

## CHAPTER 1 : INTRODUCTION OF BUSINESS ECONOMICS

1. The origin of economics can be traced to Adam Smith book **An Inquiry into the Nature and Causes of Wealth of Nations** published in the year 1776. *Adam Smith is the father of Economics*. At its birth it was called 'Political Economy'.
2. Economics has been **defined in four different ways**:
  - **Wealth Definition: Adam Smith**, defined economics as a science of wealth-which means production and consumption of wealth.
  - **Welfare Definition: Marshall** defined the welfare aspect of economics as attainment and use of material things. *He defined economics in its normative aspect.*
  - **Scarcity Definition: Robbins** emphasizes that economics is a study of human behaviour, where there is a relationship between ends and scarce means and that the scarce means have alternative uses. *He said economics is neutral between ends. He defined economics in its positive aspect.*
  - **Growth Definition: Samuelson's** definition of economics is most comprehensive, relevant and accepted. The definition includes both the aspects of economics, i.e., distribution of limited resources and problem of economic development.
3. **Economics as a Science**: Economics is a science where various facts are systematically collected, classified and analyzed. Economics is a social science whose subject matter is man who cannot be controlled and predicted. Physics, Chemistry and Biology are pure sciences where experiments can be conducted in a laboratory under controlled conditions.
4. **Economics as an Art**: Economics is an art as it has several branches which give practical direction to some economic problems of the society.
5. **Economics is a science having both positive and normative sides**. The role of an economist is not only to explain and explore but also to admire and condemn. This role of an economist is essential for healthy and rapid growth of an economy. **Positive economics deals with what is, and normative economics deals with what ought to be. Positive economics deals with facts and normative economics deals with ethics.**
6. **Microeconomics** deals with behavior of individual decision making units such as consumers, resource owners, etc. **It is also called Price Theory. Macroeconomics** deals with aggregates such as national income, aggregate consumption, etc. It is also called **Theory of Income and Employment**. Both micro and macro economics are complementary and should be fully utilized for proper understanding of an economy.
7. There are two methods of constructing an economic theory (a) **Deductive method** (b) **Inductive method**.
  - (a) **In the deductive method, the process of reasoning goes from general assumptions to particular predictions.** It was adopted by classical economists and is simple. The method is more suitable when facts and data are not available. **This method is called abstract or priori method.**
  - (b) **In the inductive method, the process of reasoning goes from particular facts to general theory.** It was popular among modern economists and is more precise,

realistic and scientific. The method is more suitable when facts and data are available.

Deductive and inductive methods are not alternative of each other. Both the methods are needed for constructing an economic theory.

8. Business Economics integrates economic theory with business practice and relies on economic analysis in the formulation of business policies.
9. While Business Economics is basically concerned with Micro Economics, Macro economics analysis has got an important role to play. Macroeconomics analysis the environment in which the business has to function.
10. Business Economics is a normative science which is interdisciplinary and pragmatic in approach.
11. There are two categories of business issues to which economic theories can be directly applied, namely: Microeconomics applied to operational or internal issues and Macroeconomics applied to environmental or external issues.
12. Business Economics makes use of microeconomic analysis such as, demand analysis and forecasting, production and cost Analysis inventory management, market structure and pricing policies, resource allocation, theory of capital and investment decisions, profit analysis and risk and uncertainty analysis.
13. Business Economics also considers Macroeconomics related to economic systems, business cycles, national income, employment, prices, saving and investment, Government's economic policies and working of financial sector and capital market.
14. The central problem is the problem of choice or the problem of economizing. The main causes of central problems are:
  - *unlimited human wants*
  - *limited economic resources*
  - *alternative uses of resources*

The central problems are:-

1. *What to produce and how much to produce.*
2. *How to produce*
3. *For whom to produce*
4. *Economic growth*

15. All point on Production Possibility curve (PPC) solves the first two problems and points on a higher PPC solves the problem of economic growth. **PPC cannot solve the problem of 'For whom to produce.**

- PPC shows various alternative combinations of goods and services that an economy can produce **when the resources are fully and efficiently employed.**

The slope of **PPC measures opportunity cost of the commodity in terms of alternative opportunity given up.** Since the opportunity cost is increasing therefore PPC is concave to the origin and scarcity of resources gives downward slope to PPC. [Opportunity cost is cost of alternative opportunity given up.]

16. There are **three forms of economic organization:**

(a) Capitalistic economy or free economy

(b) Socialist economy or Controlled economy

(c) Mixed economy.

- **Capitalism is the system that advocates price mechanism to solve the central economic problems.** In a capitalistic economy, prices are determined by the market forces of demand and supply. **The only aim is profit maximization** and the consumers are free to consume whatever they like. **It has faith in laissez faire policy** i.e least interference by the government.
- **Socialism** is the system where government or public sector owns the factors of production (land, labor, capital and enterprise) and the **central planning authority solves central economic problems.** The aim is **to maximize welfare of the society** and the consumers can consume only those goods which are produced by the government.
- In a **mixed economy**, public and private sectors exist side by side. **Both price mechanism and central planning authority solves central economic problems.** India is a mixed economy.

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## CHAPTER - 2 : THEORY OF DEMAND AND SUPPLY

### Theory of Demand

1. Meaning of Demand: Demand for a commodity refers to the quantity of a commodity which a consumer is willing and able to purchase at a certain price during any particular period of time.
2. In economics, demand means effective desire which means there should be desire to own the good, sufficient money to buy it and willingness to spend the money.
3. The determinants of demand are (i) price of the good (ii) price of related goods (iii) income of the consumers (iv) tastes and preferences of the consumers and (v) other factors such as size of population, composition of population, distribution of income etc.
4. The law of demand states that there is an inverse relationship between price of a commodity and its quantity demanded, ceteris paribus. The assumptions of the law of demand are that  $P_r$ , Y, T and D are constant.
  - The demand schedule is a tabular or numerical representation of law of demand. It is of two types-:
  - Individual demand schedule shows the quantity demanded on the part of a single consumer at various prices per unit of time.
  - Market demand schedule shows the aggregate of the quantity demanded by all the consumers at various prices per unit of time.
  - Demand curve is a graphical or geometric representation of law of demand. It is of two types-:
  - Individual demand curve is graphical representation of quantity demanded by a single consumer at different prices.
  - Market demand curve is constructed by *horizontally or laterally* summing all the individual demand curves at each and every price.
5. The demand curve slopes downward because of (i) law of diminishing marginal utility (ii) income effect, (iii) substitution effect, (iv) new consumers creating demand and (v) several uses of a commodity.
6. Exception to the law of demand are found in the following cases (i) Giffen goods, (ii) Conspicuous goods or goods of status, (iii) Expectation of a price rise in future, (iv) Demonstration effect, (v) conspicuous necessities, (vi) impulsive purchase and (vii) Ignorance effect and (viii) Emergency.
7. Movement along a demand curve (change in quantity demanded) occurs due to change in the price of the good itself, other factors remaining constant.
8. Shift of the demand curve (change in demand) occurs due to change in (i) price of other good (ii) income of the consumers (iii) tastes of the consumers etc. price of the commodity remains constant.
  - Movement on demand curve can be expansion or contraction of demand whereas change in demand can be increase or decrease in demand.
9. Price Elasticity of Demand ( $E_p$ ) measures percentage change in quantity demanded of a good due a percentage change in its price Therefore,  $E_p$  can be calculated as:

$$E_p = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$$

$$\text{or, } = - \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

10. The **major determinants of price elasticity** of demand are:

- (i) Nature of the commodity
- (ii) Availability of substitutes
- (iii) Several uses of the commodity
- (iv) Share of a commodity in consumers budget
- (v) Time - period
- (vi) Habit of the consumer.
- (vii) Tied demand.
- (viii) Price range.

Check List	
Inelastic demand	Elastic Demand
➤ Essential goods	➤ Luxurious goods
➤ Substitute not available	➤ Substitute available
➤ Single or limited no. of use of commodity	➤ Multiple uses of the commodity
➤ Low share in consumer's budget	➤ High share in consumer's budget
➤ Short period	➤ Long period
➤ Habitual consumer	➤ Non-habitual consumer
➤ Tied demand	➤ Independent demand
➤ Low & high price range	➤ Medium price range

11. There are **five degrees of  $e_p$** .

- (i) **Perfectly inelastic demand** ( $e_p = 0$ ) demand curve will be vertical line parallel to y-axis.
- (ii) **Inelastic demand** ( $0 < e_p < 1$ ) demand curve will be relatively steeper.
- (iii) **Unitary elastic demand** ( $e_p = 1$ ) demand curve will be like rectangular hyperbola.
- (iv) **Elastic demand** ( $1 < e_p < \infty$ ) demand curve will be relatively flatter.
- (v) **Perfectly elastic demand** ( $E_p = \infty$ )s. demand curve will be a horizontal line parallel to x-axis.

12. **Measurement of Price Elasticity of Demand:-**

- i. Percentage or proportionate method
- ii. Geometric (or point) method.
- iii. Total outlay or expenditure method
- iv. Arc or mid - value method.
- (i) In the **percentage method**,  $E_p$  is calculated by the formula:

$$E_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

- (ii) In the **geometric method**,  $e_p$  at a point on a linear (straight) demand curve is calculated as:

$$e_p = \frac{\text{Lower segment of the demand curve}}{\text{Upper segment of demand curve}}$$

- (iii) In the **total outlay method**, the  $e_p$  is measured on the basis of change in total expenditure (TE) or total revenue as a result of change in price of commodity. If -
  - (a) price rises and TE/TR also rises and vice-versa then  $e_p < 1$
  - (b) price rises or falls TE/TR remains constant then  $e_p = 1$
  - (c) price rises and TE/TR falls and vice-versa then  $e_p > 1$

(iv) For **arc elasticity**, the formula is 
$$E_p = \frac{Q_1 - Q_2}{Q_1 + Q_2} \times \frac{P_1 + P_2}{P_1 - P_2}$$

13. **Income Elasticity of Demand** measures % ag changes in demand due to % ag change in income of the consumer.

$$\text{Therefore, } e_y = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

- (a) If value of  $e_y$  is between 0 to 1 then good is normal or essential.  
 (b) If  $e_y > 1$  then good is luxury and  
 (c) If  $e_y$  is negative i.e. less than 0 then good is inferior.

14. **Cross-Elasticity of Demand ( $e_c$ )**: It measures % ag changes in the quantity demanded of good x due to % ag change in price of good y. The formula for calculating  $e_c$  is:

$$e_c = \frac{\Delta Q_x}{\Delta P_y} \times \frac{P_y}{Q_x}$$

- When  $e_c = +\infty$ , goods are perfect substitutes
- When  $e_c = +ve$  goods are substitutes
- When  $e_c = 0$ , goods are totally unrelated
- When  $e_c = -ve$ , goods are complements.

15. **Advertisement elasticity of sales** or promotional elasticity of demand measures the responsiveness of a good's demand to changes in the firm's spending on advertising. Value of advertisement elasticity of demand is positive and varies between 0 and 00.

16. **Demand Distinctions**

- *Producer's goods and Consumer's goods*
- *Durable goods and Non-durable goods*
- *Derived demand and Autonomous demand*
- *Industry demand and Company demand*
- *Short-run demand and Long-run demand*

17. **Forecasting of demand** is the art and science of predicting the probable demand for a product or a service at some future date on the basis of certain past behaviour patterns of some related events and the prevailing trends in the present.

18. **Methods of Demand Forecasting**

- Survey of Buyer's Intentions
- Collective Opinion Method
- Expert Opinion Method
- Barometric Method
- Statistical Methods such as:-
  - Trend Projection Method
  - Graphical Method
  - Least Square Method
  - Regression Analysis
  - Controlled Experiments Method
  - Laboratory Experiments Method

## **Theory of Consumer's Behaviour**

1. The logical basis of consumer behaviour has been explained by different theories. Some of the most important **theories of consumer behavior** are:

- (i) Marshall's Marginal Utility Theory
- (ii) Hicks and Allen's Indifference Curve Theory.



2. Marginal Utility Theory:

- The law of diminishing marginal utility states that as the consumer consumes more and more units of a commodity, its marginal utility falls.
- Utility is expected satisfaction to a consumer when he is willing to spend money on a stock of commodity which has the capacity to satisfy his want.
- Marginal utility (MU) is addition made to total utility (TU) as a result of consumption of one more unit of the commodity.
- When MU is 0, TU is maximum. It is called saturation point.
- When MU is falling but positive TU is rising but with diminishing rate.
- When MU is negative, TU is falling.

❖ Assumption of the theory

- (i) Rationality
- (ii) Cardinality
- (iii) Measurement in terms of money.
- (iv) Constant marginal utility of money
- (v) Independent utility

❖ Marshall's consumer surplus :-

The amount consumer is willing to pay - The amount he actually pays. = Area between the MU curve and price of the commodity.

3. Indifference Curve Theory

❖ Assumptions of the theory are:

- (i) Rationality
- (ii) Ordinarily
- (iii) Diminishing marginal rate of substitution
- (iv) Consistency and transitivity of choice
- (v) More is better

Indifference curve shows different combinations of two goods that gives the same level of satisfaction to the consumer.

A set of indifference curves is called an indifference map.

Features of indifference curve are:

- (i) Downward sloping to the right
  - (ii) Convex to the origin
  - (iii) Two indifference curve can never intersect each - other.
  - (iv) Higher indifference curve represents higher level of satisfaction.
  - (v) Indifference curve can not touch either of the axis.
- Budget line shows all the possible combinations of the two goods that can be bought by a consumer with given income and prices of goods.
  - Slope of the budget line is the price ratio, i.e.,  $\frac{P_x}{P_y}$
  - Slope of an indifference curve is called Marginal Rate of Substitution (MRS<sub>xy</sub>).
  - A consumer is in equilibrium when he maximises his utility with his given income and prices of the commodities. Equilibrium is reached at the point of *tangency* between indifference curve and budget line. Conditions for consumer equilibrium is:

$$MRS_{XY} = \frac{P_X}{P_Y} \quad \dots\dots(1)$$

Or 
$$\frac{MU_X}{MU_Y} = \frac{P_X}{P_Y} \quad \dots\dots(2)$$

And Diminishing MRS

## Supply

1. **Definition of Supply:** Supply of a commodity at a given price is the quantity of the commodity which is actually offered for sale per unit of time
2. There is difference between supply and stock. Supply is that part of stock which is actually brought in the market for sale. In case of perishable goods there is no differences between supply and stock.
3. The **major factors affecting supply** of a good are:
  - i. Price of the good ( $P_x$ )
  - ii. Price of related goods ( $P_r$ )
  - iii. Prices of the factors of production ( $P_f$ )
  - iv. State of technology (T)
  - v. Government policy (G) etc.
4. The **law of supply** states that there is a direct relationship between price and quantity supplied of a commodity, other things remaining constant.
5. The **supply schedule** shows the different quantities of a commodity supplied by a firm within a given period of time at different prices.
6. The data of supply schedule is plotted on price-quantity axes to derive the **supply curve**.
7. **Movement along a supply curve** occurs due to changes in the price of good ( $P_x$ ) itself.
8. **Shift of the supply curve** occurs due to changes in factors affecting supply other than commodity's own price.
9. Movement on supply curve can be **expansion or contraction** in supply whereas shift of supply curve can be **increase or decrease** in supply.
10. The concept of **Elasticity of supply ( $E_s$ )** was developed by Marshall. Elasticity of supply is defined as the responsiveness of quantity supplied of a commodity due to change in its own price. Symbolically,

$$E_s = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

11. There are **five degree of  $E_s$** :
  - i. **Perfectly inelastic supply** ( $E_s = 0$ )
  - ii. **Inelastic supply** ( $0 < E_s < 1$ )
  - iii. **Unitary elastic supply** ( $E_s = 1$ )
  - iv. **Elastic supply** ( $1 < E_s < \infty$ )
  - v. **Perfectly elastic supply** ( $E_s = \infty$ ).
12. **Methods of measurement of elasticity of supply -**

➤ **Percentage method -**

$$e_s = \frac{\% \text{ change in quantity supplied}}{\% \text{ change in price}}$$

➤ **Point elasticity method -**  $e_s = \frac{dq}{dp} \times \frac{p}{q}$

➤ **Arc method -**



$$E_s = \frac{q_1 - q_2}{q_1 + q_2} \times \frac{P_1 + P_2}{P_1 - P_2}$$

**13. Diagrammatic Method -**

The rule is that

- if the supply curve passes through the point of origin,  $e_s$  is equal to unity,
- if the supply curve intercepts the  $x$ -axis,  $e_s$  is less than unity and
- if supply curve intercepts the  $y$ -axis,  $e_s$  is greater than unity.
- if supply curve is a vertical line parallel to  $y$ -axis  $e_s$  is equal to zero.
- if supply curve is a horizontal line parallel to  $y$ -axis  $e_s$  is equal to infinite.

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## CHAPTER - 3 : THEORY OF PRODUCTION AND COST

### Theory of Productions

1. ***Production means*** creation or addition of utilities which can be form utility, time utility, place utility, knowledge utility and possession utility.
2. There are ***four factors of production*** namely, land, labour, capital and organisation.
3. ***Land:-***
  - Land is a primary factor which includes besides physical territory, all natural resources such as water, soil, climate, wind, sea, etc.
  - Features of land are:
 

(a) Its supply is perfectly inelastic.	(e) It is a free gift of nature.
(b) It is imperishable (indestructible).	(f) It is immobile.
(c) It is a passive factor.	(g) It has heterogeneous use.
(d) It has perfectly inelastic supply (when taken as a whole).	
4. ***Labour:-***

Labour is any physical or mental exertion undertaken to create or produce goods or services. Features of labour are:

(a) It is perishable.	(f) It is an active factor.
(b) It is inseparable from a labourer.	(g) Labour is a man, not a machine.
(c) He sells his services and not himself.	(h) All labourers are not equally efficient.
(d) Supply curve of labour is backward bending.	(g) Labour is mobile.
(e) Labour is a live factor of production.	(j) Individual labour has weak bargaining power.
5. ***Capital*** is defined as man made goods that are used for further production of wealth. **It is produced means of production.**
6. ***Capital formation*** or investment is defined as the surplus of production over consumption in an accounting year which is further used for production.
  - ***Significance of capital formation*** lies in the following points:
    - a) It determines the growth rate of an economy.
    - b) It increases production.
    - c) It raises productive capacity.
    - d) It raises employment opportunities.
  - There are three ***stages of capital formation*** which are inter-related. These are:
    - Stage I: Creation/Generation of Savings***
    - Stage II: Mobilisation of Savings***
    - Stage III: Investment of Savings.***
7. ***Entrepreneur:-***
  - Entrepreneur is the person who organises, manages and coordinates all factors of production .
  - ***Functions of an entrepreneur*** are:
    - (a) Initiating a business enterprise and resource coordination
    - (b) To take advantage of changes in a dynamic economy
    - (c) To bring about innovations
    - (d) To bear uncertainties.

- Objectives of Entrepreneur -
    - I. Organic objectives
    - II. Economic objectives
    - III. Social objectives
    - IV. Human objectives
    - V. National objectives
  - Problems of Enterprise - An enterprise faces a number of problems from its inception, through its life time and till its closure. These may relate to objective, location size, physical facilities, finance, organization structure, marketing, legal formalities and industrial relations
8. Factors of production can be divided into two categories - Fixed factors are those factors whose quantity remains unchanged with change in output within a capacity and variable factors are those the quantity of which change with a change in the level of output.
9. Production function is the process of getting the maximum output from a given quantity of inputs in a particular time period. It establishes physical input-output relationship.
- There are two **types of production function:**
    - (a) Short-run production function: where some factors are in fixed supply.
    - (b) Long-run production function: where all factors are in variable supply.
10. Law of variable proportions
- The three concepts of production are total, average and marginal product.
  - Total product is aggregate of the quantity of a good produced by a firm with the given inputs during a specified period of time, i.e  $TP = \sum MP$
  - Average product is the amount of output per unit of the variable factor employed, i.e.  $AP = \frac{TP}{Q}$
  - Marginal product is the change in total product resulting from the employment of one more unit of variable factor, i.e.  $MP = \frac{\Delta TP}{\Delta Q}$
  - TP curve starts from the origin. Initially rises with an increasing rate, then rises at a decreasing rate, reaches a maximum and then starts falling.
- Both AP and MP curves are graphically derived from the TP curve. Both AP and MP curves are inverted-U shaped. They have special relationship which is as follows:
- (a) When AP is rising, then  $MP > AP$ .
  - (b) When AP is at its maximum then  $MP = AP$ .
  - (c) When AP is falling then  $MP < AP$ .

Law of variable proportions states that 'when total output of a commodity is increased by adding units of a variable factor, while the quantities of other inputs are held constant, the increase in total production i.e. marginal product becomes after some point smaller and smaller'. The three product curves are drawn to graphically illustrate the law of variable proportions. The three stages are partitioned into increasing, diminishing and negative returns. A rational producer will always operate in Stage II. In this stage both AP and MP are declining but positive. The reason for diminishing returns is optimal use of fixed factor and imperfect substitution between factors. The law is applicable in short run.

11. Law of Returns to Scale

- It is a long-run law.
- It states that 'when all factors of production are increased in the same proportion then output will increase. but the increase may be at an increasing rate or constant rate or decreasing rate'.
- The three stages of law of return to scale are increasing, constant and decreasing.
- Reasons behind increasing returns to scale are economies of scale which can be internal or external, division of labour and specialization of activities.
- Reason behind decreasing returns to scale is diseconomies of scale which can also be internal or external.
- Constant returns to scale operates when economies and diseconomies are counter balanced.

12. Production Optimization

- It refers to cost minimization. It explains producer's equilibrium through isoquant and iso-cost lines.
- Isoquants or product indifference curves show all those combinations of two factors of production which give the same output to the producer.
- Isocost lines show various combinations of two factors which the firm can buy with given expenditure or outlay.
- By combining Isoquants and isocost lines, a producer can find out the combination of factors of production which is optimum i.e. the combination of factors of production which would minimize his cost of production.
- For producing a given output, the tangency point of the relevant isoquant with an isocost line represents the least cost combination of factors. i.e. producer's equilibrium.

## Theory of Cost

1. Cost analysis refers to the study of behaviour of cost in relation to one or more production criteria. It is concerned with the financial aspects of production.
2. Opportunity Cost vs. Outlay Cost:- Opportunity cost is defined as the cost of alternative opportunity given up or forgone. It is also called alternative cost or transfer earnings. Outlay cost is actual expenditure of firms.
3. Explicit Cost vs. Implicit Cost:- Explicit cost is the actual money expenditure incurred by a firm in the production process. It is also called direct cost or money cost. Implicit cost is the cost of factors owned by the firm and used by the firm in its own production process. It is also called imputed cost.
4. Direct Cost vs. Indirect Cost:- Direct cost can be traced to a particular product. Indirect cost cannot be traced to a particular product.
5. Accounting Cost vs. Economic Cost:- Accounting costs are explicit cost or actual cash payments. Economic cost is accounting cost plus implicit cost.
6. Incremental cost refers to the additional cost incurred by a firm as a result of a business decision.
7. Sunk costs are already incurred once and for all, and cannot be recovered.
8. Historical cost refers to the cost incurred in the past on the acquisition of a productive asset.

9. Replacement cost is the money expenditure that has to be incurred for replacing an old asset.
10. Private costs are costs actually incurred or provided for by firms and are either explicit or implicit.
11. Social cost refers to the total cost borne by the society on account of a business activity and includes private cost and external cost.
12. Short-Run Cost Curves  
**(a) Short-run Total Costs -**
  - Total Cost is inverse-S shaped starting from the level of fixed cost.
  - TFC is horizontal line parallel to X axis
  - TVC is inverse S-shaped curve starting from origin
  - Semi-variable cost is the cost which have a fixed element and a variable element
  - Stair-step cost which remain fixed over a certain range of output and suddenly jump to a higher level when output goes beyond a given limit and become constant for next range of output.**(b) Short-run Average Costs -**
  - AFC, is fixed cost per unit of output produced. AFC curve has a rectangular hyperbole shape.
  - AVC is variable cost per unit of output produced. It is **U shaped** due to law of variable proportion.
  - AC is also called average total cost (ATC). It can be obtained in two ways:  
 $ATC = \frac{TC}{Q}$  or  $ATC = AFC + AVC$ . ATC is U-shaped curve. The reason behind its shape is the **law of variable proportions**.**(c) Marginal Cost -**  
 MC is addition made to TC (or TVC) when one more unit of output is Produced.  

$$MC = \frac{\Delta TC}{\Delta Q} \text{ or } (MC_n = TC_n - TC_{n-1})$$

MC is the slope of the TC curve at each and every point. MC curve is U-shaped reflecting the law of variable proportions. ( $MC_n = TC_n - TC_{n-1}$ )

MC is independent from TFC. It is function of variable cost and can also be calculated as  $MC = \frac{\Delta TVC}{\Delta Q}$

**(d) Relationship between AC and MC**
  - When AC is falling, MC is below it. i.e.  $MC < AC$
  - When AC is rising, MC is above it. i.e.  $MC > AC$
  - When AC is minimum  $MC = AC$ .
13. Long run average Cost (LAC) curve is an **envelope curve**. It is also known as planning curve. It envelopes infinite short run AC curves. Each point on LAC gives the minimum cost per unit for corresponding level of output.
14. LAC curve is 'U' shaped curve because of operation of law of return to scale.
15. According to modern approach LAC curve is 'L' shaped curve because modern approach believes technological advancement is possible during production process over the period of time.

16. Economies of scale are of two kinds – External Economies of scale and Internal Economies of Scale.
- External Economies of scale accrue to a firm due to factors which are external a firm.
  - Internal Economies of scale accrue to a firm when it engages in large scale production.
  - Increase in scale, beyond the optimum level, results in Diseconomies of scale.

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**CHAPTER - 4 : PRICE DETERMINATION IN DIFFERENT MARKETS**

**Meaning and Types of Markets**

1. **Definition:-** A market is a complex set of activities by which potential buyers and sellers interact to determine the price and quantity of a good or service.
2. **Value and Price:** Price is the value of good in terms of money and value is economic worth of a good expressed in relation to another good.
3. **Market Structures:**
  - On the basis of the area**
    - Local Market
    - Regional Market
    - National Market
    - International Market
  - On the basis of time**
    - Very short period Market or Market Period Market
    - Short-period Market
    - Long Period Market
    - Very Long Period or secular Period Market
  - On the basis of Nature of Transactions**
    - Spot Market
    - Future Market
  - On the basis of Regulation**
    - Regulated Market
    - Unregulated Market
  - On the basis of volume of business**
    - Wholesale Market
    - Retail Market
  - On this basis of competition**
    - Perfect Competition
    - Monopoly
    - Monopolistic Competition
    - Oligopoly
    - Duopoly
    -
4. **Revenue** is the money payment received by a firm from the sale of a commodity.
  - TR is the total or aggregate of proceeds to the firm from the sale of all the units of a commodity. It is given as:  $TR = P \times Q$ .
  - AR is revenue per unit of output sold and is always equal to price .i.e.,  $AR = P$ 

$$\left[ AR = \frac{TR}{Q} = \frac{P \times Q}{Q} = P \right]$$
  - MR is the addition made to TR when one more unit of output is sold. It is given as
 
$$MR = \frac{\Delta TR}{\Delta Q} \text{ . or } MR_n = TR_n - TR_{n-1}.$$

$$MR = AR \left( 1 - \frac{1}{e} \right)$$

5. There are two basic principle governing all market conditions
- (a) Firms should produce Only if  $TR \geq TVC$  or  $AR \geq AVC$
  - (b) To be equilibrium i.e. to maximize profits of minimize losses a firm should produce at that level where  $MC=MR$  and  $MC$  must be rising.

### Determination of Price

1. Equilibrium price is that price at which demand and supply equals each other and quantity demanded and supplied at that price are regarded as equilibrium quantity.
2. Shifts in demand and supply curves takes place due to changes in factors other than price of the commodity.
3. A change in demand, supply remaining constant, leads to a change in the equilibrium price. If demand increases, both equilibrium price and quantity will rise. If demand decreases, both equilibrium price and quantity will fall.
4. A change in supply, demand remaining constant, leads to a change in the equilibrium price and quantity. If Supply increases, price will fall and quantity will rise and if supply decreases, price will rise and quantity will fall.
5. If both demand and supply change - There can be simultaneous changes in both demand and supply and the equilibrium price will change according to the proportionate change in demand and supply. Which may be -
  - When both demand and supply increase, the equilibrium quantity increases but the change in equilibrium price is uncertain.
  - When both demand and supply decrease, the equilibrium quantity decreases but the change in equilibrium price is uncertain.
  - When demand increases and supply decreases, the equilibrium price rises but nothing certain can be said about the change in equilibrium quantity.
  - When demand decreases and supply increases, the equilibrium price falls but nothing certain can be said about the change in equilibrium quantity.

### Price - Output Determination under Different Forms of Market

#### Perfect Competition

1. Perfect competition is a market situation where large number of sellers are selling homogeneous product to large number of buyers at uniform price.
2. In perfect competition price is determined by the industry which individual firm has accept as given and constant. **Thus, firms under perfect competition is price taker.**
3. Short-run equilibrium of a firm -  
Conditions for equilibrium -
  - (i)  $MC=MR$  and
  - (ii)  $MC$  must be rising
4. In short run following three situations can take place -
  - (a) Supernormal or abnormal profits when price  $(AR) > ATC$
  - (b) Normal profits when price  $(AR) = ATC$  and
  - (c) Losses when price  $(AR) < ATC$
5. In the long - run, adjustment process takes place and all firms earn just normal profits at the minimum point on LAC curve where  $SAC=LAC=SMC=LMC=P=AR=MR$

### Monopoly:-

1. Monopoly is a market situation where single seller is selling the product having no substitute available in the market to large number of buyers at same or differentiated prices.
2. **Monopolist is a price maker and faces a downward sloping demand curve.**
3. In short-run following three situations can take place -
  - a) Supernormal or abnormal profits when price (AR) > ATC
  - b) Normal profits when price (AR) = ATC and
  - c) Losses when price (AR) < ATC
4. **In a long-run monopolist can continue to enjoy super-normal profits because entry-exit is restricted.**

### Pricing under Discriminating Monopoly:-

1. **Discriminating monopoly** is a situation where the monopolist charges different prices from different buyers for same product.
2. **Conditions necessary for price-discrimination:-**
  - Seller should have some monopoly power,
  - Seller must be in a position to divide his total market in two or more than two sub-markets,
  - There should be effective separation of the market and
  - Elasticity of demand should be different in different sub-markets.
3. **Objective of Price discrimination:-**
  - To earn maximum profit
  - To dispose of surplus stock
  - To enjoy the economies of scale
  - To capture foreign markets
  - To secure equity through pricing
4. **Degrees of price discrimination:-**
  - **First degree**-entire consumer surplus will be withdrawn
  - **Second degree** a part of consumer surplus will be withdrawn
  - **Third degree** price varies according to location or by customer segment

### Pricing under Monopolistic Competition:-

1. Monopolistic competition is a market situation where large number of sellers are selling slightly differentiated products to large number of buyers and price charged by different sellers for their product is different.
2. In short-run following three situations can take place -
  - Supernormal or abnormal profits when price (AR) > ATC
  - Normal profits when price (AR) = ATC and
  - Losses when price (AR) < ATC
3. In the long-run due to free entry and exit adjustment will take place and only normal profits will be earned. **But, at equilibrium level firm will have excess capacity** i.e. **firm will be in equil. before optimum level of output.**

### Pricing under Oligopoly

1. Oligopoly is a market situation where few sellers (2 to 10) are selling slightly differentiated or identical products to large number of buyers.
2. The demand curve is not defined as there are action-reaction patterns among firms. There is no general theory of pricing under oligopoly.
3. *Sweezy's Kinked demand curve model - It is based on the assumption that firms match price cuts but not price rises. It rationalises price rigidity in oligopolistic market.* It shows that even if cost changes, prices charged for the commodity does not change.

Distinguishing features of major types of markets

Assumption	Market types			
	Pure competition	Monopolistic competition	Oligopoly	Monopoly
Number of sellers	Many	Many	A few(2 to 10)	One
Product differentiation	None	Slight	None to substantial	Extreme
Price elasticity of demand of a firm	Infinite	Large	Small	Small
Degree of control over price	None	Some	Some	Very considerable

**Note:- Other Important Market Forms are -**

- i. **Duopoly** - a subset of oligopoly, is a market situation in which there are only two firms in the market.
- ii. **Monopsony** - is a market characterized by a single buyer of a product or service and is mostly applicable to factor markets in which a single firm is the only buyer of a factor.
- iii. **Oligopsony** - is a market characterized by a small number of large buyers and is mostly relevant to factor markets.
- iv. **Bilateral monopoly** - is a market structure in which there is only a single buyer and a single seller i.e. it is a combination of monopoly market and a monopsony market.

## CHAPTER - 5 : BUSINESS CYCLES

1. The rhythmic fluctuations in aggregate economic activity that an economy experience over a period of time are called **business cycles** or **trade cycles** and are manifested in fluctuations in measured of aggregate economic activity such as gross national product, employment and income.
2. ***A typical business cycle has four distinct namely.***
  - **Expansion** (also called boom or upswing) characterized by increase in national output and all other economic variables.
  - **Peak** or boom or prosperity refers to the top or the highest point of the business cycle.
  - **Contraction** (also called downs-wing or recession) when there is fall in the levels of investment, employment.
  - **Trough or depression** occurs when the process of recession is complete and there is severe contraction in the economic activities.
3. Economists use changes in a variety of activities to measures the business cycle and to predict where the economy is headed towards. These are called indicators.
4. A **leading indicator** is a measurable economic factor that changes before the economy starts to follow a particular patter or trend. i.e. they change before the real output changes.
5. Variables that change after real output changes are called **‘Lagging indicators’**.
6. **Coincident economic indicator**, also called concurrent indictors, coincide or occur simultaneously with the business-cycle movements.
7. According to Keynes, fluctuations in economic activities are due to fluctuations in aggregate effective demand.
8. According to some economists, fluctuations in investments are the prime cause of business cycles. Investment spending is considered to be the most volatile component of the aggregate demand.
9. Fluctuations government spending with its impact on aggregate economic activity result in business fluctuations.
10. Macroeconomic policies, (monetary and fiscal policies) also cause business cycle.
11. According to Hawtrey, trade cycle is purely monetary phenomenon. Unplanned changes in the supply of money may cause business fluctuation in an economy.
12. According to Pigou, modern business activities are based on the anticipations of business community and are affected by waves of optimism or pessimism.
13. According to Schumpeter, trade cycles occur as a result of innovations which take place in the system from time to time.
14. Understanding what phase of the business cycle an economy is in and what implications the current economic conditions have for their current and future business activity, helps businesses to better anticipate the market and to respond with greater alertness.