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PG AND RESEARCH DEPARTMENT OF COMMERCE

BUSINESS ECONOMICS

UNIT: I

Introduction:-

The term "Economics" which is very popular today, is originally derived from the ancient Greek word "Oiks" which means household & 'Nemein' which means management. The Greeks then applied this term to the city-state, which they called 'Polis'. Earlier writers, the classical & the neo-classical economists developed it into 'political economy' the great philosopher, Aristotle used the term as management of family & the state. Similarly, Indian states men, kavtilya used the term both as economic & political activities.

Definition of Economics:-

Various definitions can be discussed as under-

(i) Adam smith's wealth definition
(ii) Masshall's welfare definition
(iii) Lionel Robbin's scarcity definition
(iv) Samuelson's growth-oriented definition

(i) Adam Smith's wealth definition:-

Adam Smith (1723-1790) of Scotland is regarded as the Father of political economy. His book "An inquiry into the nature & causes of wealth of nations" is considered to be a monumental work in Economics. In his book, Adam Smith defined economics as the science of wealth.

Features:-

(i) Study of wealth:-

It does with the activities of man related to production, consumption, exchange & distribution.

(ii) Only Material Commodities:-

Study only material commodities while it ignores non-material goods as air & water.

(iii) Economic man:-

It is based on the man who is always aware of his 'self-interest'. Self interest leads to material gains.

- **Marshall Definition:-(Welfare)**

Alfred Marshall (1842-1924) was the first economist who saved this science from misunderstanding. He recognized the weaknesses of 'wealth definition'. He corrected the mistakes of classical writes. He formulated a new definition of economics by shifting the emphasis from 'wealth' to 'welfare'.

Features:-

(i) Study of Mankind:-

Economics is the study of mankind than wealth.

(ii) Study of ordinary man:-

It studies the activities of a man who earns wealth and spends it to get the maximum satisfaction.

(iii) Promotion of welfare:-

It studies the material means which promote human welfare.

- **Lionel Robbins (Scarcity definition):-**

Professor Lionel Robbins of the London school of economics constructed a new definition of economics in 1932 in his book, 'The Nature and significance of Economic science'. He defines economics as a "Science which studies human behaviour as a relationship between ends & science means which have alternative uses".

Features:-

(i) Unlimited Wants:-

Human wants are various & numerous. Ehen one want in satisfied, another want crops up in its place & so on.

(ii) Scarcity of means:-

Human wants are unlimited & means to satisfy are limited. These means are scarce.

(iii) Alternative use of Means:-

The scarce means are capable of alternative uses. They can be used for several purposes.

- **Samuelson (Growth-oriented definition):-**

According to Professor Samuelson, "Economics is the study of how people & society end up choosing with or without the use of money, to employ scarce productive resources that could have alternative uses to produce various commodities over time & distributing them for consumption, now or in the future, among various persons and groups in society. It analyses costs & benefits of improving patterns of resources allocation".

Features:-

(i) Economic Resources:-

Deals with the economic resources which are natural, human or physical.

(ii) Full utilization of Resources:-

This definition does not acknowledge only allocation of resources but they must also be fully utilised.

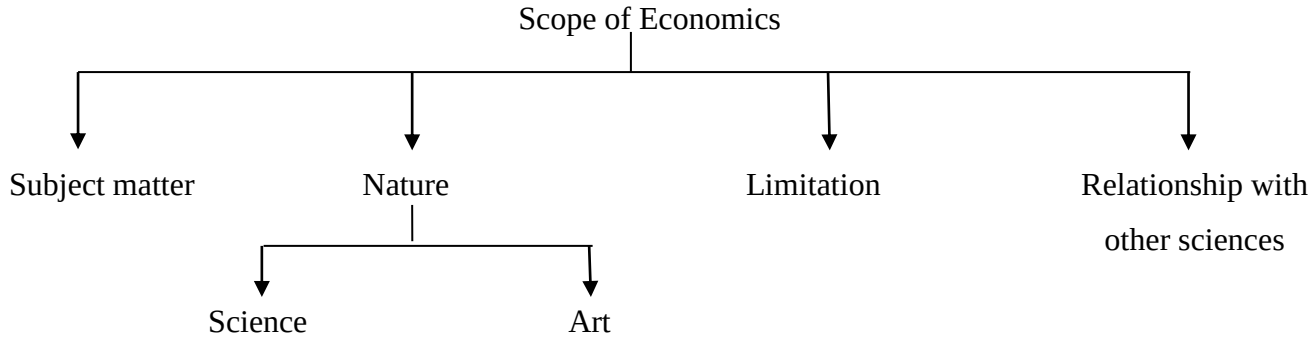
(iii) Increase in Productivity:-

It must increase productivity resulting in an increase in economic growth, employment & higher standard of living.

NATURE & SCOPE OF ECONOMICS:-

Nature & scope of economics is a vexed question & economists differ widely in their views. The reason is aptly put by Marshall in one of his letters to Lord Keynes: "It is true of almost every science that, the longer one studies it, the larger its scope seems to be: though in fact its scope may have remained almost unchanged.

The scope of economics includes the subject matter of economics. Whether economics is a science or an art, or is it a positive or a normative science.



(i) Subject Matter:-

The subject-matter of economics is connected to those economic activities of human beings which they perform for a proper utilization of the scarce means in order to get the maximum satisfaction of their wants. These economic activities are called consumption, production, exchange & distribution. The subject matter of economics is studied in two parts.

1. Micro Economics
2. Macro Economics

(i) Micro:

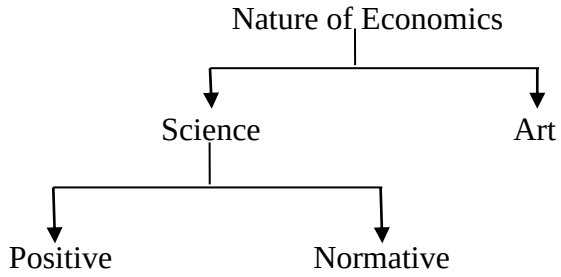
It studies the economic activities of an individual unit or a small group of more than one unit.

(ii) Macro:

In it, various economic activities of the entire economy are collectively studied.

(ii) Nature of Economics:-

Nature of economics implies whether it is science or art or both science & art. In the words of Professor Samuelson, "Economics is the oldest of the arts, the newest of sciences-indeed the queen of all the social science".



(i) Is Economics a Science:-

Robbins, Friedman etc., Think that it is a social science. A social science studies various human activities. Therefore, it is not necessary for its laws to be universal.

(a) Economics is a Positive Science:-

A positive science is that science in which exactness of the subject is studied. Almost all classical economists declared that science of economics should be concerned only with 'what is' and not 'what ought to be'.

(b) Economic as A Normative Science:-

Professor Hawtrey feels that economics is a normative science because there is an 'economics what ought to be', as it is in either. Its objective is to determine the norms or aims. This science also offers suggestions for solving the problems.

(ii) Economics As an Art:-

As J.M.Keynes has put it "An art is a system of rules for the attainment of a given end". The object of an art is the formulation of precepts applications to policy. This implies that art is practical. Modern economists use the term, "Economic Policy" for "Art". As an Art, economics proves helpful in solving our practical problems.

3. Limitations:-

Economics studies only about the normal social man. It does not study about pure science. Economic laws are more uncertain as they are related with human activities.

4. Relationship with other sciences:-

The subject economics is related to other subjects like History, Political science, Sociology, Psychology, Geography, Mathematics & Statistics.

BUSINESS ECONOMICS:-

In modern times business economics is also known as managerial economics. It deals with the decision process, decision model & decision variables at the firm level. Business economics or managerial economics concentrates on the economic behaviour of the firm.

Economics has developed some, well known 'Principles' or 'Model of thought'. These 'Principles' are utilised to solve business problems of an economic unit.

DEFINE BUSINESS ECONOMICS:-

According to Spencer & Siegel men, business economics as, "the integration of economics theory with business practice for the purpose of facilitating decision making & forward planning by management".

According to Mc Nais & Mariam, "Business economics deals with the use of economic models of thoughts to analyze business situation".

MAIN CHARACTERISTICS/PRINCIPLES/FEATURES/ NATURE OF BUSINESS ECONOMICS:-

(i) Micro in Nature
(ii) Basis of theory of Markets & Private Enterprises
(iii) Prognostic in Approach
(iv) Normative in Nature
(v) Macro Analysis

1. **Micro in Nature:-**

Business economics is micro-economics in nature. This is due to the study of business economics mainly at the level of the firm. Generally a business manager is concerned with problems of his own business unit. He does not study the economic problems of an economy as a whole.

2. **Basis of theory of Markets & Private Enterprises:-**

Business economics largely uses the theory of markets & private enterprise. It use the theory of the firm & resources allocation of private enterprise economy.

3. **Pragmatic in Approach:-**

Business economics is pragmatic in its approach. It does not involve itself with the theoretical controversies. Yet it does not relegate the relatives of business decision-making to the background by bringing in abstract assumption. While economic theory abstracts from realities of the individual business units to build up its theories. Managerial economics takes proper note of the particular economic environment in which a firm works.

4. **Normative in Nature:-**

Managerial economics is also called normative economics which prescribes standards or norms for policy making. Business economics is prescriptive rather than descriptive in nature. In business economics, we try to prescribe policies for a business manager which is most likely applied to achieve his objectives. In economic theory, we build 'laws' such as the law of demand & law of diminishing returns and we apply these laws for policy planning at the level of a firm.

5. **Macro Analysis:-**

Macro economics which deals with the principles of economics behaviour for the economy as a whole is also useful for business economics. A business unit operates within some economics environment which is in turn shaped by the behaviour of the economy of th economy as a whole.

IMPORTANCE / SIGNIFICANCE OF BUSINESS ECONOMICS:-

Management is concerned with decision-making. Decision-making needs a balance between simplifications of analysis to be manageable & complications for handling a variety of factors & objectives. Moreover, it also needs common sense and good judgement.

Managerial economics helps the decision-making process in the following ways.

1. In order to enable the manager to become a more competent model builder, managerial economics provides a number of tools & techniques. With the help of these models, the manager can capture the essential relationship that represents the real situation while eliminating the relatively less important details.
2. Managerial economics provides most of the concepts that are needed for the analysis of business problems. Over the years these concepts have proved their value in solving various kinds of managerial problems. Concepts of elasticity of demand, fixed & variable costs, short-run & long-run costs, opportunity costs, net present value, etc., all help in understanding and solving decision problems.

   They not only increase the vigour of the managers thinking, but also provide a common terminology and way of though for managers.
3. Managerial Economics is helpful in making decisions such as the following:-
   (i) What should be the product-mix?
   (ii) What are the production technique & the input-mix that is least lastly?
   (iii) What should be the level of output & price for the product?
   (iv) How to take investment decisions?
   (v) How much should the firm advertise & how to allocate an advertisement fund between different media?

Though, one may agree that one cannot take good decisions only by studying the subject & that one need to learn mainly by practical decision making. Yet, one has to concede that good decisions also require ability to analyze problems logically & clearly.

MAIN OBJECTIVES OF THE BUSINESS FIRM:-

- **PROFIT MAXIMISATION**
- **SALES MAXIMISATION**

i. Profit maximisation:-

Generally profits are the primary measure of the success of any business. Economic theory makes fundamental assumption that maximizing profit is the basic objective of every firm. This may be due to a number of reasons.

- **Achieving Leadership**:-

Firms often like to become leader in the respective line of business. They could rather try to attain industrial leadership at the cost of profits. In those cases, the objective of profit-maximization is subordinated to the leadership-goal in the field.

- **For avoiding Potential Competition:-**

Firms may restrict the profit in order to discourage other firms from entering the field & competing with them. If the firm is maximizing profit, it will be an altering proposition for the new firms to enter the field of production. In order to avoid such potential competition, the firms may adopt a policy of profit restriction, instead of profit maximization. This is more so in the case of firms enjoying week or slender monopoly.

- **For Preventing Governments intervention:-**

A higher profit in business is considered as an index of monopoly power. The government attitude towards profit & the firm's attitude towards profit will be different. Maximum profit may create an impression that the firm is exploiting the consumers & this may result in the public demand for nationalizing the firm or firms.

- **For maintaining customers goodwill:-**

In modern business, customer's goodwill is valued more than anything else. In order to maintain that, the firms may adopt the policy of restricted profit & low price for the commodity.

- **For restraining wage demand:-**

Higher profit is an indication of ability to pay higher wages by the firms. Organized trade unions advance their arguments on the basis of higher profits earned by the firm for increasing the wages of labourers, bonus benefit etc.,

- **For achieving financial soundness & liquidity:-**

Some firms may give greater importance to financial soundness & liquidity-rather than profit-maximization consideration of maximum profit may result in huge investment in fixed assets & consequently the liquidity of the firm will be-reduced.

- **For avoiding risks:-**

Decisions regarding profit maximization may involve risks. Many new projects have to be worked through uncertainties. Generally, business managers will avoid taking those risks which may result even in losing their jobs or losing the image of the firm.

ii. Sales Maximisation Goals:-

The assumption of profit maximization has been questioned by many modern economists. In their well known book "The Modern Corporation & Private Properly", Berle & Means have argued that.

(a) There is a clear-cut separation between ownership & management in a modern corporation.
(b) The owners of the company i.e. the shareholders, are interested in maximising profits.
(c) The managers who actually run the company & decide corporate policy have their own motives & aims for the firms.

According to William Baumol, every business firm aims at maximising its sales, revenue rather than its profit.

According to Baumol, sales has becomes an end in themselves & accordingly, s les maximisation has become an ultimate objective of the firm.

The goal of sales maximization is explained by the management's desire to maintain the firm's competitive position, which is dependent to a large extent on its size. Unlike the shareholders who are interested in sales revenue, because large sales revenue is a matter of prestige to the management.

NATURE AND SCOPE OF BUSINESS OR MANAGERIAL ECONOMICS:

Managerial economics is a developing science which generates the countless problems to determine its scope in a clear cut way. From the following fields, we can examine the scope of business economics.

1. Demand analysis and Forecasting
2. Cost and Production Analysis
3. Pricing Decisions, Policies and Practices
4. Profit Management and
5. Capital Management

Let us make in depth study of these aspects.

1. Demand Analysis and forecasting:

The foremost aspect regarding scope is demand analysis and forecasting. Demand forecasts serves as a guide to the management for maintaining its market share in competition with its rivals, thereby securing its profit. Thus, demand analysis facilities the identification of the various factors affecting the demand for a firm's product.

This, in turn helps the firm in manipulating the demand for its output. In fact, demand forecasts are the starting point for a firm's planning and decision-making. This deal with the basic tools of demand analysis i.e., Demand Determinants, Demand Distinctions and Demand Forecasting, etc.

2. Cost and Production Analysis:

A firm's profitability depends much on its cost of production. A wise-manager would prepare cost estimates of a range of output, identify the factors causing variations in costs and choose the cost-minimizing output level, taking also into consideration the degree of uncertainty in production and cost calculations. Production process is under the charge of engineers but the business manager works to carry out the production function process are under to avoid wastages of materials and time. Sound pricing policies depend much on cost control.

The main topics discussed under cost ad production analysis are: Cost-Output relationships, cost concepts, Economies and Diseconomies of scale and Cost Control.

3. Pricing Decisions, Policies and Practices:

Another task before a business manager is the pricing of a product. Since a firm's income and profit depend mainly on the price decision, the pricing policies and all such decisions are to be taken after careful analysis of the nature of the market in which the firm operates.

The important topics covered in this field of study are: Market Structure Analysis, Pricing Practices and Price Forecasting.

4. Profit Management:

Each and every business firms are tended for earning profit, it is profit which provides the chief measure of success of a firm in the long period. Economists tell us that profits are the reward for uncertainty bearing and risk-taking. A successful business manager is one who can form more or less correct estimates of costs and revenues at different levels of output. The more successful manager is in reducing uncertainty, the higher are the profits earned by him.

It is therefore, profit-planning and profit measurements constitute the most challenging area of managerial economics.

5. Capital Management:

Still another most challenging problem for a modern business manager is of planning capital investment. Investments are made in the plant and machinery and building which are very high. Therefore capital management requires top-level decisions. It means capital management i.e., planning and control of capital expenditure.

It deals with: Cost of Capital, Rate of Return and Selection of Projects.

ROLE& RESPONSIBILITIES OF A MANAGERIAL ECONOMIST:-

A managerial economist's plays a vital role in modern business. He helps the management of a firm in decisions making and forward planning by using his skills and techniques. In advanced countries like U.S.A, U.K & Canada, almost all big firms employ managerial economists. In leading business firms are employing business economists. Tata's, Hindustan haves & Reliance have managerial economists on their staff. The role of a managerial economist is that of a business analyst and of an advisor. It is a part of parcel of modern business activities.

A. <u>Role of a Business Economist:-</u>

I. Study of the business environment:-

Every firm has to take into consideration such external factors as the growth of national income, volume of trade & the general price trends, for its policy decision. A firm works within a business environment. The basic elements of business environment for a firm are the trend of growth of national economy & world economy & phase of the business cycle in which the economy is moving.

The international economic outlook is a very important environmental factor for exporting firms. The nature & degree of competition within the industry in which a firm is placed are also a part of the business environment.

II. Business Plan & Forecasting:-

The business economists can help the management in the formation of their business plan by forecasting & economic environment. The management can easily decide the timing & locating of their specific action. The managerial economists have to interpret the national economic trends & an industrial economist has to interpret the national economic trends & industrial outlook for their relevance to the firm in which he is working.

III. Study of business operation:-

The business economist can also help the management in decision making relating to the internal operation of a firm, ie, in deciding about price, rate of operations, investment & growth of the firm for offering this advice; the economist has specific analytical &forecasting techniques which yield meaningful conclusions.

IV. Economic intelligence:-

The business economist also provides general intelligence services by supplying the management with economic information of general interest so that they can talk intelligently in conferences & seminars. They are also supplied the facts & figures for preparing the annual reports of the firm.

V. Specific functions:-

Business economists are now performing specific functions as consultants also. Their specific functions are demand forecasting, industrial market research, pricing problems of industry, production programmers, investments analysis & forecasts. They also offer advice on trade & public relationship, primary commodities & foreign to capital projects in agriculture, industry, transport & tourism & also of the export environment.

B. <u>Responsibilities of a Business Economists:-</u>

A business economist is well familiar with his responsibilities. He must keep in the mind the main objective of making a reasonable profit on the invested capital in his firm. Firms are not always after profit-maximization, but to continue in business, every firm has to operate for profit. Therefore, a business economist has the main responsibility of helping the management to make profits than before.

I. Making successful Forecasts:-

Management have to take decisions concerning the future & future is uncertain. This uncertainty cannot eliminate altogether but it can be reduced through scientific forecasts of the economic environment to his employers. This is required for business planning.

II. Maintaining Relationships:-

The managerial economist must establish & maintains contacts with data sources for his analysis and forecasts. He makes contacts with individual who are specialists in the different fields. He must join professional association & subscribe to the journals giving him fresh & latest information.

III. Earning full status on the Managerial team:-

A business economist has to participate in decision-making & forward-planning. For this he must be able to earn full status on the business team. He must be prepared to take up assignments on special project also. He should be able to express himself clearly so that his advice is understood & accepted.

DEMAND ANALYSIS

Every business firm produces a product or a service for the market, is anticipation of demand. If its anticipation of demand is correct and if the price it gets is good, it will earn profit, otherwise it will incur losses. Analysis of demand is a basic subject is Business Economics.

Every business manager has to estimate carefully the demand for his product. This will help him to forecast his sales, to estimate his share of the total industry demand in relation to his competitions, to plan for his sales promotion programme so as to manipulate the demand for this product & boost his sales.

Therefore, demand is defined as a "a desire for a commodity backed by willingness & ability to pay a price". It is always better to state this demand as 'effective demand' to show that consumers are ready to purchase the commodity.

Definition:-

According to Hansen "By demand, we mean the quantity of a commodity that will be purchased at a particular price & not merely the desire of a thing".

According to Professor Benham, "the demand for anything at a given price is the amount of it which will be bought per unit of time at that price".

DIFFERENT TYPES OF DEMAND:-

Three kinds of demand may therefore be distinguished based on these three factors. They are price Demand, Income Demand & Cross Demand.

1. **Price Demand:-**

Price Demand refers to various quantities of a commodity or services that a consumer would purchase at a given time at different prices in a market. It is assumed that other things like the income of the consumers, prices of the related goods etc., remain the same.

2. **Income Demand:-**

Income Demand refers to the different quantities of commodity or service which consumers will buy at different levels of income, other things remaining the same i.e the price of the commodity, the prices of related goods & tastes & preference should be state.

3. **Cross Demand:-**

Cross demand refers to the quantities of a commodity or service which will be purchased with reference to changes, not of that particular commodity, but of other inter-related commodities, other things remaining the same. For example: if there is a rise in price of coffee, people will demand tea, & consequently the demand for tea will increase. Though the price of tea remains constant & the income of the consumer remains constant.

Law of Demand with Illustration.

Law of demand is one of the best known and important laws of economic theory. This law is based on the law of diminishing marginal utility. The law states the relationship between the quantity demanded and price.

Marshall explains the law as, "The amount demanded increases with a fall in price and diminishes with a rise in price." However it can be explained as:

$$Dx = f(Px, Pn, Y, T)$$

Where,

Dx = Demand for commodity
Px = Price of the commodity X
Pn = Price of related commodities
Y = Income of the consumer
T = Taste

Definitions

According to *Samuelson*, "Law of demand states that people will buy more at lower prices and buy less at higher prices, ceteris paribus."

According to Ferguson: "The quantity demanded varies inversely with price".

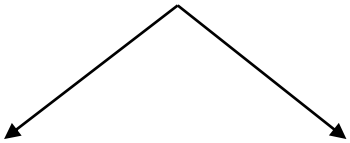
Define law of Demand:-

The law of demand expresses the inverse relationship between price & quantity demanded. It is natural to consume more during a fall in the price & less during a rise in the price. This natural tendency of the consumers towards price variations is called the law of demand.

Assumptions:-

- The income of people remains constant.
- The tastes & preferences of people don't change.
- No new substitute has been found out.
- Price of other goods should not change.
- The demand for the commodity must be continuous without any interruption.

Demand Schedule & Demand curve:-



Individual Demand Market Demand

Individual Demand schedule:-

It refers to the quantities of the commodities demanded by the consumers at various prices. It can be shown with the help of table:

Price Unit of balance(Rs.)	Quantity Demand
50	10
40	20
30	30
20	40
10	50

From the above table, it is seen that as the price per unit say of cotton goes on increasing, the quantity demanded goes on falling. When the price of cotton is Rs.50, the quantity demand is 10 units. As such when the price of cotton falls to Rs.10, the quantity demand increase to 50 units.

Individual demand curve:-

Individual demand curve refers to the quantity demand by the consumer at different levels of prices. It can be shown with the help of a figure.

(Diagram)

Ox axis measures the different quantities of cotton demand & Oy axis price per unit cotton. Demand is the demand curve. The points a, b, c, d & e on the demand curve shows the price quantity relationship. As the price is Rs.50, the quantity demand is 10 units. As the price falls to Rs.10 per unit, the quantity demand increases to 50 units. Moreover, the demand curves slopes downward from left to right which indicates that there is inverse correlation between price & quantity demand.

Market Demand schedule:-

The market demand is the summation of demand of all persons of a homogenous commodity. Basically, the market demand schedule depicts the functional relationship between the lists.

Price unit of bale	Quantity Demand	Quantity Demand	Total market Demand

	A	B	(A+B)
50	10	15	25
40	15	20	35
30	20	25	45
20	25	30	55
10	30	35	65

In the above table, the market demand schedule is obtained by adding the demand of A & B at different prices. Forever, e.g. at a price of Rs.50, the market demand is 25 i,e. 10 for A consumer & 15 for B consumer. As the price falls to Rs 10, the market demand increases to 65 i,e. 30 & 35 for A & B consumer respectively.

(Diagram)

The market demand curve is the horizontal summation of all individual demand for the commodity. The figure A & B share the individual demand curve. D1 D1 & D2 D2 are the demand curve for consumer A & B & the market demand curve is Demand. It is also assumed that there are two consumers in the market facing same price of the commodity but they purchase according to their individual requirements.

EXPLAIN SOME EXCEPTIONS OF THE LAW OF DEMAND.

There are some exceptions to the law of demand. In certain cases with the increase in price, quantity demanded also increases and with the fall in price quantity demanded falls. In such a case, demand curve slopes up from left to right. It is called positive slope as shown in following figure.

Robert Giffen is the first person to expose this rare occasion, which is known as 'Giffen Paradox'.

According to Prof. *Benham*, there are certain circumstances in which the demand curve may slope upward. His reasons are discussed as:

1. War or Emergency
2. Articles of Distinction
3. Ignorance
4. Purchase of Anticipation
5. Necessities of Life

1. War or Emergency

During the period of war, if there is fear of shortage, people may start buying for hoarding and building stocks, even at high prices. On the other hand, if there is depression, they will buy less at low prices.

2. Articles of Distinction

Prof. *Veblen*, American Economist had first of all explained this exception. According to him, "**Articles of distinction command more demand when their prices are high."**

Articles of distinction include jewellery, diamonds, gems, costly carpets etc. the rich people demand more of such commodities even at high prices. In case their price goes down, they no longer remain the articles of distinction and so have less demand.

3. Ignorance

Some times, people buy more of a commodity at a higher price out of sheer ignorance. Therefore, irrational consumers generally purchase more at higher price.

4. Purchase in Anticipation

It has been noticed that sometimes people buy more at a higher price in anticipation of further rise in prices and the consequent expectation of profit in the future.

5. Necessities of Life

In case of necessities like wheat, rice, cloth, people purchase more at a higher rate. Therefore, demand for such commodities is inelastic.

WHAT ARE THE IMPORTANCE OF THE LAW OF DEMAND? EXPLAIN.

The law of demand has great theoretical and practical importance in economics as:

1. Price Determination
2. Importance for the Consumer
3. Importance to Finance Minister
4. Importance for Planning
5. Importance for Producers and
6. Importance for Farmers

1. Price Determination

The law of demand is useful to the monopolist to fix the price of their product. The monopolist comes to know that how much quantity of the commodity will increase or decrease with the change in price.

2. Importance for the Consumer

The law of demand tells us that with the fall inn price the consumer will buy more of the commodity. On the other hand with the increase in price, he will buy less of that commodity. Thus, the consumer maximizes his satisfaction.

3. Importance to Finance Minister

The Finance Minister while imposing the tax keeps in mind the law of demand. It is the law through which he comes to know the effect of tax on amount demanded of various commodities. Moreover, he will impose lore taxes on such commodities which have relatively inelastic demand.

4. Importance for Planning

The law of demand has a great importance for the planning commission. The Planning Commission while framing the plan keeps in mind not only the demand schedule but also the effect of price on a commodity.

5. Importance for Producers

The law of demand provides guidelines to the producers regarding the production of those goods whose prices have reduced. Generally, the law of demand states that other things being equal with the rise in price, quantity demanded falls and with the fall in price, quantity demanded increases. Therefore, it is for the welfare of the producers to concentrate on the production of those goods whose prices have been reduced.

6. Importance for Farmers

The farmers also through the law of demand come to know how a good or bad crop affects the economic condition of the country. If there is good crop, the price will certainly go down and the farmers will not be benefited more but the rest of the society will be benefited.

FACTORS DETERMINING / AFFECTING / INFLUENCING DEMAND FOR A COMMODITY:

The changes in the demand may be caused by the following factors. They are,

1. Changes in weather
2. Changes in tastes & Fashion
3. Changes in Population
4. Changes in the distribution of wealth
5. Changes in income
6. Changes in state economy

1. Changes in weather:-

Changes in weather bring changes in demand. For e.g. more ice creams are demands in summer than in winter.

2. Changes in tastes & Fashion:-

Changes in taste & fashion bring about change in demand for goods & services. When people so for colour shirts, the demand for while a fabric goes down.

3. Changes in Population:-

When the size of the population increases, naturally the demand for goods & services also increase. On the other hand, when the size of popular decline, the demand for goods & services also decline.

4. Changes in the distribution of wealth:-

A change in the distribution of income & wealth affect demand. In a country where wealth is equally distributed, the demand for essential goods & services will be high.

5. Changes in income:-

Demand for any commodity is highly influenced by the availability of income of a consumer. When income of a consumer increase the demand for various goods & services increases. On the other hand, when the income of a consumer decline demand for goods & services also decline.

6. Changes in state economy:-

According to the condition of the economy the demand for various goods & services may be determined. When economy is prosperous would be high. When the economy is at depression, the demand for goods & services would be low.

WHY DOES A DEMAND CURVE SLOPE DOWNWARDS:-

The demand curve slopes downward from the left to right due to the following reasons.

1. Law of diminishing marginal utility:-

The law of demand is based on the law of diminishing marginal utility which states that as, the consumer purchases more & more units of a commodity, the utility derived from each successive unit goes on decreasing.

2. Substitution Effect:-

Substitution effects also lead the demand curve to slope from left downward to right. For instance, tea & coffee are the substitute goods. If the price of tea goes down, the consumers may substitute tea for coffee, although price of coffee remains the same.

3. Income Effects:-

Another reason for the downward slope of demand curve is the income effect. As the price of the commodity falls, the real income of the consumer goes up. Real income is that income which is measured in terms of goods & services.

4. New Consumers:-

When the price of commodity falls, many other consumers who were not consuming that commodity previously will start consuming the commodity. As a result, total market demand goes up.

5. Several uses:-

Some commodities can be put to several uses which lead to downward slope of the demand curve. When the price of such commodities goes up they will be used for important purposes, so their demand will be limited.

CHANGES IN DEMAND / MOVEMENT ALONG THE DEMAND CURVE:-

Demand does not remain fixed & it changes. If the change in demand due to rise or fall in the price of a commodity alone, it is called contraction or expansion in demand.

Contraction of Demand:-

Price	Demand
1	5
2	4
3	3
4	2
5	1

Contraction of demand means, other things remains the same, an increase in price leads to a fall in demand. This can be shown with the help of a table.

In the Table, when price of commodity is Rs.1, its quantity demanded is 5 units when the price of commodity increases to Rs.3 quantity demanded falls to 3 units.

(Diagram)

In fig. AB is the demand curve. When price Is Re.1, quantity demanded is five units, and consumer in at point B. Now as the price rises to Rs.5 quantity demanded falls to one unit. The consumer is at point A. It is called contraction of demand.

Extension of Demand:-

Extension of demand means other things remaining same as the price falls, demand tends to increase.

Price	Demand
5	1
4	2
3	3
2	4
1	5

In the above table, when a price of commodity is Rs.5, its quantity demanded is 1 unit. As the price of the commodity falls Rs.4, quantity demanded increases to 2 units. Again when price falls to Rs.1, its quantity demanded further increases to 5 units.

(Diagram)

In fig. Quantity of commodity has been measured on x-axis & price on y-axis. AB is the demand curve. When price of the commodity is Rs.5, its quantity demanded is one unit & consumer rests upon point A of the demand curve. As the price falls to Re.1, quantity demanded increases to 5 units. The consumer is at point B of the demand curve. Thus, movement from higher point to lower point along the demand is called the extension of demand.

ELASTICITY OF DEMAND.

Define Elasticity of Demand.

Elasticity of demand is the measure of the degree of change in the amount demanded of the commodity in response to a given change in price of the commodity, price of some related goods or changes in consumer's income. In simple words by Marshall, price **elasticity of demand is the ratio of percentage change in quantity demanded to the percentage change in price.** Thus elasticity of demand is

$$P_{Ed} = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$

How many Types of Elasticity of Demand?

There are three types of elasticity of demand. They are;

(a) Price Elasticity of demand
(b) Income Elasticity of demand
(c) Cross Elasticity of demand

(a) PRICE ELASTICITY OF DEMAND

Define Price Elasticity of demand

According to *Alfred Marshall,* **"elasticity of demand has been defined as the percentage change in quantity demanded to the percentage change in price"**.

According to *J.M. Keynes***, "The elasticity of demand is a measure of the relative change in quantity to a relative change in price."**

According to *Kenneth Boulding,* **"Elasticity of demand measures the responsiveness of demand to changes in price."**

Explain the Degrees of Price Elasticity of Demand.

Different commodities have different price elasticities. Some commodities have more elastic demand while others have relative inelastic demand. Basically the price elasticity ranges from zero to infinity.

Some particular values of elasticity of demand have been explained below.

1. Perfectly Elastic Demand
2. Perfectly Inelastic Demand
3. Unitary Elastic Demand
4. Relatively Elastic Demand
5. Relatively Inelastic Demand

1. Perfectly Elastic Demand:

Perfectly elastic demand is said to happen when a little change in price leads to an infinite change in quantity demanded. So the degree of elasticity at this point is **Ed=**∞. In such a case the shape of the demand curve will be horizontal straight line as shown in following figure 1.

(Diagram)

The above figure shows that at the ruling price OP, the demand is infinite. A slight rise in price will contract the demand to zero. A slight fall in price in price will attract more consumers but the elasticity of demand will remain infinite. But in real world, the cases of perfectly elastic demand are exceedingly rare and are not of any practical interest.

2. Perfectly Inelastic Demand:

This is opposite to perfectively elastic demand. Under the perfectly inelastic demand, irrespective of any rise or fall in price of a commodity, the quantity demanded the same. In perfectly elastic demand the degree of elasticity is zero. (**Ed = 0**)

(Diagram)

In diagram 2, DD shows the perfectively inelastic demand. At price OP, the quantity is OQ. Now, the price falls to OP1 from OP and rise to OP2, the demand remains the same. But it is difficult to come across the cases of perfectly inelastic demand because even the demand for bare essentials of life does show some degree of responsiveness to change in price.

3. Unitary Elastic Demand:

The demand is said to be unitary elastic when a given proportionate change in the price level brings about an equal proportionate change in quantity demanded. Here the elasticity is equal to one. (**Ed=1**) *Marshall* calls it unit elastic.

(Diagram)

In Figure 3, when price is OP, the quantity demanded is OQ. Now price falls to OP1 the quantity demanded increases to OQ1 as unitarily.

4. Relatively Elastic Demand:

Relatively elastic demand refers to a situation in which a small change in price leads to a big change in quantity demanded. Here the degree of elasticity is greater than one. (**Ed>1**)

(Diagram)

In fig.4, DD is the demand curve which indicates that when price is OP the quantity demanded is OQ. Now the price falls from OP to OP1, the quantity demanded increases from OQ to OQ1 i.e. the quantity demanded changes more than the change in price.

5. Relatively Inelastic Demand

Under the relatively inelastic demand a given percentage change in price produces a relatively less percentage change in quantity demanded. Here the degree of elasticity is less than one. (**Ed<1**)

(Diagram)

In figure 5, the quantity demanded changes in less than the price changes.

(b) Income Elasticity of Demand:-

Though the demand for a product depends upon its price, it is equally true that demand is influenced by changes in the incomes of consumers.

E_y = Percentage change in demand for a product

Percentage change in income

Suppose that the money income of a consumer increases by 10% & as a result of this increase in his income the amount demanded of a commodity increases by 20 percent, then the income elasticity of demand will be $\frac{20\%}{10\%} = 2$

Three kinds of income elasticity's of demand.

- **Zero income elasticity of demand:-**

This occurs when a given increase in consumer's money income fails to lead to any increase in the amount demanded of the commodity.

- **Negative income elasticity of demand:-**

This is witnessed when an increase in consumer's money income is accompanied by a fall in the amount of goods purchased. This is true in the case of inferior goods.

- **Positive income elasticity of demand:-**

The consumer spends a greater proportion of his money income on the commodity as he becomes riches.

(Diagram)

In the fig. An increase in income from O to A will not lead to any consumption. Between incomes A & B the increase in income is accompanied by an increase in demand. Between B & C incomes, there is no increase in consumption. Beyond C income, the demand decline as the consumer shifts his demand to other superior goods.

(c) Cross Elasticity of Demand:-

The degree of change in demand for a product A as a result of a change in the price of product B is known as cross-elasticity of demand reflects how the demand for a product depends on the price of other related products. The formula for cross elasticity of demand is.

$$E_c = \frac{\text{Percentage change in demand for product A}}{\text{Percentage change in the price of product B}}$$

MEASUREMENT OF PRICE ELASTICITY OF DEMAND:-

Alfred Marshall who gave us the concept of elasticity of demand has given three methods of measuring elasticity of demand. viz,

- Point method
- Arc method
- Total outlay method

A. Point method of measuring price elasticity of Demand:-

The formula for point method:

$$P_{ed} = \frac{\text{Lower segment of the demand curve below the given point}}{\text{Upper segment of the demand curve above the point}}$$

At point A, Ed = 1
At point B, Ed > 1
At point C, Ed < 1
At point D, Ed = ∞
At point E, Ed = 0

(Diagram)

B. Arc method:-

This method is used to measure the elasticity of demand between the two points on the same demand curve which makes an arc is called Arc method.

$$E = \frac{\text{Proportionate change in the quantity}}{\text{Proportionate change in price}}$$

Price	Quantity demand in units
Rs.50	300
Rs.30	600

(Diagram)

The elasticity between the point K & L is $Q/Q_1=Q_2/P/Q_1=Q_2$.

C. Total outlay / Expenditure Method:-

Total Outlay = Price x Quantity Demanded.

There are three Possibilities:-

(i) If with fall in price the total expenditure increases or with a rise. (i.e) (Ed>1)
(ii) If with a rise or fall in the price, the total expenditure remains the same (Ed=1)
(iii) If with a fall in price, the total expenditure also falls & with a rise in price the total expenditure also rises. (Ed<1)

(iv) (Diagram)

In the figure, total expenditure has been shown on x-axis & price on y-axis. Line TT^1 is the total expenditure line. When price of the commodity falls from OP to OP_1 total expenditure increases from OM_1 to OM_2. Now, suppose that the price of the commodity decreases from OP_1 to OP_3 the total expenditure falls from OM_2 to OM. In the same way, BC part of the figure represents the unit elasticity of demand.

FACTORS DETERMINING / INFLUENCING ELASTICITY OF DEMAND:-

There are many factors on which the elasticity of demand depends, they are:

(i) Nature of the Commodity:-

The elasticity of demand depends on whether a commodity is necessity. Comfort or luxury. Normally the demand for necessaries of life such as rice, wheat, salt etc., will be elastic as these are essential for existence. So everyone will demand a minimum quantity whatever be the price. On the other hand, the demand for comforts & luxuries may not have inelastic demand. When the prices of these fall, generally, more of the commodities will be demanded.

(ii) Uses of the commodity:-

If a commodity has only one use, a change in price will not affect the demand much and so it will have inelastic demand. If the commodity has a number of uses, change in price will affect the demand for the commodities in many uses. When a commodity is put to various uses, it will have elastic demand.

(iii) Existence of Substitutes:-

When the price of a commodity rises, the people would shift their preference to substitute commodities & demand the substitutes with the hope that the price of substitutes will not rise. Consequently the demand will fall heavily for the commodity for which the price has been increased. A rise in the price of coffee would make the people demand tea which is a fair substitute for coffee.

(iv) Postponement of Demand:-

If the demand can be postponed then the commodity will have elastic demand. If the demand cannot be postponed, it will have inelastic demand. The demand for rice or medicines cannot be postponed while the demand for mangoes, organs and apples can be postponed, if the prices of these rise.

(v) Time factor in Elasticity:-

Time plays a vital role in the elasticity of demand for a commodity. Demand for a commodity exists for a period of time, say, a day. Week, month or year or several years. The supply & demand may also confine to a particular season.

IMPORTANCE / SIGNIFICANCE OF ELASTICITY OF DEMAND:-

1. In production:-

In a free capitalistic economy, production mainly depends on consumer demand & if production should be profitable, care should be taken to adjust it to the extent of demand.

2. Price Fixation:-

Every seller under monopoly has to consider the elasticity of demand for his product when he fixes the price or contemplates to change the price.

3. In Distribution:-

The concept of elasticity of demand has an important note to play in the determination of the rewards for factors of production in a free enterprise economy.

4. In International trade:-

The concept of elasticity of demand forms the basis of international trade, particularly the 'term of trade'. The term of trade depends upon the mutual elasticity's of demand of the two countries for each other's goods.

5. In Foreign Exchange:-

In the field of foreign exchange, fixation of appropriate rate of exchange between two currencies of the two countries mainly depends on the elasticity's of demand for imports & exports.

6. In Public Finance:-

Elasticity of demand is one which is of immense use of Finance Ministers to formulate taxation & economic policies. In framing the budget, the concept of elasticity of demand has a significant role in all matters relating to taxes & revenue.

Demand Forecasting:-

Meaning:-

Demand forecasting is an estimate of the future demand & it is based on the statistical data about past behaviour the relationship of the various determinants. As the future is uncertain, the forecasting of demand cannot be accurate.

Though forecasting of demand and forecast of sales mean the same thing in general discussion, economists try to differentiate between the two terms on slender grounds. Demand forecasting is very popular in industrially advanced countries where demand is the limiting factor.

Demand forecasting has been given great significance in developed countries of the world like U.S.A, France, Germany, U.K and Japan.

OBJECTIVES OF DEMAND FORECASTING:

There are two different objectives of demand forecasting. They are:

- Short term Forecasting
- Long term Forecasting

I. Short term Forecasting:-

1. Suitable production policy
2. Suitable purchase policy
3. Suitable price policy
4. Fix sales target
5. Fix short-term financial plans

1. Suitable production policy:-

Short-term demand forecasting helps to formulate a proper production policy to avoid fluctuations in production.

2. Suitable purchase policy:-

The short-term demand forecasting helps not only to determine the volume of production but also in determining the volume of raw materials & other inputs to be purchased and to control the volume of inventory stocks.

3. Suitable Price Policy:-

Short demand forecasting helps the company to determine a suitable price policy depending upon the anticipation of the market conditions.

4. Fix Sales targets:-

It helps the company to set realistic sales targets for each individual salesman & for the company as a whole.

5. Fix Short-term Financial plans:-

It helps the company to plan not only sales & production but also plan for the finances required for achieving the production & sales targets.

II. Long-term Forecasting:-

Long-term forecasting, probable demand for a product of a company is generally for a period of 3 to 5 years, but in certain cases, it can even be for periods up to 10 years.

1. Business Planning:-

When a firm is planning for long-term investment, it is deciding about the expansion of its existing capacity & its scale of production or when it is adding a new unit of production, it has to know the nature of demand for its product over a number of years.

2. Financial Planning:-

On the basis of long-term demand & sales & therefore of production, the firm estimates its long, term requirements of finance & make arrangements to raise necessary funds & at concessional rates of interest.

3. Man-power Planning:-

Long term business growth & expansion and financial planning will have to be accompanied by long-term man-power planning.

KINDS OF DEMAND FORECASTING:-

Demand forecasting may be undertaken at the three different levels; they are:

a. Micro level of firm:-

This refers to the demand forecasting by the firm for its product. This is the type of forecasting in which the management of a firm is really interested.

b. Industry level:-

Forecasting of demand for the product of an industry as a whole may be done by the association of all the firms composing the industry, or by a trade association.

c. Macro level:-

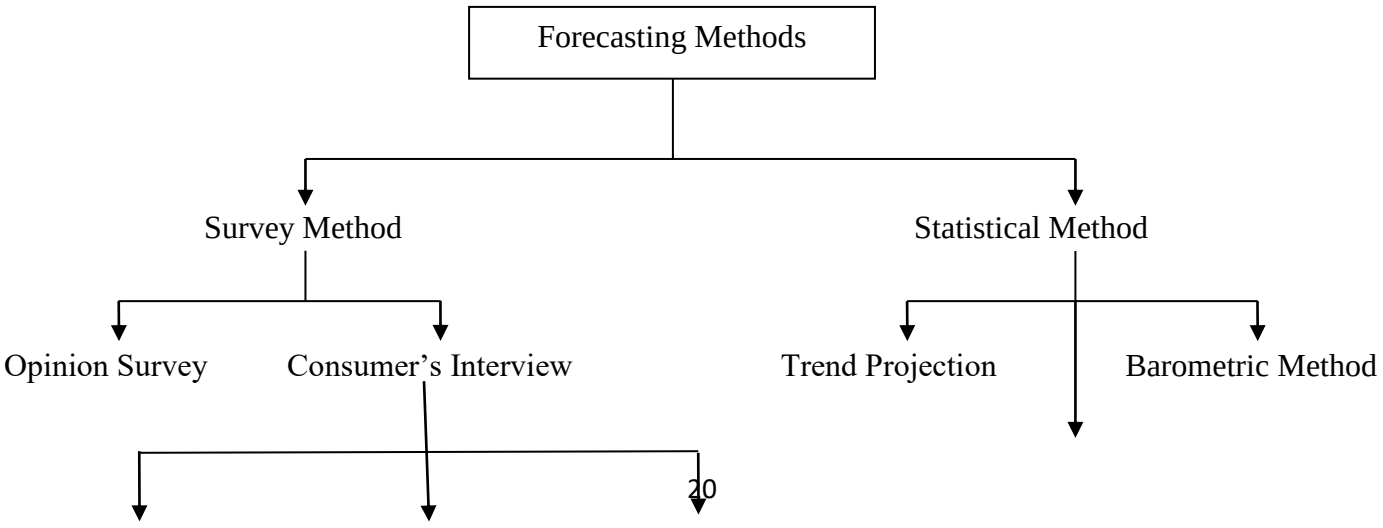
Estimating aggregate demand will help the government with regard to imports and exports, control of prices, etc.

METHODS OF DEMAND FORECASTING:-

Several methods are employed for forecasting demand. All of them can be classified under two categories, namely, survey methods & statistical methods.

Survey method; try to elicit information about the desires of the consumers & opinions by interviewing them.

Statistical methods, on the other hand, use the part data as a guide for knowing the level of future demand.



Complete Enumeration	Sample Survey	End-use Method

A. <u>SURVEY METHOD</u>:

I. Opinion Survey Method:-

This method is also known as sales-force method or collective opinion method. In the firm, salesmen are the persons who are very close to customers & these salesmen can know & feel the customer's reactions.

II. Consumers Interview Method:-

In this method, forecasting is done by directly interviewing the consumers & asking them about their plans & preferences regarding the consumption of the product.

a. Complete Enumeration Method:-

An interview of all consumers of the product under forecast is taken. This method is free from any bias of the forecaster, as he only collects the information & aggregates it.

b. Sample Survey Method:-

When there are a large number of consumers, sample survey method is used by selecting a sample of consumers for interview. The sampling may be random sampling or stratified sampling.

c. End-Use Method:-

In forecasting the total demand, using this method, we find out the demand for the end-use of the product & obtain demand separately for different sectors such as individual industries, final consumers, export & import, etc.,

B. <u>STATISTICAL METHOD</u>:

Statistical methods are adopted in forecasting demand for a product. This method is useful for long-run forecasting and for the products already in the market. This method heavily depends on part data for analysis.

I. Trend Method / Time Analysis:-

These data will be analysed in order to establish the nature of trend in sales over a period. They are also four types of components, namely:

a. Secular trends: **-** refers to changes that occur as a result of general tendency.

b. Seasonal Variation: **-** refers to changes in climate, weather conditions and wake of festivals. Normally these changes are relates to a 12-month period.

c. Cyclical Variations: **-** refers to the changes arising out of booms & depression.

d. Random Variations: **-** random factors are those which are generally unpredictable such as famines, floods. Earthquake etc.,

II. Regression & Correlation Method:-

By this method, we try to discover the nature & extent of relationship between the variables by means of statistical & econometric techniques. When there are several independent variables, it is multiple correlations.

III. Barometric Method:-

Barometric method is an improvement over trend projection method. The most commonly used indicators are leading series & diffusion indexes.

Some of the most commonly used indicators are listed below:

- Construction – demand for building materials, say cement.
- Agricultural – demand for inputs, implements, fertilizers.
- Wholesale Commodity Prices.

Qualities of a good Demand forecasting method:-

Some are costly methods, a few are cheap methods. Some methods are flexible & some require skill & sophistication. Therefore, there is a problem of choosing the best methods for a particular demand situation. They are:

a. Flexibility:-

The management should have good understanding of the technique chosen & they should have confidence in the technique adopted. Then only proper interpretation will be mode.

b. Simplicity:-

The method choosen should be of simple nature or ease of comprehension by the executives.

c. Economy:-

Cost is a primary consideration which should be weighed against the importance of the forecasts to the business operations.

d. Availability:-

Immediate availability of data is a vital requirement in forecasting method. The technique should yield quick & meaningful result. Delay in result will adversely affect the managerial decisions.

(END of the Unit -I)

UNIT – II

PRODUCTION FUNCTION:

Meaning:

Production is the result of combined efforts of the various factors-land, labour, capital & entrepreneurs. The entrepreneurs usually seek to combine the different units factors of production, so as to obtain the maximum advantage from their use. The factors can be used in varying proportion in which the different factor can be used in varying proportion in which the different factors are combined. This is called "variability of factors proportions".

Definition:

According to G.J.Stigler, "The production function is the name given to the relationship between the rates of input of production services and the rate of output, of product. It is the economists summary of technological knowledge".

Production Functions:

Production is the transformation of resources (inputs) into some commodity. In the production process a firm combines various inputs in different quantities and proportions to produce different levels of outputs. Indeed, the rate of output of a commodity functionally depends on the quantity of inputs use per unit of time. The technological-physical relationship between input and output is referred to as production functions. The equation can be expressed as:

$q = f(a, b, c, d.....n)$

where q stands for the rate of output of given commodity; a, b, c, d.....n are different factors (inputs) and services used per unit of time. The rate of output 'q' is thus a function of thr input of factor services, a, b, c, d.....n employed by the firm per unit of time.

Production Function – Definition:

According to Hicks, is "any activity directed to the satisfaction of other people's wants through exchange".

Assumptions of Production Function:

The production function is based on certain assumptions:

(i) It is related to a particular unit of time.
(ii) The technical knowledge during that period of time remains constant.
(iii) The factors of production are divisible into most viable units.
(iv) The producer is using the best technique available.

Short – Run & Long – Run: Production Function:

The functional relationship between changes input & consequent changes in output is studied in two stages. Sort-run & long-run time period. This time element considered here is the functional or operational time period.

I. The short Run:

The term "short run" is defined as a period of time over which the inputs of some factors of production cannot be varied. Factors which cannot be altered in the short run are called fixed factors. Thus, by definition, in the short period, some factors are fixed and some are variable. Elements of capital such as plant, machinery and equipment are generally fixed in the short run. But a fixed factor can also be land or the manager or administrative staff. The important point is that at least one significant factor is fixed over the short period. In the short period, the scale of production is fixed as the size of plant is unchanged. In brief, the short period production function show how output changes as the variable inputs are changed with a given set of fixed factors.

II. The Long Run:

The term "long run" is defined as a period of time long enough to permit the variations in the inputs of all factors of production employed by a firm. In other words, the long period is such a time period over which all factors become variable. Thus, there is no distinction between fixed and variable factors the long run, as all factors become variable factors.

Long run (normal period) is associated with the change in the scale of production but the basic technology of production is assumed to be constant. Long period, thus, varies among industries.

a. Law of Variable Proportions: (or) Law of Diminishing Return:

The law of variable proportions which is a new name given to old classical concept of 'Law of Diminishing Returns' has played a vital rate in the history of economic thought and occupies an equally important place in the modern economic theory. Assume that a Firm's production function consists of fixed quantities of all input.

"When total output or production of a commodity s increased by adding units of a variable input while the quantities of other inputs are hold constant. The increase in total production becomes, after some point, smaller & smaller".

Definition:

According to F.Benham, "As the proportion of one factor in a combination of factors is increased, after a point, first the marginal & then the average product of that factor will diminish".

Assumption of the Law:

1. The state of technology remains constant. If there is any improvement in technology the average & marginal output will not decrease but increase.
2. Only one factor of input is made variable and other factors are kept constant. This law does not apply to those cases where the factors must be used in rigidly fixed proportions.
3. All units of the variable factors are homogenous.

Three stages of the Law:

Fixed factor	Variable Factor	Total Product	Average Product	Marginal Product	
1+	1	100	100	100	
1+	2	220	110	120	Stage I
1+	3	270	90	50	
1+	4	300	75	30	
1+	5	320	64	20	Stage II
1+	6	330	55	10	
1+	7	330	47	0	
1+	8	320	40	-10	Stage III

The behaviour of the output when the varying quantity of one factor is combined with a fixed qquantity of the other can be divided into three distinct stages. The three stages can be better understand by following above table.

(Diagram)

Stage: I

In this stage, the total product increases at increasing rate. The total product curve (TP) increases sharply upto the point F. i.e., fourth combination where the marginal product (MP) is at the maximum. Afterwards, i.e., beyond F, the total product curve increases at a diminishing rate, as the marginal product falls, but is positive.

The point F where the total product steps increasing at an increasing rate and starts increasing at a diminishing rate is called the point of inflection. At this point, the marginal product is at the maximum. So stage I refers to the increasing stage where the total product, the marginal product and average product are increasing. It is the **increasing returns stage.**

Stage: II

In the second stage, the total product continues to increase, but at the diminishing rate until it reaches the point S where it completely stops to increase any further. At this is the second stage ends.

In this stage, the marginal product and average products are declining but the positive. At the end of the second stage, at point S, the total product is at the maximum and the marginal product is zero at point C. it is cutting the X-axis. The second stage is the **stage of diminishing returns.**

Stage: III

In this stage, the total product declines and therefore the TP curve slopes downwards and AP is decrease. The marginal product becomes negative cutting the X-axis. This stage is called the **negative returns stage.**

EXPLAIN THE LAW OF RETURN :

Under return to scale, we have to study the behaviour of output when all factors are increased in the same proportion. Economists challenged the concept of return to scale on the ground that all factors cannot be increased & the proportion between factors cannot be kept uniform.

However, it is assumed that all the factor area amenable to change in the same proportion and the output is studied when the input is doubled or trebled or increased five-fold or ten-fold. But actually it may not be like this. As in the case of variable proportions, here too, the returns to increase in scale may be either equal or more than equal or less than equal in proportion.

Increasing Returns to Scale (Stage I)

Increasing returns take place because in the beginning the quantity of fixed factor is abundant relative to the quantity of the variable factor and when more and more units of variable factor are added to the constant quantity of fixed factor, it is used more intensively and effectively.

Constant Returns to Scale (Stage II)

If we increase all factors (i.e., scale) in a given proportion and output increases in the some proportion, returns to scale are said to be constant. Thus, a doubling or trebling of scale would result in doubling or trebling of returns (output).

Decreasing Returns to Scale (Stage III)

If the increase in all factors leads to less than proportionate increase in output, returns to scale are said to be decreasing. Thus, a doubling of the scale will result in output less than double. If the scale is trebled the output will be less than treble.

Tabular Explanation

Returns to Scale

Sl. No.	Scale	Total product of corn (in Units)	Marginal Products or Returns (in Units)	Returns to Scale
1	1 labour +2 Acres of land	4	4	**Stage I**
2	2 labour +4 Acres of land	10	6	Increasing Returns
3	3 labour +6 Acres of land	18	8	
4	4 labour +8 Acres of land	28	10	**Stage II**
5	5 labour +10 Acres of land	38	10	Constant Returns
6	6 labour +12 Acres of land	48	10	
7	7 labour +14 Acres of land	56	8	**Stage III**
8	8 labour +16 Acres of land	62	6	Decreasing Returns

Diagrammatical Explanation

Constant Returns to Scale (Linear Homogeneous Production Function)

The following figure: 1 given illustrates the constant returns to scale. An equal product map has been drawn with the assumption that only two factors, viz., X and Y required.

(Diagram)

In order to judge whether or not return to scale are constant, we have drawn a straight line OP passing through the origin indicating the increase in scale as we move upward. OP is the scale line. It will be seen from the figure that successive equal product curves are equidistant from each other along the scale line OP drawn. Thus along the line OP, AB = BC = CD = DE. The distance between the successive equal product curves being the same along the scale line passing through the origin, we can understand that if both factor 'x' and factor 'y' (labour and capital) are increased in a given proportion, output expands in the same proportion. Therefore, the figure displays constant returns to scale. Economists explain this also as the *Linear Homogeneous Production Function.*

Increasing Returns to Scale

When the increase in scale results in more than proportionate output, it is increasing returns to scale. If all inputs are increased by 20 per cent and output increases by 50 per cent then the increasing returns to scale is said to be operating. Increasing returns to scale can be illustrated as in Figure: 2.

(Diagram)

With two factors, one on x-axis and the other on the y-axis, the scale line OP is drawn passing through origin on the Iso-product map. The above figure indicates, when the scales are increased, the output is more than proportional. The scale line OP represents different levels of input where the proportion between x and y factor remains constant.

When the scale is increased from A to B, then return increases from 100 to 200 units. When the scale is increased from B to C which is smaller than A to B, the return increases from 200 to 300. The increase in input (scale) is small as we go up the scale and output is larger. The distance between B and C is smaller than A and B; the distance between C and D is smaller than B and C; the distance between E and F is smaller than D and E. this progressively shortening distance between the equal product curves implies that to have an increase of 100 units of the product, the firm needs to devote lesser and lesser of input increase. The output increases more than proportionately than the increase in input.

Decreasing Returns to Scale

When output increases in a smaller proportion than the increase in all inputs (scale), decreasing returns to scale is said to be in operation. The diminishing returns will occur in this situation.

(Diagram)

The distance between AB; BC; CD; DE and EF is increasing showing that the scale has to be increased in larger and larger quantities in order to get the same increase in output viz., 100 units. The returns are not proportional to the inputs (scale) and the cost of production is increasing as the diminishing returns to scale is in operation. The larger and larger gaps between successive Iso-product curves indicate the operation of the law of diminishing returns to scale.

ECONOMICS AND DIS ECONOMICS OF SCALE:

What do you understand by the term Economies of Scale of Production and give a elaborate note on it?

Prof. Stigler defines economies of scale as synonymous with returns to scale. As the scale of production is increased, up to a certain point, one gets economies of scale.

Classification of economies of scale

A. Internal Economies of Scale

B. External Economies of Scale

A. Internal Economies of Scale

As a firm increases its scale of production the firm enjoys several economies named as internal economies. Basically, internal economies are those which are special to each firm. These solely depend on the size of firm and will be different for different firms. For example, one firm will enjoy the advantage of good management; the other may have the advantage of specialization in the techniques of production and so on. According to Cairn cross, "Internal economies are those which are open to a single factory or a single firm independently of the action of other firms". These results from an increase in the scale of output of a firm and cannot be achieved unless output increases.

Internal economies of scale also may be divided into following categories.

1. Labour Economies
2. Technical Economies
3. Marketing Economies
4. Managerial Economies
5. Financial Economies and
6. Economies of Survival.

1. Labour Economies

Division of labour and consequent specialization affords definite advantages to the producer when he produces on a larger scale. More quantum of output is possible at reduced cost due to better organization of labour force by using labour to its optimum level. Quality of the product is bound to increase as the firm can afford to employ 'Specialists' in every branch of production.

2. Technical Economies

(i) Large scale producers can introduce up-to-date machines and thereby increase the productivity of labour.

(ii) Under technical economies, we have the benefits arising out of experiment and research. A small firm cannot afford to make costly experiments, some of which may fail. Big manufacturers can have separate departments conducting experiments and research to find out better technology so that the cost of production could be considerably brought down.

(iii) Utilization of by-products in large-scale operation is another advantage to be discussed under technical economies. If the scale is large, it will be worthwhile erecting a special plant to treat the waste products profitably.

3. Marketing Economies

Perhaps, the biggest benefit arising in large scale production is the economies of marketing.

(i) The large scale producer has better bargaining power in buying as well as in selling. In buying the raw materials, he can slice off prices by effective bargaining and the raw materials in the cheapest market.

(ii) Economies of freight is another advantage to large scale producers. He can bargain effectively with cargo-movers as he can employ them for a fairly long period with full cargo. If costs of freight work out higher, ha can as well have own truck or fleet of trucks.

(iii) Effective advertisement is possible only in large scale production.

4. Managerial Economies

Large scale production gives the benefit of managerial specialization by creating departments entrusting to each a particular item of work such as 'purchase', 'stores', 'selling', etc.

5. Financial Economies

Big firms command better financial footing not available to small scale producers. Since method of making capital in a big joint-stock company is entirely different, they can borrow at any time at a favourable rate as their shares enjoy reputation in the market. They can issue debentures or call for deposits from the public offering interest or make huge loans after satisfying the company formalities.

6. Economies of Survival

Large scale producers spread their risk by diversification and this gives the strength of survival. Market fluctuations would not affect them in a bigger way as they can easily manipulate the stock by channelizing, storing, diversifying or keeping them blocked in different markets.

B. <u>External Economies of Scale</u>

External economies refer to all those benefits which accrue to all the firms operating in a given industry. Generally these economies accrue due to the expansion of industry and other facilities expended by the government. According to Cairn cross, "External economies are those benefits which are shared in by a number of firms or industries when the scale of production in any industry increases". Moreover, the simplest case of an external economy arises when the scale of production function of a firm contains as an implicit variable the output of the industry. A good example is that of coal mines in a locality. The greater the amount of water which other coal mines pumps out the less will be left for the remaining mines to remove.

1. Economies of Concentration
2. Economies of Information
3. Economies of disintegration
4. Economies of Localization and
5. Economies of By-Products.

1. Economies of Concentration

As the number of firms in an area increases each firm enjoys some benefits like, transport and communication, availability of raw materials, research and invention etc. Further, financial assistance from banks and non-bank institutions easily accrue to firm. We can, therefore conclude that concentration of industries lead to economies of concentration

2. Economies of Information

When the number of firms in an industry expends they become mutually dependent on each other. In other words, they do not feel the need of independent research on individual basis. Many scientific and trade journals are published. These journals provide information to all the firms which relates to new markets, sources of raw materials, latest techniques of production etc.

3. Economies of disintegration

As an industry develops all the firms engaged in it decide to divide and sub-divide the process of production among them. Each firm specializes in its own process.

4. Economies of Localization

The localization of an industry means the concentration of firms producing identical product in a particular area. In such an industrial area, railways establish an outer parcel agency, post and telegraph departments sets up the post office, state electricity department installs a powerful transformer etc. As a result, all the firms get these facilities at low prices.

5. Economies of By-Products

The growth and expansion of an industry would enable the firms to reduce their costs of production by making use of waste materials. The waste material of one firm may be available and useable in the other firms. Thus, wastes are converted into by-products. The selling firms reduce their costs of production be realizing something for their wastes. The buying firms gain by getting other firms wastes as raw materials at cheaper rates. As a result of this, the average cost of production declines.

DISECONOMIES OF SCALE OF PRODUCTION AND GIVE THE DIFFERENT TYPES

The word diseconomies refer to all those losses which accrue to the firms in the industry due to the expansion of their output to a certain limit. These diseconomies arise due to the use of unskilled labourers, outdated methods of production etc. Like economies, diseconomies are also of two types.

I. Internal Diseconomies
II. External Diseconomies

(I) Internal diseconomies

Internal diseconomies implies to all those factors which raise the cost of production of a particular firm when its output increases beyond the certain limit. These factors may be of the following types.

1. Inefficient management:
2. Technical Difficulties
3. Production Diseconomies
4. Marketing Diseconomies
5. Financial Diseconomies

1. Inefficient Management

The main cause of the internal diseconomies is the lack of efficient or skilled management. When a firm expands beyond a certain limit it becomes difficult for the manager to manage it efficiently or to co-ordinate the process of production. Moreover, it becomes very difficult to supervise the work spread all over, which adversely affects the operational efficiency.

2. Technical Difficulties

Another major reason for the onset of internal diseconomies is the emergence of technical difficulties. In every firm, there is an optimum point of technical diseconomies will emerge out. For instance, if an electricity generation plant has the optimum capacity of 1 million kilowatts of power; it will have lowest cost per unit when it produces 1 million kilowatts. Beyond, this optimum point, technical economies will stop and technical diseconomies will result.

3. Production Diseconomies

The diseconomies of production manifest themselves when the expansion of a firm's production leads to rise in the cost per unit of output. It may be due to the use of inferior or less efficient factors as the efficient factors are in scarcity. It happens when the size of the firm surpasses the optimum size.

4. Marketing Diseconomies

After an optimum scale, the further rise in the scale of production is accompanied by selling diseconomies. It is due to many reasons. Firstly, the advertisement expenditure is bound to increase more then proportionately with scale. Secondly the overheads of marketing increase more then proportionately with the scale.

5. Financial Diseconomies

If the scale of production increases beyond the optimum scale, the cost of financial capital rises. It may due to relatively more dependence on external finances.

To conclude, diseconomies emerge beyond an optimum scale. The internal diseconomies lead to rise in the average cost of production in contrast to the internal economies which lower the average cost of production.

(II) <u>External Diseconomies</u>

External diseconomies are not suffered by a single firm but by the firms operating in a given industry. These diseconomies arise due to much concentration and localization of industries beyond a certain stage. Localization leads to increased demand for transport and, therefore, transport costs rises. Similarly, as the industry expands, there is competition among firms for the factors of production and the raw-materials and other factors of production. As a result of all these factors, external diseconomies become more powerful. The external economies are as under;

1. Diseconomies of pollution
2. Diseconomies of strains on infrastructure
3. Diseconomies of high factor prices

1. Diseconomies of Pollution

The localization of an industry in a particular place or region pollutes the environment. The polluted environment acts as health hazard for the labourers. Thus, the social cost of production arises.

2. Diseconomies of strains on infrastructure

The localization of an industry puts excessive pressure, on transportation facilities in the region. As a result of this, the transportation of raw materials and finished foods gets delayed. The communication system in the region is also overtaxed. As a result of the strains on infrastructure, monetary as well as, the costs of production rise.

3. Diseconomies of high factor prices

The excessive concentration of an industry in a particular industrial area leads to keener competition among the firms for the factors of production. As a result of this the price of the factors of production goes up. Hence, the expansion and growth of an industry would lead to rise in costs of production.

<u>SUPPLY:</u>

The Concept of supply like the concept of demand is very important in the price theory. Supply refers to a schedule of quantities of a commodity that will be offered for sale at different prices.

Supply is different from the term ‘Stock’ which is very well used in business dealings. Supply means the commodity offered for sale at a price. This means that ‘Supply’ refers o total supply offered for sale at a price. Sometimes the term ‘Market supply’ is used to denote the supply of perishable commodities with the retailers only.

<u>Supply Definition:-</u>

According to Stoniers and Hague, “Supply depends on scarcity, just as demand depends on usefulness.”

According to Prof. Mc Connel define supply in the following term, “ Supply may be defined as a schedule which shows the various amount of a product which a producer is willing to and able to produce and make available for sale in the market at each specific price in a set of possible prices during some given period.”

Different Types of changes in Supply:

(i) External in Supply

(ii) Contraction in Supply

External in Supply

It is a situation where more units are supplied at higher price. In this case the producers moves along the same supply curve.

(Diagram)

When the price is OD, on units are supplied. Suppose the price rises from OD to OC, the producer would Supply OB units of the commodity. The arrow mark along the vertical axis from D to C shoes a rise in the price level and the arrow mark along the horizontal axis from A to B indicates the extension in supply.

Contraction in supply:

It refers to a condition where less units of the commodity are supplies at a lower price.

(Diagram)

Originally the price of the commodity is OC and quantity supplied is OB when the price falls from OC to OD, only OA quantity is supplied. It means with the fall in price of the commodity. Supply has contracted from OB to OA.

DETERMINATION OF SUPPLY:

(i) Number of Firms or Sellers:-

Supply in a market depends on the number of firms or sellers producing and selling in the market when the sellers are few, the supply will be small. If they are in large numbers, the supply will also be large.

(ii) State of Technology:-

It is assumed that the level of technology of production remains constant. Generally any improvement in technology will reduce the cost of production and consequently there will be an increase in supply.

(iii) Cost of Production:-

The cost of production is an important item affecting the supply and so this is assumed to remains constant. Wage, rate of interest, price of machinery and equipment, raw materials, etc , remain unchanged.

(iv) Prices of related goods:-

It is assumed that supply of a commodity depends purely on its price and not on the prices of other commodities related to it.

(v) Price Expectations:-

It is assumed that the seller sells the commodity or supplies the commodity on the basis of the prevailing prices and he does not expect any change in prices of that commodity.

(vi) Natural factors;-

It is assumed that there is no change in natural factors, as the supply is governed by natural factors like rain drought, etc. This is more so in agro-industries. Further monsoon failure may result in the reducing of power generation and it may eventually lead to fall of production.

(vii) Labour trouble:-

It is assumed that there is no labour trouble and consequent strike or lockout reducing the quantity of supply. The productive units are supposed to be working smoothly without any interruption.

(viii) Change in Government Policy:-

Any change in Government policy will affect the supply. A fresh tax or levy of excise duty on a commodity will affect the price of the commodity and as a result the supply will get affected. An increase in tax will reduce the supply and granting of subsidy will increase the supply.

Law of Supply:-

Supply means the commodity offered for sale at a price. Supply is the willingness and ability of producers to produce for sale various amounts of goods and services at each specific price in a set of possible prices during a specified period of time.

The Law of supply state that quantity supplied is positively related to price. Firms offer smaller amount for sale per time period at lower prices and larger amount at higher prices in search of greater profits. Thus, " other things remaining the same as the price of a commodity rises, its supply is extended and as the price falls, its supply is contracted".

Supply Schedule

Price per kg (Rs)	Quantity supplied (in Units)
15	18
12	16
9	12
6	7
3	1

The above supply schedule is clearly depicts that when the price of product increasing from 15, 12,9,6 and 3, then the supply of the product is also increasing from 18, 16, 12, 7 and 0 Units respectively.

(Diagram)

The above diagram expresses the law of supply based on the above supply schedule, as per the diagram, X axis represents the quantity demanded and Y axis represents the price of the product. It is clearly represents the supply curve, Supply slopes upwards from left to right showing large supplies at a higher prices.

ELASTICITY OF SUPPLY:-

Elasticity of supply means the rate at which the supply of a product changes to the change in its price. Thus it explains the responsiveness of the sensitiveness of supply to the change in price of that particular commodity.

Symbolically, Es = Proportionate change in quantity supplied

Proportionate change in price

Elasticity Supply Definition:-

According to *Samuelson*, "Elasticity of supply is the degree of responsiveness of supply of a commodity to a change in its price".

According to Prof. *Bilas*, "Elasticity of supply is defined as the percentage change in quantity supplied by percentage change in price".

DETERMINANTS OF ELASTICITY OF SUPPLYP:-

Elasticity of supply for a commodity is affected by the following factors,

1. Period of time
2. Nature of commodity
3. Market structure
4. Economic situation
5. Development of the means of transport and communication and
6. Technical developments

1. Period of time

The supply of a commodity is less elastic in the short period than in the long period. This is because it is possible to increase supply much more in the long run than in the short run.

2. Nature of commodity

The supply of perishable commodities like milk, vegetables and fish is inelastic in the market period. On the other hand the supply of durables is more elastic.

3. Market structure

Supply under perfect competition is more elastic than that under monopoly.

4. Economic situation

Supply of a commodity is more elastic when there is a depression. This is due to the reason that the factors of production are available in plentiful supply at low prices. The supply is inelastic during boom conditions due to shortage of resources.

5. Development of the means of transport and communication

With the construction of roads and railways in an area, the cost of production and marketing a product goes down. This helps in stepping up supply even at the existing price.

6. Technical developments

When there is a technical development in an industry, it leads to fall in costs. This makes it possible to raise supply at the prevailing price. For instance hybrid seeds of wheat led to rise in yields per acre. It made the wheat supply highly elastic.

DEGREES OR DIFFERENT KINDS OF ELASTICITY OF SUPPLY

Price elasticity of supply can be classified into five types as follows,

1. Perfectly elastic supply
2. Perfectly inelastic supply
3. Unitary elasticity of supply
4. More Elastic supply
5. Less elastic supply

1. Perfectly Elastic Supply

If a slight change in price increases or reduces the quantity supplied to any level, it means supply is perfectly elastic. Elasticity of supply is equal to infinity.

(Diagram)

The figure 1 shows perfectly elastic supply. At OS price the quantity supplied is OQ. Now, at the same price, the quantity supplied falls to OQ1 and at the same price, it rises to OQ2. Thus, elasticity of supply is infinite or **Es =**

2. Perfectly Inelastic Supply

At times the supply may not change at all to any change in price. It is called zero elasticity or perfectly inelastic supply. The supply curve SS is perfectly inelastic or **Es = 0**. It can be expressed by a following figure 2.

(Diagram)

3. Unitary Elasticity of Supply

` When the proportionate change in the quantity supplied is equal to the proportionate change in price it is known as unitary elasticity of supply.

4. More Elastic Supply

It occurs when there is a small change in price there is big change in supply. It means more elastic supply (**Es > 1)**.

(Diagram)

In figure 4, at OP price, the quantity supplied is OQ. When price rises from OP to OP1, the quantity supplied rise is more i.e., OQ1. Therefore, quantity supplied is more than the change in price i.e., **Es > 1**.

5. Less Elastic Supply

When there is big change in price but change in quantity supplied is very small. It is called less supply (**Es < 1)**.

(Diagram)

Less elastic supply has been shown in figure 5. We find in the figure that at OP price, the quantity supplied is OQ. Now when price rises from OP to OP1, quantity supplied also increases. It shows a big change in price while there is a small change in the quantity supplied.

END UNIT: II

Reference Book:

1. **Business Economics- S.Sankaran**
2. **Business Economics- P.N. Reddy and H.R.Appanniah**

UNIT – III
COST CONCEPTS

<u>COST OF PRODUCTION</u>:

The term 'Cost of Production' means the expenses incurred in the production of a commodity. This refers to the total amount of money spent on the production of the commodity.

Cost outlays for productive services are directly related to the laws of production; their structure is determined by the nature of the production function as well as by the level of prices & the nature of the market for productive services.

The term cost of production may be used in three different senses. It may mean (i)Money cost; (ii)Real cost; (iii)Opportunity cost.

(i) Money cost of production:

When an entrepreneur undertakes the act of production, he has to pay prices for the factors which he employs for production. He pays wages for labourers, prices for the raw materials & fuel, rent for buildings hired for production work, & interest on the money borrowed to conduct the business.

Economic costs = Explicit Costs + Implicit costs

(or)

(According cost)

Economic profit = Total Revenue – Economic costs

(ii) Real cost of Production:

It expresses the trouble turmoil & sacrifices involved in producing a commodity. The money paid for securing the factors of production is money cost. The efforts and sacrifice of the factors or its owners is the real cost. Though Marshall wanted to include all the efforts and sacrifices involved in production under 'real costs', modern economists have discarded the concept as it is not possible to calculate pain & sacrifice. Modern Economists stress the opportunity cost.

(iii) Opportunity Cost (or) Alternative Cost:

The concept of opportunity cost occupies a very important position in modern economic analysis. The principles of cost in the modern sense is not the pain or strain involved nor the money cost involved in producing a thing. It depends on the sacrifice of alternative product that could have been produced. The opportunity cost of any goods is the next best alternative goods that are sacrificed.

VARIOUS TYPES OF COST OR EXPLAIN THE DIFFERENT KINDS OF COST.

The term cost of production means the expenses incurred in the production of a commodity. This refers to the total amount of money spent on the production of the commodity. The term cost of production may be used in three different senses. It may mean money cost, real cost and opportunity cost.

Explicit cost and implicit cost:

The total money cost of producer of a firm includes both explicit cost and implicit cost.

Explicit cost are those expenses incurred by a firm by way of paying remuneration to the factors, prices for materials of all kinds, charges for maintenance and so on. In other words, explicit costs are paid-out costs.

Implicit costs, on the other hand, refers to the costs of self owned or self employed resources and services of an entrepreneur or proprietor. E.g., salary for proprietor, return for his investment.

Private cost and social cost:

Private cost is the cost of producing a commodity by an individual producer. Economic optimum is the basis of private cost.

Social costs are the costs which are incurred by the society in producing commodities and services. It is a cost incurred by the society in the form of resources that are used in order to produce commodities and services. Social optimum is the basis for social cost.

Fixed cost and variable cost:

The cost that remains fixed for all output is known as fixed cost. It has to be incurred whether there is production or not in a firm. It does not change with change in output up to certain level. It includes the rent of the factory building, interest on invested capital, salaries for permanent employees etc. This cost is also known as over-head costs.

Variable costs on the other hand vary with the output. It increases as output of a firm increases, diminishes as output decreases and becomes zero as the production of a firm is stopped. It includes the cost of raw materials and the cost of casual labour etc.

Out of pocket cost:

Out of pocket cost denotes immediate current payment. Hence, it is called cash cost. For ex, the cost of raw material or the wages to labour require immediate payment.

Book cost:

Book cost is one which need not be immediately made. For instance, depreciation does not require immediate cash payment and it is not taken into the current expenditure account.

Incremental cost:

Incremental cost refers to the addition cost incurred due to a change in the level or nature of activity. A change in the activity connotes addition of a product, change in distribution channel, expansion of market etc. Incremental costs are also known as differential costs. Incremental cost measures the difference between old and new total costs.

Sunk cost:

Sunk cost is the costs which remain unaltered even after a change in the level or nature of business activity. These are known as specific costs. The best example of the sunk cost is depreciation.

COST-OUTPUT RELATION:

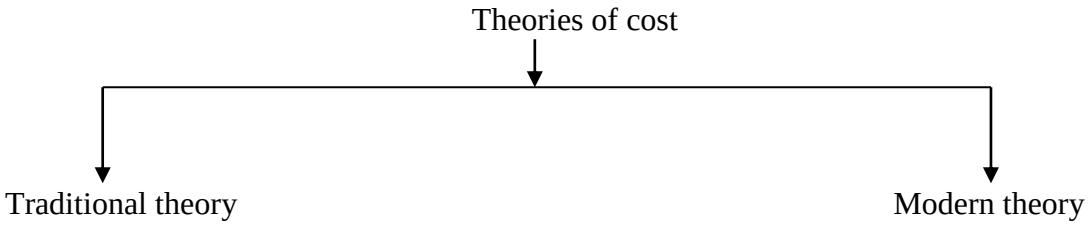
Cost output relations play an important role in business decisions pertaining to cost-minimization or profit maximization and optimization of output. Cost output relations are specified through a cost function expressed as,

TC = f (Q)

Where TC = total cost, and Q = quantity produced

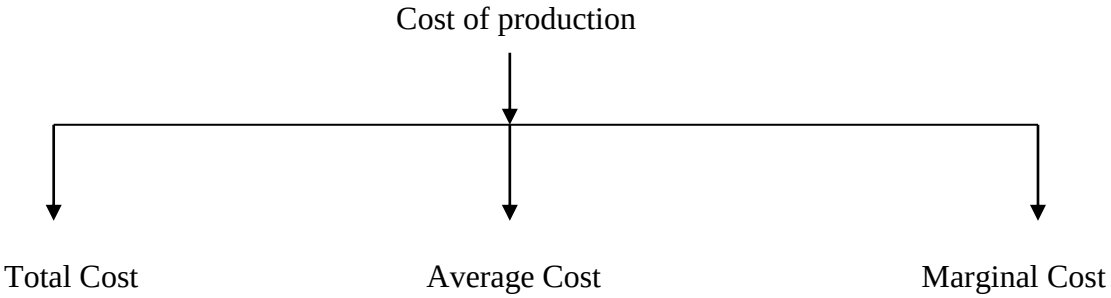
A cost function depends on (1) production function and (2) market supply function of inputs. Production function specifies the technical relationship between the input combination and the output. Production function of a firm combined with the supply function of inputs or prices of inputs determines the cost function of the firm. Precisely, cost function is a function derived from the production function and the market supply function.

Generally theories of costs can be divided into two parts.



TRADITIONAL THEORY OF COST/SHORT RUN COST CURVES

In traditional theory, costs are generalized in two parts on the basis of time period that is costs in short-run and costs in the long run. Costs are mainly the following types.



Total Cost:

The scale and size being fixed, the firm in the short run can change its output by incurring fixed cost and variable cost. The total cost of the firm then is the sum total of total fixed cost and total variable cost i.e., TC= TFC+TVC.

Average cost (average total cost):

Average total cost is the sum of average fixed cost and average variable cost i.e, ATC = AFC+AVC. It is obtained by dividing the total cost by total output, i.e., AC = TC/TQ. In other words,

AC=TC/TQ i.e., TFC+TVC/TQ.

Marginal cost:

It is defined as the addition made to total cost by the production of one additional unit of output. In other words, it is the additional cost added to the total because of producing one extra unit of output. Therefore, MC= Change in TC/ Change in Q.

State the relation between Total, Fixed and Variable costs.

In order to determine the total costs of a firm we aggregate fixed as well as variable cost at different levels of output that is,

TC = TFC + TVC

Output	Total Fixed Cost (TFC)	Total Variable Cost (TVC)	Total Cost (TFC + TVC)
0	50	0	50
1	50	20	70
2	50	30	80
3	50	32	82
4	50	40	90
5	50	45	95

In the table we have shown that,

TC = TFC + TVC

TFC = TC – TVC

TVC = TC – TFC

In the table when the output is zero variable costs are also zero. But the fixed costs as well as total costs are 50. As the output increases to 5 units, total costs go up to 95. It means as the output increases fixed costs remain the same, but variable costs increase at a diminishing rate then at constant rate and ultimately at an increasing rate.

(Diagram)

SHORT-RUN AVERAGE COST CURVE IS 'U' SHAPED:

In the short run average cost curve are of 'U' shape. It can be on account of the following reasons.

1. Basis of Average Fixed and Average Variable cost: It is well known that average cost is the aggregate of average fixed cost and average variable cost (AC = AFC + AVC). To begin with as production increases initially the average fixed cost and average variable cost falls. But after a minimum point, average variable cost stops falling but not the average cost. It is due to this reason that average variable cost reaches the minimum before AC. The point, where AC is minimum called the optimum point. Beyond this point AC begins to rise upwards.

2. **Basis of the law of variable proportion:** The law of variable proportion also results in 'U' shape of short run average cost curve. If in the short period variable factors are combined with a fixed factor, output increases in accordance with the law of variable proportions. In other words, the laws of increasing returns apply.

3. **Indivisibility of factors:** Another reason due to which the average cost curve forms 'U' shape is the indivisibility of factors. When in the short run a firm increases its production, due to indivisibility of fixed factors, it gets various internal economies. It is these economies which causes the average cost curve to fall in the initial stage

State the Relation OF MC and AC:

The relationship between Marginal cost and Average Cost is unique. The relation between these two is more a mathematical one rather than economics.

The two curves should start from the same point as the MC and AC of a very small output must be the same.

- Both the marginal and average curves will decline, but the former declines steeply at a greater rate than the latter.

- After a certain stage, both costs and the marginal cost (MC) curve rises steeply while AC will rise smoothly.
- The MC curve cyst the curve from below at the lowest point of the latter.

The following figure shows the position of Average Cost Curve and Marginal Cost Curve in the short-run.

(Diagram)

From the above diagram, we find that when the short-run Marginal Cost curve lies below the Average Cost Curve, the Average Cost Curve is falling. When MC lies above the AC, the AC is rising. At the point of intersection Q where AC and MC meet, both are equal and AC is neither falling nor rising. The point Q where MC curve crosses the AC curve, is the minimum point of the AC curve; that is MC curve cuts the AC curve at the latter's minimum point. From this we conclude that when Average Cost is falling, the marginal cost will be below it.

But the marginal cost may be raising or falling when it is below the average cost. When AC is rising, MC is also raising. In the figure, though MC is raising between R and Q, it is below AC. After 'Q' when AC is raising MC is also raising.

The relationship between the MC and AC is that when marginal cost is less than average cost will fall and when marginal cost is greater than average cost, the average cost rises.

Long-Run Costs:

Long-run is a period in which there is sufficient time to alter the equipment and the scale or organization with a view to produce different quantities of output. According to *Koutsoyannis*, "In the long-run, all the factors of production are assumed to be variable."

Long-Run Average Cost Curves with Illustration.

In the long-run, a firm can change the fixed factors, viz., plants, equipment and thereby enlarge the scale of operation and produces more output in the most efficient way. So, in the long-run all factors are variable and there is nothing like fixed cost of production.

In the short-run, the firm is tied with a given plant. But in the long-run, the firm moves from one plant to another. As the scale of operation of the firm is altered, a new plant is added. The long-run cost of production is the least possible cost of production of producing any given level of output, when all inputs become variable, including the size of the plant.

Long-run average cost is the long-run total cost divided by the level of output. This curve depicts the least possible average cost of production at different levels of output. It is the cumulative picture of the short-run average cost curves. The short-run average cost curves are also called plant curves since in the short-run, plant is fixed and each of the short-run average cost curve corresponds to a particular plant.

The shape of the Long-run Average Cost Curve is depends upon the making of our assumptions. If we assume that the factors of production are perfectly divisible and the prices of inputs remain constant, then the long-run average cost curve will remain constant at all levels of output.

When the prices of inputs are constant and when returns to scale are constant the cost per unit of output remains the same. In this case, the short-run average cost with different plants will remain at the same height from the X axis and the minimum or the lowest point of the curves will be in a straight line.

(LAC at Constant Returns to Scale)

(Diagram)

In the diagram , it can be noticed that all short-run average cost curves SAC_1, SAC_2, SAC_3 have the same minimum average cost of production. This means, whatever the size of the plant, the minimum cost of production is the same. This implies that all factors can be adjusted in the long-run to have such a proportion to keep the optimum level always. All levels of output can be produced at the same long-run average cost representing the same minimum short-run average costs throughout. The assumption of constant cost and perfect divisibility of factors so as to have a straight line long-period average cost curve is rather far-fetched

and away from practical side. Even, if all factors are divisible 'management and co-ordination' is not completely divisible. At smaller range of output, the management would be more efficient if the output is increased a little. At the higher range of production, management may be cumbersome and difficult. This may lead to inefficiency in production. Similarly, at smaller levels of output economies would arise if the output is increased due to division of labour and specialization. So, the best way is to have the assumption of variable returns to scale instead of constant cost.

(Diagram)

Above diagram, have five short-run average cost curves though there may be infinite number of short-run average curves for a firm. The successive short-run average cost curves indicate that they are at different heights. Now the long-run average cost curve can be drawn by a curve which would be tangent to all these short-run curves and envelope them. In fact, the long-run average cost curve is nothing else but the locus of all these tangency points. If a firm desires to produce a particular output in the long-run, it will pick on the long-run average cost curve corresponding to that output and then build up a relevant plant and operate on the corresponding short-run average cost curve.

Suppose the producer wants to produce OM output, the corresponding point on the long-run average cost curve LAC is 'K' in SAC_2. The firm will construct a plant corresponding to SAC_2 and will operate on this curve at point 'K'. Similarly if the firm wants to increase the output to OM_1, the corresponding point on the LAC is Q on SAC_3. The firm will build a plant to correspond to that short-run average cost. The long-run average cost curve is called *envelop curve*, because it envelops or supports a family of short-run average cost curves from below.

From the figure we can understand the long-run average cost curve initially falls with increases in output and after a certain point it rises making a boat shape. Long-run average cost curve is also called the *planning curve* of the firm as it helps in choosing a plant on the decided level of output.

If the firm decides to have an output OM_1 by constructing the plant relevant to SAC_3, then it will be producing at minimum long-run average cost and it is similar to 'Optimum Firm'. In this case, LAC curve touches the lowest point of the lowest SAC at point Q.

Geometrically, the LAC curve cannot touch the lowest points of all SAC curves, except the lowest SAC curve (i.e., SAC_3). Before SAC_3, the LAC curve will be tangent at point before the lowest point and after SAC_3, the LAC curve will be tangent at points after the lowest points of SAC curves.

REVENUE

Meaning:

Revenue means business turnover at any particular point of time. It is the function of the business to manufacture the product and market them. It incurs costs while producing the output. It receives money while selling the product. The entire money received from selling the product is called revenue. So revenue is defined as sales receipts. Revenue depends upon the price per unit of the product sold.

The firm's revenue can be classified into three types:

(i) Total revenue
(ii) Average revenue
(iii) Marginal revenue

Total Revenue:

Total revenue means the total sales receipts of the output sold over a period of time. The total revenue is the result of the factors namely the price per unit & the total quantities of the output sold. Symbolically it is represented as TR=P x Q. Rs.1, 50,000 is the total revenue, Rs.1500 is the price per unit & 100 is the quantity sold. When total revenue is considered along with the total cost, the total profits of the firms are ascertained.

Average Revenue:

Average revenue is the revenue per unit of the commodity sold. It is the average price of the unit of the commodity sold. It is arrived at by dividing total revenue by the number of units sold. Average revenue actually means the price. Average revenue curve is also called demand curve. It also represents the average revenue or the price at which various amount of the commodity sold because the price offered by the buyer is the revenue from the seller's point of view. In economics we use AR & price in synonymic terms. Symbolically it is shown as AR=TR/Q.

$$\text{Average Revenue (AR)} = \frac{\text{Total revenue}}{\text{No. Of units sold}} = \text{Price per unit}$$

Marginal Revenue:

Marginal revenue is the net revenue earned by the additional unit of the product. Marginal revenue is the sales revenue of the additional unit of the product sold. Marginal revenue is defined as the additional made to the total revenue by selling one more unit of commodity.

Suppose the sale of 100 quintals of rice gives the farmer total revenue of Rs. 7,575 & the sale of 101 quintals of rice gives the farmer total revenue of 7,575. The marginal unit is the 101 unit & the revenue of the last unit is Rs. 75. In fact, marginal revenue refers to the revenue of one unit; it can also mean revenue from additional unit or extra unit. The formula for MR is

$$MR_n = TR_n - (TR_n - 1)$$

In which n stands for any number.

Relationship with Perfect & Imperfect market Conditions:

Perfect competition is a market phenomenon in which the price for the unit sold remains the same. In this case both average revenue & marginal revenue are same. The following table illustrate the behaviour of average revenue & marginal revenue under perfect competition.

AR, MR Schedules under perfect competition:

No. Of units sold	Price or AR (Rs)	Total Revenue	Marginal Revenue
1	10	10	10
2	10	20	10
3	10	30	10
4	10	40	10
5	10	50	10
6	10	60	10
7	10	70	10
8	10	80	10

In the above table the price or average revenue for all units of a commodity sold is the same. Total revenue goes on increasing in a uniform manner. Consequently the marginal revenue is equal to average revenue.

Under perfect competition/ Under Pure Competition: since the price for all units sold is the same, the average revenue and marginal revenue are one and the same. Therefore, the average revenue curve & marginal revenue curve coincide with each other. The average revenue curve is a horizontal straight line. This is because that under perfect competition all firms are expected to sell the commodity at a uniform price. Individual firm cannot influence the price. He should sell the product at the price determined by the industry. Therefore the marginal revenue curve becomes one with average revenue curve.

(Diagram)

Under imperfect competition / Under Monopoly: the average revenue curve slopes left to right downwards and the marginal revenue curve slopes below the average revenue curve. AR is the average curve & MR is the marginal revenue curve. The downward sloping of AR is due to the fact that under imperfect competition, the firm lowers the price of the product, if it wants to sell more. MR curve declines below AR curve, because marginal revenue declines more rapidly than the average revenue. When OM quantity is sold, DM is the AR & QM is MR, or when the price or AR is OP, the MR is less than MD.

Q	AR (= P) Rs.	TR Rs.	MR Rs.
1	20	20	20
2	18	36	16
3	16	48	12
4	14	56	8
5	12	60	4
6	10	60	0
7	8	56	-4

BREAK EVEN ANALYSIS

Break even analysis is a study of cost, revenue and sales of a firm and finding out the volume of sales where the firm's cost and revenues will be equal.

According to Martz, Curry and Frank," a break even analysis indicates at what level cost and revenue are in equiliburium".

The break even point is that level of sales where the net income is equal to zero. The break even point is the zero or no – profit and no – loss as the costs equals revenue.

Break even analysis is a graphical techniques meant for illustrating the profit- volume relationship.

The break even point may, therefore be taken as the one indicating the minimum level of production sales, which the company has to undertake in order to be economically viable.

Determinants of BEP:

The BEP of a firm can be found out in two ways. It may be approached in terms of **physical units,** i.e volume of output or it may be approached in terms of **money value,** i.e, the value of sales.

(i) BEP in terms of physical units:

This method is convenient for a firm producing a single product. The BEP is the number of units of the commodity that should be sold to earn enough revenue just to cover all the expenses of production. The firm does not earn any profit nor does it incur any loss. It is the meeting point of TR and TC of the firm.

The break even point is illustrated by means of a schedule and a graph.

OUTPUT IN UNITS	TOTAL REVENUE (TR) PRICE RS. 4 PER UNIT	TFC(RS)	TVC(RS)	TOTAL COST(TC) (RS)
0	**0**	**300**	**0**	**300**
100	**400**	**300**	**300**	**600**
200	**800**	**300**	**600**	**900**
300	**1200**	**300**	**900**	**1200**
400	**1600**	**300**	**1200**	**1500**
500	**2000**	**300**	**1500**	**1800**
600	**2400**	**300**	**1800**	**2100**

It is clear from the table that when the output is zero the firm incurs only fixed cost. When the output is 100 the TC is Rs. 600 and TR is Rs. 400. The firm incurs a loss of Rs. 200. Similarly, when the output is 200 units, the firm incurs a loss of Rs. 100. It is at the level of 300 units, total revenue is equal to total cost (RS. 1200). This is the BEP. From the level of 400 units of output, the firm is making profit. It is illustrated in the following figure.

(Diagram)

In the break even analysis figure, the BEP lies at 300 unit of output. Upto 300 units of output the firm will be incurring loss in all units of output as TC is at a higher level than TR. This is called loss zone. Beyond 300 units of output, the firm is realizing profit as TR exceeds TC. All 300 units of output the firm is neither incurring loss nor realizing any profit. It is the BEP or no profit or no loss point of production.

BEP in terms of sales value:

The BEP in terms of physical output is suitable only in the case of single product firm. If the firm is producing many products, the BEP can be approached only in terms of money value or total sale value or total revenue. Here also the principle of total contribution margin is made equal to total fixed cost, but the contribution margin is expressed as a ratio to sales.

$$\textbf{Contribution Margin} = \frac{\textbf{Total Revenue} - \textbf{Total Variable Cost}}{\textbf{Total Revenue}}$$

$$\textbf{BEP} = \frac{\textbf{Total Fixed Cost}}{\textbf{Contribution Ratio.}}$$

Assumptions:

- The volume of production and the volume of sales are equal. That is to say, the firm is able to sell all the units of the commodity produced and there is no change in the closing inventory.
- The price is assumed to be constant
- All revenue is perfectly variable with the physical volume of output and
- All costs are either perfectly variable or absolutely fixed over the entire range of volume of production.
- Operating efficiency will not undergo any changes.
- Semi variable costs can be segregated into variable and fixed components.

Importance and Uses of BEA:

- With the help of the break-even analysis, the firm can determine minimum cost for a given level of output.
- It helps in deciding which products to be produced and which to be bought by the firm.
- Plant expansion or contraction decisions are often based on the break even analysis of the perceived situation.
- Impact of changes in prices and costs on profits of the firm can also be analyzed with the help of break-even techniques.
- Sometimes a management has to take decisions regarding dropping or adding a product to the product line. The break even analysis comes very handy in such situations.

Limitations:

- It is static in character.
- Projection of future with the past is not correct.
- The assumption that cost- revenue – output relationship is linear is true only over a small range of output.
- The profits are a function of not only output but also other factors like technological change, improved management etc.
- BEA is not an effective tool for long range use and its use should be restricted to the short run only.

(END OF UNIT- III)

Reference Book:

Unit-IV

MARKET STRUCTURE

Introduction

The word market is not altogether easy to define because it is used in many senses. The word is derived from the latin word *mercatus* from the verb *mercari* which means ' to trade'.

Definition:

According to Prof.Jevons as, "any body of persons who are in intimate business relations and carry on extensive transactions in any commodity".

According to Prof. Frederick Benham, market is "any area over which buyers and sellers are in such close touch with one another, either directly or through dealers, that the prices obtainable in one part of the market affect the prices paid in other parts".

What is Market?

Market, the word came to signify a public place in which goods and services are bought and sold. It is the act or technique of buying and selling. In economic sense, the term market does not mean shops or establishments. In economics it has no reference to a place, but to a commodity which is being bought and sold.

I. On the basics of goods Translated:

1. Product exchange market
2. Bullion exchange market
3. Stock exchange market
4. Money exchange market
5. Capital exchange market

II. On the basis of Area:

On the geographical area covered, markets are classified into (a) Local Markets (b) regional markets, (c) National markets and (d) International market. A local market for a product exists when buyers and sellers carry on business in a particular locality or village of area where demand and supply conditions are influenced by local conditions only. E.g., milk, eggs, vegetables etc. Semi-durable goods command a regional market. National market exists for industrial and durable goods. The precious commodities like gold, silver, etc are traded in the international market.

III. On the basis of Time:

This kind of market can be classified into very short-period market, short-period, long period market and very long period or secular market. Very short-period market refers to that type of market in which the commodities are perishable and supply of commodities cannot be changed. Short period market refers to that type of market in which the commodities are durable and also reproducible. Long period market implies that the time available is adequate for altering the supplies by altering even the fixed factors of production. Very long period is one when secular movements are recorded in certain factors over a period of time.

IV. Markets on the nature of Transactions:

On the basis of nature of transactions, markets are classified into spot market, and future markets. Spot market refers to those markets where goods are physically transacted on the spot, whereas future markets related to those transactions which involve contracts of the future date.

V. Markets on the basis of Volume of Business:

Based on the volume of business transacted, markets are classified into wholesale market and retail market. The whole sale market comes into existence when the commodities are bought and sold in bulk or large quantities. The dealers in this market are known as the wholesalers. The wholesaler acts as an intermediary between the producer and the retailer. Retail market, on the other hand exists when the commodities are bought and sold in small quantities. This is the market for ultimate consumers.

PERFECT COMPETITION:

Introduction:

Broadly speaking there are two types of market forms namely,

(1) Perfect Competition

(2) Imperfect Competition

Perfect competition is also called pure competition, where the market is said to be perfect. It means the sellers are selling various quantities of a homogeneous commodity at a uniform price.

In imperfect competition the sellers are selling differentiated commodity at different prices. The various types of imperfect competition are, monopoly, monopolistic competition, oligopoly, duopoly, etc.,

Definition:

Prof. Frank knight expresses the them 'Perfect Competition' as a condition of market in which there wills fluidity and mobility of factors of production so that the number of firms and the size of firms can freely increase or decreases.

Characteristics / Features of Perfect Competition:

1. **Large numbers of buyers & sellers:**
   In a Perfect Competition market there will be a large number of buyers & sellers. Many firms producing the commodity will often their quantity in the market and sell it at market price. Large number denotes that the numbers of producers are so numerous that they cannot combine & influence the market price by their combined action & decisions.
   In a Perfect Competition market the individual firm is only a 'Price Takes' and not 'Price Markes' and the individual firm cannot have a price policy of its own.
2. **Homogeneous Product:**
   The second condition in the perfect market is that the commodity offered should be homogeneous and identical in all respects. All firms in the market produce the same quality or variety of the commodity and practically there will be no difference in the product of the two firms.
3. **Free entry & exit conditions:**
   The third important condition in Perfect Competition is that there are no artificial restrictions either preventing the entry of new firms into the market or compelling the existing firms to continue. The firms have full liberty to choose either to continue or go out of the industry. New firms, if they decide to enter the field, can do so, without restrictions.
4. **Perfect knowledge on the part of buyers and sellers:**
   The fourth condition of a perfectly competitive market is the existence of perfect knowledge on the part of buyers & sellers about market conditions. The buyers known in full about the commodity sold and the price prevailing in the market. The sellers know the potential sales at various price levels in the market.
5. **Perfect mobility of factors of production:**
   The existence of Perfect Competition depends on perfect mobility of factors of production. The factors should be free to move from one use to another easily depending on the remuneration they get. They are free to come out of the industry if they consider the remuneration inadequate & they could get better remuneration elsewhere.
6. **Absence of transport lost:**
   In a perfectly competitive market, it is assumed that there are no transport costs. If transport cost is incurred, price should be different in different sectors of the markets. We have stated that Perfect Competition there will be no price difference & the commodity will be sold at uniform price throughout the market.

7. **Absence of Government:**

Lastly it is assumed that there are no artificial restrictions from any quarter hindering the smooth functioning of perfect competition. There are no government controls on restriction on supply, pricing, etc., and the price should be free to change in response to changes in demand supply conditions. If all these conditions are fulfilled then the market can be termed perfect and this perfection cannot be had in practical side.

DIFFERENCE BETWEEN PERFECT & PURE COMPETITION:

Distinction is often made between pure competition and perfect competition. Pure competition is said to exist in a market where:

(a) There is a large number of buyers and sellers.
(b) The product dealt with is homogeneous or identical and
(c) There is freedom of entry for firms.

Perfect Competition is much broader than pure competition. While the absence of monopoly element is the basic feature of pure competition. Perfect Competition requires the existence of many other conditions as well.

(a) Imperfect knowledge regarding the market
(b) Inertia on the part of the consumers,
(c) Irrational consumer preferences, and
(d) Existence of transport costs.

PRICE AND OUTPUT DETERMINATIONJ UNDER PERFECT COMPETITION

In perfect competition, there are large number of buyers and sellers. So individual buyers and sellers cannot influence the market price. The prevailing price of the product in the market is taken for granted. The buyers have to make the outlay guided by the price. Similarly the producers have to supply guided by the price. But, how the price in the market has been arrived at? Price under perfect competition is determined by the interaction of the two faces, viz., demand and supply. Though individuals cannot change the price, the aggregate force of demand and supply can change the price. The demand side is governed by the law of demand based on marginal utility of commodity to the buyers. The supply side is governed by the cost of production. The law of supply operates. The price determined by the interaction of demand and supply is called the equilibrium price.

Equilibrium price is that price at which quantity demanded is equal to the quantity supplied and at that price, the buyers and sellers are satisfied. If the price is different from the equilibrium price, the buyers 'and sellers' wishes become inconsistent. Either buyers would demand more or sellers would supply more.

Suppose the price is greater than the equilibrium price. The quantity supplied would exceed the quantity demanded.

On the other hand if the price is below the equilibrium price, the quantity demanded would exceed the quantity supplied.

The demand schedule of the market is the summation of the individual demand. The supply schedule gives the quantity supplied at different prices. With the help of the demand and supply schedules, we can draw the market demand curve and the market supply curve. The intersection of the two curves shows the equilibrium price.

(Diagram)

SS is the supply curve sloping upwards and DD is the demand curve sloping downwards. They intersect at 'E' the point of equilibrium. The corresponding price is OP and the quantity is OM. OP is the

equilibrium price and OM is the equilibrium amount. At the price OP the industry is prepared to supply OM amount and at that price the market is prepared to take OM quantity. The market is cleared at this price and there is no shortage of supply or unsold stock. Suppose the price increases above the equilibrium price. At the increased price OP_1 demand is only P_1R while the supply is P_1S_1. The excess supply is RS_1. The buyers will not take off the quantity at price OP_1. In order to dispose off this excess, sellers will compete and bring down the price to OP.

Similarly, if prices fall to P_2 there is an excess demand VT and the price will be pushed up and ultimately the equilibrium price will prevail in the market.

Since both demand and supply determine the price of the product under perfect competition, any change on either side will influence the price. When demand rises, price will increase and when demand falls, price will decrease. Similarly when supply increases, price goes down and when supply falls, price increases.

(Diagram)

In the figure DD is the demand curve and SS is the supply curve and the equilibrium point is 'E'. Supply remaining the same, the demand increases to DD_1. As a result, the price increases from OP to OP_1. Similarly, when the demand decreases to DD_2, the price comes down to OP_2. The quantity which remained at OM originally increased to OM_1 when the demand increased and the quantity decreased to OM_2 when the demand decreased.

In the figure DD is the demand curve and SS is the supply curve and the equilibrium point is E. The price is OP and the quantity is OM. Demand remaining constant, the supply increases to SS_1. As a result, the price has come down to OP_1. When the supply decreases to SS_2, the price increases to OP_2.

(Diagram)

Firm under Perfect Competition:

In economics, the term 'Firm' refers to a unit of control. The firm may be defined as the unit controlling productive operations by hiring the services of the factors of production and selling those commodities and services either to other firms, households or to the central authorities.

An 'Industry' on the other hand is a particular line of productive activity in which many firms are engaged, each adopting its own production and price policies to its best advantage.

Since each firm is producing the same commodity, the decision of the firm in an industry cannot be independent. The firm in an industry are interdependent and they together constitute a complex family or productive system in which firms will be competing, combining or controlling different sets of forces.

In perfect competition, the firm has very little influence on the price of the product, as we have studied earlier, under perfect competition; the firm is only a price – taker and not a price – maker. But in imperfect competition, the firm's price and output policies play a dominant role. The motive behind all these decisions is maximising the profits of the firm.

Price and output decisions of firms:

Firms, under perfect competition, have no choice regarding the price policy. It has no control over the price. It is a price – taker and accepts the price prevailing in the market. The demand curve that the firm faces under perfect competition is infinitely or perfectly elastic. It is horizontal to 'X' axis. When all units of the product are sold at the same price, the average revenue must be equal to price. Therefore, the demand and the average revenue curve of the firm are one and the same. Since the AR curve is neither rising nor falling it has to coincide with the relating Marginal Revenue Curve. Thus, the demand, average revenue and the marginal revenue curves are all one and the same.

(Diagram)

The conditions depicted in the figure show that the firm has come to equilibrium at point 'E' where MR=MC and the equilibrium output is OM. Profit per unit of output is the difference between average revenue (price) and average cost. In the figure, at equilibrium production OM, the average cost is only FM and the average revenue is EM. Therefore, the profit per unit of output is EF. So, the total profit earned by the firm is profit per unit multiplied by the number of units sold which is equal to the rectangle PEFH. This rectangle in the figure shows the total profits of the firm. Because normal profits are included in the average cost, the area PEFH indicates super- normal profits. The firm under discussion is earning super – normal profits under conditions of equilibrium in the short period.

Monopoly

Meaning:

Monopoly is the opposite extreme of perfect competition. It means absence of competition. It denotes a single seller or producer having the control over the market. A monopoly may be defined as a condition of production in which a single person or a number of persons acting in combination have the power to fix the price of the commodity. The commodity produced by the monopolist has no substitutes. It is a situation where there exists single control over the market producing a commodity having no substitutes and no possibilities for anyone to enter the industry and compete.

CHARACTERISTICS OR FEATURES OF MONOPOLY:

Monopoly will have the following features;

(i) It should have only single control.

(ii) The commodity produced should not have any close substitute, If there is a substitute commodity, then the monopoly power is lost, as the people can choose the substitute commodity produced.

(iii) No freedom to other entrepreneurs to enter and compete with the existing seller having full control over the market.

(iv) The monopolist may use his monopolistic power in any manner in order to realize maximum revenue.

KINDS OF MONOPOLY

1. **Natural monopoly**

It arises when the supply of a particular raw material or product is controlled by a particular concern on account of natural factors. E.g., Pakistan has monopoly over jute and Africa over Diamond.

2. **Social monopoly**

It emerges when the government absolutely controls the supply of a commodity or service for the sake of social advantage. E.g., Railways, Airways, post and telegrams.

3. **Legal monopoly**

It comes into existence when statutory provision and state laws confer monopoly power to certain concerns. E.g., RBI's monopoly over note issue.

4. **Voluntary monopoly**

It is generally created by the different producers of the same commodity. They establish monopoly control over the supply or price of their products by agreement. E.g. Indian Cement Associated Company (1

5. **Simple monopoly**

It is one which charges only one price or uniform price for its products.

6. **Discriminating monopoly**

It is one which, charges different prices for the same product.

PRICE AND OUTPUT DETERMINATION UNDER MONOPOLY :

The aim of the monopolist is the maximise profits. Therefore, he will produce that level of output and charge a price which gives him the maximum profits. In other words, in equilibrium position at that level of output at which marginal revenue equals marginal cost.

1. Marginal revenue must be equal to marginal cost.

2. MC must cut MR from below.

However, there are two approaches to determine equilibrium price under monopoly viz:

(i) Total Revenue and Total Cost Approach
(ii) Marginal Revenue and Marginal Cost Approach

(i) Total Revenue and Total Cost Approach

Monopolist can earn maximum profits when difference between TR and TC is maximum. By fixing different prices, a monopolist tries to find out where the difference between TR and TC is maximum. The level of output where monopolist earns maximum profits is called the equilibrium situation.

(Diagram)

TC and TR are the total cost and total revenue curves respectively. TR curve starts from the origin indicates that at zero level of output, TR is also zero. TC curve starts from P, reflects that even if the firm discontinues its production, it will have to suffer the loss of fixed costs. Total profits of the firm are represented by TP curve, starts from point R showing that initially firm is faced with negative profits. Now as the firm increases its production, TR also increases. But in the initial stage, the rate of increase in TR is less than TC. Therefore, RC part of TP curve reflects that firm is incurring loss. At point M, TR is equal to total cost. It shows that firm is working under no profit, no loss basis. Point M is called the Break Even Point. When firm produces more than point M, TR will be more than TC. TP curve also slopes upward. It shows that firm is earning profit. Now as the TP curve reaches to point E then the firm will be earning maximum profits. This amount of output will be termed as equilibrium output.

(ii) Marginal Revenue and Marginal cost Approach

According to marginal revenue and marginal cost approach, a monopolist will be in equilibrium when two conditions are fulfilled i.e., (i) MC=MR and (ii) MC must cut MR from below. The study of equilibrium price according to this analysis can be conducted in two time periods.

I. Short period
II. Long Period

a. Short-Run Equilibrium under Monopoly

The period refers to that period in which the monopolist has to work a given existing plant. In other words, the monopolist can not change the fixed factors like plant, machinery etc., in the short period.

1. Super normal Profits

If the price determined by the monopolist is more than AC, he will get super normal profits. The monopolist will produce up to the level where MC=MR. This limit will indicate equilibrium output.

(Diagram)

Output is measured on X-axis and price on Y-axis. SAC and SMC are the short-run average cost and marginal cost while AR and MR are the average revenue and marginal revenue curves respectively. The monopolist is in equilibrium at point E because at point E both the conditions of equilibrium are fulfilled i.e., MR=MC and MC intersects the MR curve from below. At this level of equilibrium the monopolist will produce OQ1 level of output and sells it at CQ1 price which is more than average cost DQ1 will be equal to shaded area ABCD.

2. Minimum Profits

A monopolist in the short-run would enjoy normal profits when average revenue is just equal to average cost. We know that average cost of production is inclusive of normal profits.

(Diagram)

In the firm is in equilibrium at point E. here marginal cost is equal to marginal revenue. The firm is producing OM level of output. At OM level of output average cost curve touches the average revenue curve at point P. Therefore, at point P price OR is equal to average cost of the total product. In this way, monopoly firm enjoys the normal profits.

3. Minimum Loss

In the short-run, the monopolist may have to incur losses. This situation occurs if in the short-run price falls below the variable cost. In other words, if price falls due to depression and fall in demand, the monopolist will continue to produce long as price covers the average variable cost. Once the price falls below the average variable cost, monopolist will stop production. Thus, a monopolist in the short run equilibrium has to bear the minimum loss to fixed costs. Therefore, equilibrium price will be equal to average variable cost.

(Diagram)

Monopolist is in equilibrium at point E. at point E marginal cost is equal to marginal revenue and he produces OM level of output. At OM level of output, equilibrium price fixed by the monopolist is OP1. At OP1 price, AVC touches the AR curve at point A. it signifies that the firm will gat only average variable cost from the prevailing price. At OP1 price, firm bear loss of fixed cost i.e., AN per unit. The firm will bear the total loss equal to the shaded area PP1AN. Now if the price falls below OP1, the monopolist will stop production. It is so because if the continues production, he will have to bear the loss of variable costs along with fixed costs.

(iii) Long Run Equilibrium under Monopoly

Long run is the period in which output can be changed by changing the factors of production. In other words, all variable factors can be changed and monopolist would choose that size which is most appropriate for specific level of demand. Here, equilibrium would be attained at that level of output where marginal revenue curve cuts the long-run marginal cost.

(Diagram)

Monopolist is in equilibrium at OM level of output. At OM level of output marginal revenue is equal to long-run marginal cost and the monopolist fixes OP price. HM is the long-run average cost. Price OP being more than LAC i.e., HM fetch the monopolist super normal profits. Accordingly, the monopolist earns JM-HM super normal profit per unit. His total super normal profits will be equal to shaded area PJHP.

PRICE DISCRIMINATING MONOPOLY:

Under this, the monopolist will charge different prices from different class of customers, The idea is to get from each customers whatever profits could be squeezed out of him depending on his pure and intensity of demand.

Types of price discrimination:-

(i) **Personal Discrimination**:

In personal discrimination, the monopolist will change different prices from different customers on the basis of their ability to pay. Rich customers will be asked to pay more and poor customers to pay less. This is possible in specialized services of doctors and lawyers.

(ii) **Place Discrimination**:-

Place discrimination is adopted by the monopolist having market in different places for the same commodity. The locality in which the market is situated will be the criterion in fixing up the price.

(iii) **Trade Discrimination**:-

Trade discrimination can also be called use discrimination. By this, the monopolist will charge different prices for different types of use of the same commodity. For instance, electricity will be sold at a cheaper rate for industrial establishments, while it will be charged at a higher rate for domestic consumption.

MONOPOLY POWER BE CONTROLLED:

Monopolies have become targets of attack by thinkers and lay public alike as the monopolies exploit the consumers. It is necessary then to control monopoly.

- A monopoly may be controlled by legislative measures. The government of India passed the Monopolies and Restrictive Trade Practice Act (MRTP) in (1970).
- The government may promote measures of competition by giving licenses, permits etc., to new firms
- Monopoly may be controlled through price and output by the government, takes direct action against monopoly price, power etc.
- Fiscal measures like heavy taxes on monopoly revenue.
- Nationalization of harmful monopolies will put an end.

MONOPOLISTIC COMPETITION

Meaning:

Monopolistic competition is defined as a market from which there is keen competition between producers of differentiated products which are close substitutes. Products differentiation does not mean that they are different. But they are different to the extent of packing, services, attraction, etc. They are almost similar and they are close substitutes. Since there large number of firms producing the product, there is competition among them.

Many example of monopolistic competition can be given from the market. Many firms in India are producing and selling tooth pastes, tooth brushes, scooters, cars, etc. Each one becomes a substitution. There are several brands of products competing with each other.

.Definition:

According to Prof. Edward. H. Chamberline, "There is competition which is keen though not perfect, between many firms making very similar product ".

CHARACTERISTICS OR FEATURES:

Large number of firms:

The number of firms or sellers in monopolistic competition is large. Any seller can exert influence on the price and output in the market.

Product differentiation:

Product differentiation is the essence of monopolistic competition. It may be physical difference, quality difference, imaginary difference and purchase benefit difference.

Selling cost:

Given keen competition, the firms are forced to advertise and sell more. The sales promotion is achieved by selling cost.

Lack of Perfect Knowledge

The consumers and buyers are not fully perfect knowledge about the market and product of the competitors.

Free entry and exit of firms:

The firms in monopolistic competition have freedom to enter or leave the industry. Each product differentiation increases the entry of the firms more and more.

PRICE OUTPUT DETERMINATION:

Short run equilibrium:

The monopolistic competitive firm will fix that price output which gives it the maximum profit such price output is one for which MR =MC. The firm then will be in equilibrium either with profit or loss depending upon its average cost.

With Abnormal Profit:

(Diagram)

In the figure SPMR and SPAR are short run marginal revenue and average revenue curves. SPMC and SPAC are short run marginal and average cost curves. The equilibrium output is OQ and price is QC. The abnormal profit is ABCD shown in the shaded area.

With loss:

(Diagram)

APAC is greater than price and therefore the firm incurs a loss of KLMN. Yet the firm is in equilibrium because it equates MC to MR.

Long Run Equilibrium:

The abnormal profit earned in the short period will attract new firm to the group. The new firms will fix price lower than the price of existing firms. The old firm too reduces the price. As a result the abnormal profit will disappear and firms will earn only normal profit.

(Diagram)

LPAR and LRMR indicates the long period average and marginal revenues. LRMC and LRAC show the long period marginal cost and average cost curves. The output is OQ and the price is OP. It shows that the group earns only normal profit.

DUMPING:

Dumping is a special type of price discrimination in which a monopolist fixes a higher price for his product in the home market and a lower price for the same product in the foreign market so as to capture the foreign market.

(Diagram)

The output sold in home market is OMH and the price is MHPH. IN the foreign market the output is OMF and the price is MFPF. The profit is NMPFS. It is to be noted that the price in the home market is higher than foreign market.

OLIGOPOLY:

Oligopoly is defined as a market from, where there are more than two or a few sellers enjoying monopolistic position. Oligopoly is often referred to as "competition among the few". In Oligopoly there may be sellers more than three and within ten. When the product of the few sellers are differentiated and they are close substitutes to each other, such a situation is called oligopoly without product differentiation. It is also called differentiated Oligopoly

CHARACTERISTICS OR FEATURES OF OLIGOPOLY

1. **Small number of large sellers.**

   The number of sellers dealing in a homogeneous or differentiated product is small.

2. **Interdependence**

   A firm in an oligopoly cannot decide its price output policy without how other firms are likely to act and react.

3. **Indeterminate demand**

   No firm in an oligopoly can forecast with its demand curve, because it depends upon the action and reaction of the other firms for deciding its own price output policy..

4. Price rigidity

The prices in oligopoly are inflexible. Once the prices are fixed, they remain unchanged for months and years. It is due to several reasons.

Fearing the loss of customers firms do not experiment with a price hike.
publicity involve huge expenditure.

5. Price leadership

Sometimes a firm takes up leadership in fixing the price and that is followed by other firms.

Price output determination under Oligopoly, Or kinked demand curve or Sweezy Model.

In his article published in 1939, prof. Sweezy presented the kinked demand curve analysis to explain price rigidities often observed in oligopolistic markets.

Sweezy assumes that if the oligopolistic firm lowers its price, its rivals will react by matching that price cut in order to avoid losing their customers. Thus the firm lowering the price will not be able to increase its demand much. This portion of its demand curve is relatively inelastic. On the other hane, if the oligopolistic firm increases its price, its rivals will not follow it and change their prices.

Assumptions

1. There are few firms in the oligopolistic industry.
2. The product produced by one firm is a close substitute for the other firms.
3. The product is of the same quality. There is no product differentiation.
4. There are no advertising expenditures.
5. There is an established or prevailing market price for the product at which all the sellers are satisfied.

the price-output relationship in the oligopolistic market is explained diagram KPD is the kinked demand curve and OP_0 the prevailing price in the oligopoly market for the OR product of one seller. Starting from point P, corresponding to the current price OP_0, any increase in price above it will considerably reduce his sales, for his rivals are not expected to follow his price increase, this so because the KP portion of the kinked demand curve is elastic, and the corresponding portion KA of the MR curve is positive. Therefore, any price increase will not only reduce his total sales but also his total revenue and profit.

On the other hand, if the seller has reduces the price of the product below OP_0 (or P), his rivals will also reduce their prices. Though he will increase his sales, his profit would be less than before. The reason is that the PD portion of the kinked demand curve below P is less elastic and the corresponding part of marginal revenue curve below R is negative. Thus, in both the price-raising and price-reducing situations the seller will be a loser. He would stick to the prevailing market price OP_0 which remains rigid.

DUOPOLY:

The term duopoly is made up of two words ‘duo’ and ‘poly’. ‘Duo’ means two and ‘poly’ means selling. Thus two men selling in the market is called duopoly.

Under duopoly without product differentiation, there are two monopolists selling an identical commodity. There is no product differentiation. They may agree on price or divide the market for goods
E.g., mineral spring situated side by side.

MONOPSONY:

Monopsony refers to a market situation when there is a single buyer of a commodity or service. It applies to any situation in which there is a monopoly element in buying. For example, when consumers of a certain commodity are organized, or when a socialist government regulates imports or when a certain individual happens to have a taste for some commodity.

According to Prof. Liebhafsky, as “the case of a single buyer who is not in competition with any other buyers for the output which he seeks to purchase and as a situation in which entry into the market by other buyers is impossible”.

Reference Books:

1. Business Economics: Dr.S.Sankaran
2. Managerial Economics: R. Cauvery & R.Meenakshi

End of the Unit-IV

UNIT V
INFLATION

Meaning:

Inflation is a monetary ailment in the economy. It is rise in general price level as well as the velocity of circulation of money is high. This means the fall in the value of money. In other words it is the situation where too much of money is in circulation when compared to too little goods produced leading to extraordinary increase in prices.

Definitions

According to Prof. Coulbourn, "too much of money chasing too few goods".

According to Prof. Crowther, "a state in which the value of money is falling, i.e., prices is rising".

DIFFERENT TYPES OF INFLATION:

I. On the basis of speed

On the basis of speed or the rapidity with which prices increase inflation is divided into

(a) Creeping inflation
(b) Walking inflation
(c) Running inflation
(d) Galloping inflation or Hyper-inflation.

(Diagram)

(a) Creeping inflation

As the name itself suggests, creeping inflation is slow-moving and very mild. This type of inflation is no way harm to a country but people say that a mild level of inflation for the better growth of a country.

(b) Walking inflation

Walking type of inflation takes place when creeping gets momentum.

(c) Running inflation

In this case, the rise in prices becomes more marked and it is a danger signal for the running type of inflation under which rise in prices will be very sharp and vigorous.

(d) Galloping inflation or hyper-inflation

` In case of galloping or hyper-inflation the prices not only rise sharply but they rise in fits and starts. There will be no limit to the height it will reach. The galloping inflation is dangerous and also disastrous to the economy as it cannot be controlled easily.

II. On the basis of inducement:

Under this category we have Deficit induced inflation, Wage induced inflation, and Profit induced inflation.

a. Deficit induced inflation

This is caused by the adoption of unbalanced budgetary policies. The government would resort to deficit financing which means government spending in excess of its revenue receipts. When the economy is not capable of sustaining the extra resources released by the government, prices will rise and inflationary situation will occur.

b. Wage induced inflation

This denotes a rise in prices due to an increase in money wages. A small general increase in the price level may induce the labour organizations to claim for more wages of any changes in monetary of

fiscal policies of the government resulting in increase is conceded through budgetary deficits, it will lead to a further increase in prices. The trade union organizations will again demand more wages. In the increased wages, the increase will be only a money increase and this will lead to inflationary conditions in the economy.

c. Profit induced inflation

This occurs on account of increase in the profits of manufacturers. This is possible when there is a general increase in the price level or an increase in the price level of new capital goods. This will enhance the profits of producers and the result will be profit inflation.

III. On the basis of time:

Emergencies like war or preparation for war will create an inflationary condition in the economy. Sudden launching of war will strain the economy, as all the factor resources have to be pooled for war purpose. The government would resort to deficit-financing and there will be massive expansion of money supply for producing materials and ammunitions for war, besides food for defence personnel and also for the people. The sudden upsurge in economic activity and rising prices will induce all producers big and small, to take up investment and production. This will generate inflation, as all commodities will become scarce due to their diversion to war purpose.

Besides war, the post war period will also breed inflation due to rehabilitation and development work undertaken by the government to set right the war torn economy. Thus, inflation can be classified as war time inflation and post war inflation and inflation due to development activities.

OTHER TYPES/THEORIES OF INFLATION :

There are two important forces which would create inflation in the economy

I. Demand-pull inflation

This type of inflation occurs when there is an excess demand force acting in the economy leading to rise in prices. It emerges when the aggregate demand exceeds the level of full employment output. It is a situation where "too much money will be chasing too few goods". Keynes calls this bottle-neck inflation. Demand pull inflation may be caused by an increase, in the quantity of money. As the quantity of money increases the rate of interest will fall and as a result investment will increase. This will in turn increase the money income and the aggregate consumption expenditure will go up. Consumers and producers seek to buy more than what could be produced. This type of demand-pull inflation can also occur without an increase in money supply. This would occur when aggregate demand increases either because of a rise in the marginal efficiency of capital or a rise in the propensity to consume. Generally, demand pull inflation occurs due to heavy government expenditure either for financing development projects.

II. Cost-Push inflation

According to this theory, prices of factors of production increase resulting in the increase of cost of production. Labour being an important element of cost, exercises tremendous influence on the cost of production and the consequent increase in prices of finished goods. That is why cost-push inflation can also be called as wage push inflation. This may be due to the intransigent attitude of labour unions who may demand unreasonably higher wages with a plea that the increased cost of production may be passed on to consumers in the form of higher prices. Under such a situation of threat by labour unions, the producers would be driven to the necessity of paying more for labour by increasing the prices. Of course, this will again become a vicious circle. The increased wages will be only monetary increase and not real increase and hence the price level may again go up and the labour unions will again claim more wages. Cost push inflation may also occur due to higher prices secured by business firms in monopolistic or oligopolistic industries. It is also called profit push inflation.

CAUSES / EFFECTS OF INFLATION.

Inflation has good as well as evil effects on the economy. In the initial stages, creeping inflation may create an all-round expansion of business activity and this proves beneficial to the economy. Inflation is welcome up to the stage of full employment. Rising prices promote intensive business activity and a boom

conditions will be created. But the trouble is that the rise in prices in not uniform throughout the economy and there may be distortions due to inflation causing many imbalances.

a. On Producers

Inflation is a period of boom and prosperity for the producing classes. All businessmen, trader's speculators gain during inflation because of windfall profits and appreciation in the value of their stocks. Further with the fall in the value of money, businessmen, try to appreciate the value of their stock to the extent of fall in the value of money or even perhaps more than that. Thus inflation is a blessing in disguise to the business class at the initial stages.

b. On Working Class

Labouring classes suffer during inflation and price rise, as their wages do not rise so easily and proportionately with the increase in general price level and increased cost of living.

c. On Fixed Income groups

The worst hit class during inflation will be the group having fixed income. People living on past savings, fixed interest, on investments, pensioners, salaried class like teachers and government servants find inflation and rising prices very agonizing, as their fixed purchasing power dwindles in the face of mounting cost of living.

d. On Debtors and Creditors

During the inflationary period the debtors gain much wile creditors lose heavily. When prices rise, the real value of money falls and the debtors have to pay money which has less purchasing power. This will be beneficial to the debtor while the creditor will be getting back the amount whose value and purchasing power has dwindled.

e. On Government

The government too will be affected by inflation. The public sector undertaking may have to raise the expenditure level due to a fall in the values of money. Or, the alternative would be to cut the size of their projects and programs to meet with original budgeted expenditure. But at the same time the government is also a beneficiary during the inflationary period. As the government is the largest borrower, the burden of public debt is reduced during inflation, as we have seen that debtors gain during this period.

f. Societies:

It makes the rich richer and the poor poorer. There is an all-round frustration among the salaried and fixed income groups. The producing and trading classes gain at the expense of salaried fixed income groups. Thus there is transference of income from the poor to the rich. Inflation is confiscation without compensation and it is a legal robbery. Unless effective steps are taken against inflation, this becomes a social menace and a political problem.

MEASURES ADOPTED TO CONTROL INFLATION:

The methods of controlling inflation and mitigating its severity can be classified into three broad categories. They are Monetary Measures Fiscal Measure and Physical and Direct measures.

a. Monetary measures

Since too much money is the fundamental problem in the economy, the central banking authorities use various weapons available in its armoury to combat inflation through reduction of money supply and credit. The various methods available are

Changing the Bank Rate
Open Market Operations
Increasing the Reserve ratio of commercial banks

b. Fiscal measures

By adopting suitable measures in taxation, public expenditure and borrowing, the government can effectively curb inflation. In order to reduce the disposable income with the people, the tax rates could be enhanced on a selective basis and new taxes could be introduced by which a sizable portion of the purchasing power of the community could be reduced. The government could adopt various measures to mop up the savings of the people and thereby try to reduce current demand for goods. Reduction of public expenditure and surplus budgeting would go a long way to reduce inflationary pressures in the economy.

DEFLATION:

Deflation is just the opposite of inflation. According to Paul Einzing, "Deflation is a state of disequilibrium in which a contraction of purchasing power tends to cause or is the effect of, a decline of the price level". The essential feature of deflation is falling prices, reduced money supply unemployment. Though falling prices are desirable at the time of inflation, such a fall should not lead to the fall in the level of production and employment. The process of reversing the inflationary trend without causing unemployment is called disinflation. But if the prices fall from the level of full employment, it is called deflation. Similarly, when action is taken up from depression to the full employment level it is called relation or controlled inflation.

EFFECTS OF DEFLATION:

1. Effects on production

As the price level decreases, costs being relatively more stable, the losses are inflicted upon most of the producers. The production activity as a result, tumbles down and down and there is more and more of unutilized and underutilized productive capacity.

2. Effects on employment

The effects of deflation upon the level of employment are most divesting. Millions of people will remain unemployed.

3. Effects on Income distribution

The most beneficiaries of deflation are fixed income groups. A falling price level tends to reallocate income and wealth in favour of the fixed income groups. The share of profit-receivers in the aggregate income of the community declines progressively and the wage-earning groups become relatively better off.

4. Effects on debtors and creditors

During the deflationary period the creditors gain much while debtors lose heavily. When prices decrease during deflation, the real value of money increases and the debtors have to pay money which has more purchasing power. This will be detrimental to the debtor, while the creditors will be beneficial, as the value of money has increased and he can now purchase more commodities and goods.

5. Political and social consequences

As we have seen deflation is a period of falling prices, low production, severe unemployment and collapse of several business houses. As such, there will be general discontentment among the people. The unemployed people will become a menace in the society, causing moral degradation, theft and pilfering etc.

Stagflation:

Stagflation is a situation where the economy experiences inflation as well as deflation in the same time period. This mixture of stagnation and inflation has been termed as stagflation. In India the state of stagflation is felt in the years of 1973-1975 and again in 1978-1980.

TRADE CYCLE / BUSINESS CYCLE

Meaning:

A trade cycle refers to fluctuation in economic activities specially in employment, output and income, prices, profits etc. In Capitalistic and mixed economies, the course of economic activity run smooth. Normally a period of prosperity is followed by a period adversity or depression and vice-versa. The study of alternating fluctuations in the business activity are referred to in economics as Business Cycle or Trade cycle.

Definitions:

According to Tinbergen, "the interplay between erratic shocks and an economic system able to perform cyclical adjustment movement to such shocks".

According to Keynes, "A trade cycle is composed of periods of good trade characterized by rising prices and low unemployment percentages adhering with periods of bad trade characterized by falling pries and high unemployment".

Characteristics of Business Cycle:

The main characteristics of Business Cycle are;

(i) It occurs periodically:

The business cycles occur periodically in a regular fashion. This means the prosperity and depression will be occurring alternatively. But there need not be uniformity in the extent and magnitude.

(ii) It is all embracing:

The business cycle implies that the prosperity or depression effect of the phase will be affecting all industries in the entire economy and also affecting the economies of other countries. It is international in character. The Great Depression of 1929.

(iii) It is wave-like:

The business cycle implies that the prosperity or depression effect of the phase will be affecting all industries in the entire economy and also affecting the economies of other countries. It is international in character. The Great Depression of 1929.

(iv) The process is cumulative and self-reinforcing:

The upward movement and downward movement are cumulative in their process. When once the upward movement starts, it creates further movement in the same direction by feeding on itself. When downward movement starts, it persists in the same direction leading to the worst depression and stagnation till it is retrieved to gain an upward movement.

(v) The cycles will be similar but not identical:

Different cycle and waves in the business cycle will be similar in general features, but they are not identical in all respect. All the recorded cycles are members of the same family, about among them there are no twins.

VARIOUS PHASES OR STAGES OF TRADE CYCLE:

According to Schumpeter, the business phase is divided into four categories. They are

(A) Boom or Prosperity
(B) Recession
(C) Depression
(D) Recovery

(a) Boom or Prosperity

It is a state of affairs in which real income and employment are high. There are no ideal resources. There is no wastage of materials. There is rise in wages, prices, profits and interest. There is optimism everywhere. There is general uptrend in business community. However, these boom conditions cannot last long because the forces of expansion are very weak. There are bottlenecks and shortages. There may be scarcity of labour, raw material and other factors of production. Banks may stop their loans. These conditions lead to recession.

(b)Recession

When the entrepreneurs realize their mistakes, they reduce investment, employment and production. Then fall in employment leads to fall in income, expenditure, prices and profits. Optimism gives way to pessimism. Banks reduce their loans and advances. Business expansion stops. This state of recession ends in depression.

(c) Depression

During depression, the level of economic activity is extremely low. Real income, production, employment, prices, profit etc are falling. There are idle resources. Price is low leading to a rall in profit interest and wages. All the sections of the people suffer. During this phase, there will be pessimism leading to closing down of business firms.

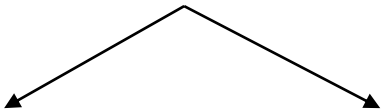
(d) Recovery

Recovery denotes the turning point of business cycle from depression to prosperity. In this phase, there is a slow rise in output, employment, income and price. Demand for commodities goes up. There is increase in investment, bank loans, and advances. Pessimism gives way to optimism. The process of recovery becomes combative and leads to prosperity.

(Diagram)

CAUSES OR EFFECTS OF TRADE CYCLE:

There cannot be one causes leading to this origin & recurrence. There are number of economic & non-economic causes of business cycles.



Internal factors External factors

Internal factors refer to those causes working from within the economic system itself which give rise to self generating business cycles.

Monetary factors:

Prof. Hawtrey considers trade cycle to be a purely monetary phenomenon. According to him non-monetary factors like wars, strike, floods, drought may cause only temporary depression. Hawtrey believes that expansion & contraction of money are the basic causes of trade cycle. Money supply changes due to changes in rates of interest. When rate of interest is reduced by banks, entrepreneurs will borrow more & invest.

Hawtrey theory has been criticised on many grounds:

1. Hawtrey's theory is considered to be an incomplete theory as it does not take into account the non-monetary factors which cause trade cycles.
2. It is wrong to say that banks alone cause business cycle.

Under Consumption Theory:

This theory has been formulated by Malthis, Marx & Hobson. According to this theory, depression is due to over saving. In the modern society, there is great inequality of income. Rich people have large income but their marginal prosperity to consume is less.

Over Investment:

It believes that over production in one sector leads to over production in other sectors. Suppose, there over production & excess supply in one sector that will result in fall in price & income of the people employed in that sector. Fall in income will lead to decline in demand for goods & services produced by other sector. This will create over production in other sectors.

Psychological Theory:

This theory was developed by pigou. He emphasised the role of psychological factor in the generation of trade cycles. During the period of good trade, entrepreneurs become optimistic which would lead to increase in production.

External factors:

External factors causing business cycles are those factors which operate from outside the economic system, factors on which the business community has no control. These may be natural factors such as weather conditions and the rate of growth of population. These factors may be global in origin such as the oil crisis, civil wars & political crisis such as that of the Soviet Union, scientific break through & technological advancements can spur booms.

METHODS (MEASURES) ADOPTED TO CONTROL TRADE CYCLE:

The trade cycle creates havoc in the economy by making fluctuations & instability. It has become the duty of the solution to control the severity of fluctuations caused by trade cycle & to ensure smooth economic activity.

1. **Monetary policy to control trade cycle:**

Monetary factors aggravate the operation of trade cycle. Monetary inflation, leading to higher income & profits, strengthens the boom conditions. During the period of upswing & boom, is of money & credit should be controlled & regulated. The central bank of the country should adopt all or chosen methods of credit control. The weapons of credit control, such or chosen methods of credit control. The weapons of credit control, such as bank rate, open market operations, reserve ratio, etc., should utilized to control inflationary tendencies & over-expansion of business activity.

2. **Fiscal Policy:**

Monetary policy alone may not be sufficient to check the instability created by business cycle. Keynes & others have recommended. Compensatory finance or compensatory fiscal policy to bring about stabilizations of business activity. The three main instruments of fiscal policy are: (a) Taxation, (b)Spending and (c)Borrowing.

3. **Anti-cyclical Budgeting:**

The budgetary policy of the government should be in tune with the measures already indicated to combat the instability created by business cycle. During times of depression a policy of deficit budgeting should be adopted. During upswing, surplus budgeting should be done in anti-cyclical method.

4. **Automatic Stabilizer: (Built-in Stabilizer):**

When fluctuations take place in the economy, the available monetary & fiscal tools cannot be geared quickly to set right the imbalance. So, the policy makers make provisions for automatic adjustments in the fiscal structure. These built-in-stabilizers or automatic stabilizers will automatically come into play in proportion to the rise and fall of economic activity.

MONETARY POLICY

Meaning:

The Basic goals of macroeconomic policy in most of the countries are full employment, prices stability, rapid economic growth, balance of payments equilibrium and economic justice. The government tries to achieve the goals through macroeconomic policy.

Definition:

According to Edward Shapiro "Monetary policy is policy that employs the central bank's control over the supply and cost of money as an instrument for achieving the objectives of economic policy".

OBJECTIVES OR GOALS OF MONETARY POLICY:

Following are the main objectives of monetary policy.

- **Full employment**

Full employment has been ranked among the foremost objectives of monetary policy. It is an important goal not only because unemployment leads to wastage of potential output, but also because of the loss of social standing and self-respect.

- **Price Stability**

One of the policy objectives of monetary policy is to stabilize the price level. Both the economists and laymen favour this policy because fluctuations in pries bring uncertainty and instability to the country.

- **Economic Growth**

One of the most important objectives of monetary policy in recent years has been the rapid economic growth of an economy.

- **Balance of payment**

` Another objective of monetary policy since the 1950's has been to maintain equilibrium in the balance of payment.

TOOLS OR INSTRUMENTS OF MONETARY POLICY:

The instruments of monetary policy are of two types **(**i) Quantitative, General or Indirect (ii) Qualititative, Selective or direct. Of the two types the first category includes bank rate variations, open market operations and changing reserve requirements. The second type includes changing margin requirements, and regulation of consumer credit.

(i) Quantitative, General or Indirect

(a) Bank Rate Policy

The Bank rate is the minimum rate at which the central bank of a country will lend money to all other banks. Suppose, there is too much of money in circulation. Then the central bank should take some money out of circulation. It can do it by increasing the bank rate.

(b) Variation in cash Reserve Ratios:

The ability of a commercial bank to create depends upon its cash reserves. The central bank of a country has the power to vary the cash reserve ratios. During inflation, to check the sharp rise in commodity prices and to control credit, the central bank can make use of this weapon.

(c) Open Market operations

Open market operations refer to sales and purchase of securities in the money market by the central bank. When prices are rising and there is need to control them the central bank sells securities. Counter wise when recessionary forces start in the economy, the central bank buys securities.

(ii) Qualititative, Selective or direct.

Selective credit Controls

Selective credit control can play an important role in an under developed money with a planned economy. Unlike the instruments of quantitative credit control, the selective instruments affect the types of credit extended by commercial banks. They not only prevent flow of credit into undesirable channels, but also direct the flow of credit into useful channel. The Reserve Bank of India had started applying the selective credit control since 1955.

FISCAL POLICY

Meaning;

Fiscal economics in the modern days has undergone far-reaching changes. These changes can also be studied through macro aspect of fiscal policy. It relates to macro economic functions of the government Fiscal policy indicates how the government attempts to realize revenue, spending and managing the deficit. In short fiscal policy tells the methods adopted by the government in taxation, public expenditure and public debt.

Definition:

Accoeding to Dalton, "Public finance is concerned with the income and expenditure of public authorities and with the adjustment of the one with the other".

According to Lutz, "Public finance deals with the provision, custody, and disbursement of resources needed for the conduct of public or government functions".

OBJECTIVES OF FISCAL POLICY:

- Increasing the efficiency of productive resources
- Minimizing inequalities of income and wealth by transferring wealth form the rich to the poor and by equal distribution
- Maintenance of price stability and economic stability
- Attainment and maintenance of full employment

TOOLS OR INSTRUMENTS OF FISCAL POLICY:

The main instruments of fiscal policy are taxes; expenditure and public debt which are the constituent parts of the budget of a country.

1. Taxation

Tax policy is an important weapon in bringing the economy to stability. Changes in tax rates affect the disposable income and the level of consumption of the people. In period of inflation, an increased rate of taxation and introducing new taxes will curb consumption and investment and thereby help in reducing the severity of inflation.

2. Public Expenditure

Another important instrument of fiscal policy is public spending which will have a significant effect on the increase and decrease of income, output and employment in the country. If private expenditure is inadequate the government should spend an amount equal to the deflationary gap in order to restore full employment.

3. Public Debt

Another important instrument of fiscal policy is public borrowings which can control the amount of money in the hands of the people and thereby reduce the purchasing power of the people. In times of inflation, public borrowing will slice of the excess purchasing power of the community and vice versa.

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2. **K.P.M. Sundharam and E.N.Sundharam- Business Economics.**

End of the Unit-V.

ALL THE BEST