answers** – (a) An individual possesses charismatic power.  
(c) Relationship does not depend on power or power never creates relationship.
49. Delegation is – (a) a continuous process, (b) unfolding talents, (c) granting the right to command.  
**Hint:** Delegation is the act of granting or conferring something and the term authority means right to command.  
**Correct Answer** – (c) Delegation is granting the right to command.  
**Wrong Answers** – (a) It is not a self-actuating process and hence not a continuous process.  
(b) Unfolding talents is the benefit derived from delegation.
50. Unity of Command Means – (a) Parity of Authority and Responsibility (b) Flow of Command from Subordinate to Superior, (c) Flow of Command from Superior to Subordinate.  
**Hint** – Delegation of authority should flow from only one superior.  
**Correct Answer** – (c) Flow of command from one superior to subordinates is the unity of command.  
**Wrong Answers** – (a) Parity of authority and responsibility is a principle of delegation.  
(b) Subordinates do not command the superiors.
51. Defective delegation – (a) hampers coordination (b) size of the organization, (c) establish proper controls.  
**Hint** – Defective delegation hampers human attitude and coordination among the workers.  
**Correct Answer** – (a) Coordination is hampered through defective delegation.  
**Wrong Answers** – (b) Size of the organization is not affected by defective delegation.  
(c) Establishing proper controls can be a remedial measure against defective delegation.



## TRUE OR FALSE

1. Management Information System (MIS) is a closed system.

**Ans.** False. Management Information System (MIS) is an open system.

**Hint** – MIS refers to the organization as a whole.

2. Standing plans are flexible.

**Ans.** False. Standing plans are not flexible.

**Hint** – Standing plans are set of strategies adopted to meet the needs of almost all situations. They are rigid to a great extent.

3. Budgets are always qualitative.

**Ans.** False. Budgets are quantitative.

**Hint** – Budgets are statements of expected results in numerical terms.

4. Programs are procedures of handling past activities.

**Ans.** False. Programs are a complex of goals, policies, procedures, rules, and task.

**Hint** – Procedures are plans to handle the future activities.

5. Planning is a discrete process.

**Ans.** False. It is a continuous process.

**Hint** – Planning is a perpetual process.

6. Plans are always realistic.

**Ans.** False. Plans are based on forecasting and past performance.

**Hint** – Plans are the future courses of action.

7. Planning includes decision-making.

**Ans.** True. Planning includes setting objectives and also taking decisions.

**Hint** – Planning is a thinking function.

8. Long term plans specify activities to be carried out.

**Ans.** False. Medium term plans specify activities to be carried out.

**Hint** – Long term plans specify procedures to attain the organizational objectives.

9. Planning creates a false sense of security among the employees.

**Ans.** True. It is a limitation for planning.

**Hint** – The initiative and creativity of the employees are restricted as they shall have to work within planning activities.

10. Planning is a tertiary function.

**Ans.** False. Tertiary function involves execution function by the lower level management.

**Hint –** Planning is the primary function performed by the top level management.

11. Staff appraisals reduce absenteeism.

**Ans.** False. Non-financial incentives reduce absenteeism.

**Hint –** Staff appraisals assess the potential for promotion.

12. Off-the-job training lecture classes.

**Ans.** True. It is a method of off the job training.

**Hint –** Off the job training takes place outside the working environment.

13. Staffing involves delegation of authority.

**Ans.** False. Delegation of authority is an organizing function.

**Hint –** Staffing is right person for the right job.

14. Office training improves skill.

**Ans.** True. Office training is concerned with improving skills which already exist.

**Hint –** Office training provides on-the-job training facilities and gathering real life experiences.

15. Recreational amenities improves work environment.

**Ans.** True. A recreational amenity is a non-financial incentive of motivation.

**Hint –** Non-financial incentives are also known as psychological incentives.

16. Non-financial incentives increases labour turnover.

**Ans.** False. Labour turnover arises due to dissatisfaction of the workers.

**Hint –** Non-financial incentives reduces labour turnover.

17. Job evaluation assesses the contents of the job.

**Ans.** True. Evaluation is an analysis of the job.

**Hint –** Job evaluation allows an organization to analyse and assess the contents of the job.

18. Ranking involves the examination and assessment of jobs in terms of their relative worth.

**Ans.** True. The jobs are examined and assessed in terms of their relative worth.

**Hint –** It is the simplest method of appraisal based on relative importance based on relative importance of the job.

19. Monetary incentives are always satisfying workers.

**Ans.** False. In most cases, monetary incentives do satisfy the workers but not in all cases.

**Hint –** Monetary incentives work as dissatisfiers also. Non-monetary incentives do work as satisfiers.



20. Line rate system is based on units produced in a given time period.

**Ans.** False. Time rate system is based on rate per hour and time taken for the job.

**Hint –** Wages based on units produced is known as Piece-rate system.

21. Motivation is an important variable that help optimizes non-human resources at work.

**Ans.** False. Motivation influences human performances.

**Hint –** Motivating influences human behaviour.

22. Maslow's need hierarchy theory consists of psychological needs, security needs, social needs, esteem needs and self-actualisation needs.

**Ans.** True. They are the needs mentioned by Abraham Maslow in his need hierarchy theory.

**Hint –** They are the needs set at a hierarchy by Maslow.

23. Herzberg and his associates conducted a study to assess the factors that expressed satisfactions were related to the behaviour.

**Ans.** False. Herzberg stated about the content of job.

**Hint –** It is related to the content of their job.

24. ERG refers to existence, relatedness and growth.

**Ans.** True. They are the elements of ERG theory.

**Hint –** Alderfer suggested existence, relatedness and growth in his ERG theory.

25. McClelland's initial work centered on the need for achievement.

**Ans.** True. McClelland's initial work centered on the need for achievement.

**Hint –** David C. McClelland has contributed to the theories of motivation by highlighting the importance of three basic needs to understand motivation. They are achievement needs, affiliation needs and power needs.

26. Victor H. Vroom contends the motivation as the relationship as stated in the following formula:  
 $\text{Valence} \times \text{Expectancy} \times \text{Instrumentality} = \text{Motivation}$ .

**Ans.** True. They are the elements prescribed by Vroom and the product of those leads to motivation.

**Hint –**  $\text{Motivation} = \text{Valence} \times \text{Expectancy} \times \text{Instrumentality}$ .

27. The process of Communication: Sender – Decoding – Transmission of Message – Receiver – Encoding – Feedback.

**Ans.** False. Decoding is a receiving function. Encoding is a sending function.

**Hint –** Sender – Encoding – Transmission of message – Receiver – Decoding – Feedback.

28. Written Communication is the transmission of message / information through written words in electronic mails.

**Ans.** False. Electronic mail is a tool for written communication.

**Hint –** Written communication may be through any media.

**29.** Non-verbal Communication includes exhibitions, facial expressions and body gestures.

**Ans.** False. Exhibitions may also be supported by explanations, which is a verbal or oral communication.

**Hint –** Non-verbal communication does not include exhibition.

**30.** Semantic Distortion refers to symbolic differences.

**Ans.** True. Semantic refers to symbols.

**Hint –** Semantic distortion refers to problems relating to symbols used in communication.

**31.** Planning and controlling are directly proportional to each other.

**Ans.** True. Planning and controlling are essential functions of management and are inter-related and interdependent on each other.

**Hint –** Planning and controlling are having a cyclical relationship.

**32.** Strategic control is on-line control.

**Ans.** False. On line control is concurrent control.

**Hint –** Strategic control involves monitoring critical environmental factors.

**33.** Cybernetic control is based on time frame.

**Ans.** False. Cybernetic control is based on human behaviour.

**Hint –** Time frame controls are feedforward, concurrent and feed back control.

**34.** Operational control is based on tactical planning.

**Ans.** False. Tactical planning is the basis for tactical control.

**Hint –** Operational control is based on operational planning.

**35.** Effective control is based on cost.

**Ans.** False. Cost is also a determinant of effective control.

**Hint –** Effective control requires effective plans and also to some extent cost involved.

**36.** Taking corrective action is the function of budgeting.

**Ans.** False. Taking corrective action is the function of controlling.

**Hint –** Budgeting involves setting standards expressed in quantitative as well as qualitative terms.

**37.** The basic control process consists of budgeting also:

**Ans.** True. Budgeting also refers to setting of standards.

**Hint –** The basic control process consists of establishing standards also.

**38.** Control is an administrative function.

**Ans.** False. Administrative function refers to thinking function.

**Hint –** Control is a management function as it is an execution function.



39. Management is an individual activity.

**Ans.** False. It is not only an industrial activity.

**Hint** – Management is an activity for all organization.

40. Management is a factor of production.

**Ans.** True. Management is a factor of production.

**Hint** – Proper management promotes growth of the organization.

41. Management is universal in character.

**Ans.** True. Management is applicable at all circumstances.

**Hint** – Management is all pervasive.

42. Management is a social process.

**Ans.** True. It is a social process as it utilizes the best combination of human & non-human resources.

**Hint** – Management considers different elements of the society.

43. Management is a science as well as an art.

**Ans.** True. Management is both a science as well as an art.

**Hint** – Management satisfies both the features to be a science as well as an art.

44. Management is a uniform code of conduct.

**Ans.** False. It is not a uniform code of conduct.

**Hint** – Management is all pervasive & dynamic.

45. Management is a wider term than administration.

**Ans.** False. Administration includes management.

**Hint** – Administration is a thinking function while management is an executive function.

46. Management is 'doing function'.

**Ans.** True. Management is an execution function.

**Hint** – Management is an activity.

47. Organization and management mean the same thing.

**Ans.** False. Organization is a function

**Hint** – Organization and management are different terms.

48. Managers are born and not made.

**Ans.** False. Managers are made as per their skill, experience and abilities.

**Hint** – Leaders are born and not made.

**49.** Desire for independence is centralization.

**Ans.** False. Centralization is interdependence and not independence.

**Hint –** Centralization refers to concentration of power and authority.

**50.** Reducing the workload is the nature of decentralization.

**Ans.** True. Decentralization has gained its importance as it aims in reducing the workload.

**Hint –** Decentralization aims at reducing the workload.

**51.** Task complexity sets a smooth ground for management.

**Ans.** False. The more complex task, the more difficult it is for the top management to take effective decisions.

**Hint –** Complexity stands as a barrier to make effective decisions.

**52.** Centralization promotes initiative and creativity.

**Ans.** False. Decentralization leads to inspire initiative and creativity.

**Hint –** Centralization leads to concentration of power and authority.

**53.** Centralization stands as a barrier to coordination.

**Ans.** False. Decentralization stands as a barrier to coordination.

**Hint –** Centralization is effective improves coordination.

**54.** An organization is a division of labour.

**Ans.** True. Labour cannot be separated from the labourer.

**Hint –** An organization involves division of labour.

**55.** Organizing is the process of rectifying individual corruption.

**Ans.** False. Checking of corruption at different levels is an advantage which is enjoyed for organizing.

**Hint –** Organizing is the process of identifying and grouping the work to be performed.

**56.** Formulation of supporting objectives, policies and plans is a step in the organization process.

**Ans.** True. It is a step in the process of organizing.

**Hint –** Organization process includes formulation of supporting objectives and plans.

**57.** The authority must flow in all directions.

**Ans.** False. Authority must flow from the top to the bottom and not in all directions.

**Hint –** Decentralization of power must be made by the superiors only.

**58.** Quality of subordinates is a tool for decentralization.

**Ans.** False. Quality of subordinates is an element of delegation and not a tool of decentralization.

**Hint –** Lack of skill, abilities and motivation shall lead to ineffective delegation.



## SHORT ANSWERS

1. Define Planning.

**Ans.** Planning is the process of setting performance objectives and determining what should be done to accomplish them.

2. State the feature of planning.

**Ans.** Planning is goal oriented, all pervasive, forward looking, perpetual process, integrated process, primary function, rational process and involves choice.

3. Classify plans.

**Ans.** Plans may be classified based on: Organizational levels, frequency of use and based on time frame.

4. Define strategic plans.

**Ans.** Strategic plans indicate the resource allocation, setting priorities and taking actions necessary for achieving strategic goals.

5. State the plans based on time frame.

**Ans.** Plans based on time frame may be classified into: long-range plans, medium term plans and short-term plans.

6. State the importance of planning.

**Ans.** Planning involves setting missions and objectives and the actions to achieve them; it requires decision making that is choosing from among alternative future courses of action.

7. Discuss the steps in planning process.

**Ans.** The planning process involves the following steps: - analyzing opportunities, establishing objectives, determining the planning premises, identifying alternatives, evaluation, selection, implementation and review.

8. State the pre-requisites for effective planning.

**Ans.** The planning requires:-

- a proper environment
- clear and specific objectives
- planning premises

9. State two limitations of planning.

**Ans.** The planning faces the obstacles of

- wrong information
- time involved

10. Define standing plans.

**Ans.** Standing plans refer to specific actions which have been developed for dealing with recurring situations.

**11.** Define Staffing.

**Ans.** The term staffing commonly means recruitment, selection, appointment, promotion, training and transfer of the personnel of an organization. It is essentially a part of the organizing function. It is concerned with all types of men of an organization starting from the top-level executive to a base level worker. It means appointing right person for the right job.

**12.** State the need for staffing.

**Ans.** Staffing needs estimates of present and future needs of managerial manpower and therefore it needs some pre-thinking. Moreover the management staff requires time-to-time replacement owing to retirement or leaving of jobs or getting promotion by the staff. Staffing is a continuous process.

**13.** Define Personnel management.

**Ans.** According to E.F.L. Brech, "Personnel management is that part of the management process which is primarily concerned with the human constituents of an organization."

According to Dave Yoder, "Personnel management is that phase of management which deals with effective control and use of manpower as distinguished from other sources of power."

**14.** State the features of human resource policy. Human Resource Policy

**Ans.** A human resource policy should include three things:

- (a) Policy relating to the best use of available human resources.
- (b) Policy relating to the development of potential human resources for use in future.
- (c) Policy relating to population size.

**15.** Define Recruitment.

**Ans.** Recruitment involves attracting candidates to fill the positions in the organization structure. Before recruiting begins, the position's requirements which should relate directly to the task must be clearly identified. This makes it easier to recruit suitable candidates from the outside.

**16.** State the procedure of recruitment.

**Ans.** The procedure of recruitment has broadly three distinct parts: appraisal of managerial recruitment, selection and placement.

**17.** Explain job analysis.

**Ans.** Job analysis is a review of the content of a job and the necessary competences it requires.

**18.** Explain job design.

**Ans.** Job design (whose purposes are specialisation, regulation and training); approaches include job simplification (scientific management) job enrichment, enlargement and rotation (human relations).

**19.** Define selection.

**Ans.** Selection involves interviewing and testing. Interviews are not reliable. Selection processes enable both the recruiter and the candidate to come to a decision about the job. Selection is a prediction exercise.



**20.** Define Training.

**Ans.** Training is the process of increasing the knowledge and skills of an employee for doing a particular job. The objective of training is to achieve a change in the behaviour of those trained.

**21.** Define Development.

**Ans.** Development involves growth of an employee in all respects. Development has a wider perspective. It seeks to develop competence and skills for future performance. It has a long term perspective.

**22.** State the features of on-the-job training.

**Ans.** On-the-job training involves supervising a person as he or she learns the job.

- (a) Mistakes should be considered learning opportunities.
- (b) There should be learning objectives.

**23.** Define Office training.

**Ans.** Office training is usually concerned with improving skills, which already exist. It may take the form of raising the rating of the worker (e.g. training copy-typists to become audio-typists) or teaching the company procedures (e.g. standardisation of letter layout).

**24.** Define apprenticeship programme.

**Ans.** Under this method, a personnel is employed under a senior technical/ managerial staff to learn the job. He is not paid any compensation/remuneration for his job. This provides a person to learn the job on line and under the direct supervision of his senior.

**25.** Define vestibule training

**Ans.** Under this method, the worker is provided with a real-life presentation but not on the job directly. Artificially an environment is created so that the worker may fit himself in that environment.

**26.** State the methods for "Off the Job training".

**Ans.** There are various methods for "off the job "training. They are:

- (a) Conference
- (b) Seminars
- (c) Discussions
- (d) Case study
- (e) Role play
- (f) Lecture method.

**27.** Define ranking.

**Ans.** This method involves the examination of all jobs within an organization and an assessment of their relative worth. This technique has the advantage of simplicity but it has a number of potential difficulties also.

**28.** Define Classification.

**Ans.** Under this approach, before any attempt is made to assess the worth of any job, all jobs are placed into groupings or bands based upon established groupings within the organization. All management jobs will be placed together in one discrete grouping, which will be separated from unskilled manual jobs.

**29.** Define Assessment Centres.

**Ans.** The basic idea of an assessment centre (AC) is the assembly of a number of different but complementary assessment techniques that, specifically, can determine the ability of an individual to undertake a particular job.

**30.** Define direction.

**Ans.** Koontz and O'Donnell have defined direction as the "executive function of direction embraces those activities which are related to guiding and supervising subordinates.... It is the duty of the superior-manager to inculcate in his subordinates a keen appreciation of the enterprise traditions, history, objectives and policies."

**31.** State the techniques of direction.

**Ans.** In the words of Koontz and O'Donnell, the essential purpose of direction is "to teach subordinates, give them information, oversee their work and work methods, and take such action as will improve their performance." The techniques must be such that these are realized. The techniques are: an alternative device of communication and supervisory techniques.

**32.** Define Communication.

**Ans.** The word communication is derived from the Latin word, *communes*, which mean "commons". Communication is the transfer of information from a sender to a receiver with the information being understood by the receiver.

**33.** Suggest means to improve listening.

**Ans.** According to KEITH DAVIS, the guides to improving listening are:

"Stop talking, put talker at ease, show talker you want to listen, remove distraction, empathize with the talker, be patient, hold your temper, don't argue, don't criticize, ask question."

**34.** State the advantages of Oral Communication.

**Ans.** The advantages of Oral Communication are:

- (a) It helps in speedy transfer of information with immediate feedback.
- (b) It gives a feeling of importance to the subordinate when exchanging information, ideas, thoughts, opinion and emotions with his superior.

**35.** State the disadvantages of Oral Communication.

**Ans.** The disadvantages of Oral Communication are:

- (a) It does not always save time.
- (b) The meetings held can be costly in terms of time and money.

**36.** Define Interpersonal communication.

**Ans.** Interpersonal communication refers to:

- (a) Silent dimension of communication — being late, body language, how close one sits during meetings.
- (b) Para language — pitch, non fluency, voice quality, volume speech (ah, us, un) laughing, yawning.

**37.** Mention the areas of Horizontal Communication.

**Ans.** The areas of Horizontal Communication are:

- (a) Two employees of the same department.
- (b) Two departmental managers, e.g. Production Manager with the Marketing Manager.
- (c) Two or more persons bound to each other by a relationship of equality.



**38.** Define Control.

**Ans.** Control is an essential function for managing an organization. It is used to ensure that what is done is what was intended.

**39.** State the nature of control.

**Ans.** The nature of control may be analysed as: - (i) a pervasive function, (ii) a dynamic process (iii) forward looking, (iv) action-oriented, (v) analysis of past performance

**40.** State the importance of controlling.

**Ans.** Controlling plays an important role in helping managers detect irregularities, identify opportunities, handle complex situations, decentralize authority, minimize costs and cope with uncertainty.

**41.** State the limitations of control.

**Ans.** Control is ineffective for the following reasons:

- (i) the problem of fixing standards
- (ii) difficulty in fixing responsibility
- (iii) difficulty in controlling external factors
- (iv) increased cost resistance

**42.** State the levels of control.

**Ans.** Control takes place at different levels. They are strategic control, tactical control and operational control.

**43.** Define feed forward control.

**Ans.** Feed forward control prevents anticipated problems. It is executed in advance of the actual activity. It is future directed.

**44.** Define concurrent control.

**Ans.** Concurrent control takes place while an activity is in progress. When control is enacted while the work is being performed, management can correct problems before they become too costly.

**45.** Define feedback control.

**Ans.** Feedback control takes place after the action. It provides managers with meaningful information on how effective its planning effort was. It enhances employee motivation.

**46.** Define cybernetic control.

**Ans.** Cybernetic control is a self-regulating control system. Once put into action, it can automatically monitor the situation and take corrective action when necessary, thereby doing away with the need for human intervention.

**47.** Define management.

**Ans.** According to George Terry, "Management is a distinct process consisting of planning, organizing, actuating and controlling utilising in each both science and art and followed in order to accomplish predetermined objectives."

**48.** State two features of management.

**Ans.** The features of management include:

- (a) Every human group activity consists of some objectives. Management is an intangible but distinct process by which such objectives are realised.
- (b) Management itself has its objectives and is a means and not an end in itself.

**49.** Define management a process.

**Ans.** "Management is a distinct process consisting of planning, organizing, actuating and controlling, performed to determine and accomplish stated objectives by the use of human beings and other resources." – George R. Terry.

**50.** Define coordination.

**Ans.** "Coordination is the orderly synchronization of efforts to provide the proper amount, timing, and direction of execution resulting in harmonious and unified actions to a stated objective."

**51.** Define Organizing.

**Ans.** Organizing is determining what tasks are to be done, who is to do them, how the tasks are to be grouped, who reports to whom and where decisions are to be made.

**52.** State two benefits of organizing.

**Ans.** Organizing increase managerial efficiency through proper assignment of duties and helps in proper division of labour, delegation of authority, policy formulation and its execution.

**53.** State the characteristics of organizing.

**Ans.** An organization is a collection of people in a division of labour working together to achieve a common purpose. The characteristics of organization are:-

- (i) They are collection of people
- (ii) It involves division of labour
- (iii) It involves people working together
- (iv) It involves a common purpose

**54.** Define organization structure.

**Ans.** Organization structure is the system of communication and authority that links people and groups together to accomplish tasks that serve the organizational purpose. An organizations' structure can be divided into three parts: complexity, formalization and centralization.

**55.** Define formal organization.

**Ans.** A formal organization is a group of people working together cooperatively, under authority: towards goals that mutually benefits the participants and the organization. It is a system of well-defined jobs, each bearing a definite measure of authority, responsibility and accountability.

**56.** Define informal organization.

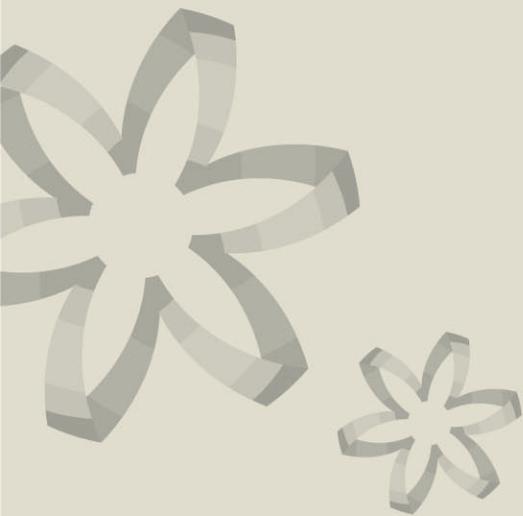
**Ans.** An informal organization is a network of personal and social relations not established or required by the formal organization but arising spontaneously as people associate with one another.

**57.** Define delegation.

**Ans.** Delegation means the act of granting of conferring something and the term authority means the right to command. Delegation of authority takes place when a superior vests authority to his subordinates.

**58.** Define decentralization.

**Ans.** Decentralization means dispersal, which is purely physical. Decentralization is an extension of delegation.



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