MANAGERIAL ECONOMICS

STUDY MATERIAL

FIRST SEMESTER

COMPLEMENTARY COURSE : BC1C01

For

B.COM
(2017 ADMISSION ONWARDS)

UNIVERSITY OF CALICUT

SCHOOL OF DISTANCE EDUCATION

Calicut University P.O, Malappuram, Kerala, India 673 635

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BC1C01 : MANAGERIAL ECONOMICS

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MODULE - 1

INTRODUCTION

The term "economics" has been derived from the ancient Greek Word "Oikonomia"which means 'household'**.** Economics is a social science. It is called 'social' because it studies mankind of society. It deals with aspects of human behavior. It is called science since it studies social problems from a scientific point of view. The development of economics as a growing science can be traced back in the writings of Greek philosophers like Plato and Aristotle. Economics was treated as a branch of politics during early days of its development because ancient Greeks applied this term to management of city-state, which they called 'Polis'. Actually economics broadened into a full fledged social science in the later half of the 18th century.

Definition of Economics

Classical economists like Adam Smith, Ricardo, Mill Malthus and others; socialist economist like Karl Marx; neo-classical economists like Alfred Marshall, AC Pigou and Lionel Robbins and modern economists like JM Keynes,Samuelson and others have made considerable contribution to the development of Economics. Hence a plethora of definitions are available in connection with the subject matter of economics. These are broadly divided into

> A. Wealth Definition,
>
> B. Welfare Definition,
>
> C. Scarcity Definition and
>
> D. Growth Definition

A. Wealth Definition

Really the science of economics was born in 1776, when Adam Smith published his famous book "An Enquiry into the Nature and Cause of Wealth of Nation". He defined economics as the study of the nature and cause of national wealth. According to him, economics is the study of wealth- How wealth is produced and distributed. He is called as "father of economics" and his definition is popularly called "Wealth definition". But this definition was severely criticized by highlighting the points like;

- Too much emphasis on wealth,

- Restricted meaning of wealth,

- No consideration for human feelings,

- No mention for man's welfare

- Silent about economic problem etc…

B. Welfare Definition

It was Alfred Marshall who rescued the economics from the above criticisms. By his classic work "Principles of Economics", published in 1890, he shifted the emphasis from wealth to human welfare. According to him wealth is simply a means to an end in all activities, the end being human welfare. He adds, that economics "is on the one side a study of the wealth; and the other and more important side, a part of the study of man". Marshall gave primary importance to man and secondary importance to wealth. Prof. A C Pigou was also holding Marshall's view. This definition clarified the scope of economics and rescued economics from the grip of being called "Dismal science", but this definition also criticized on the grounds that welfare cannot be measured correctly and it was ignored the valuable services like teachers,lawyers,singers etc (non-material welfare)

C. Scarcity Definition

After Alfred Marshall, Lionel Robbins formulated his own conception of economics in his book "The Nature and Significance of Economic Science" in 1932. According to him, "Economics is the science which studies human behavior as a relationship between ends and scares means which have alternative uses". He gave importance to four fundamental characters of human existence such as;

1. Unlimited wants- In his definition "ends" refers to human wants which are boundless or unlimited.

2. Scarcity of means (Limited Resources) – the resources (time and money) at the disposal of a person to satisfy his wants are limited.

3. Alternate uses of Scares means- Economic resources not only scarce but have alternate uses also. So one has to make choice of uses.

4. The Economic Problem –when wants are unlimited, means are scarce and have alternate uses, the economic problem arises. Hence we need to arrange wants in the order of urgency.

The merits of scarcity definition are; this definition is analytical, universal in application, a positive study and considering the concept of opportunity cost. But this also criticized on the grounds that; it is too narrow and too wide, it offers only light but not fruit, confined to micro analysis and ignores Growth economics etc..

D. Modern Definition

The credit for revolutionizing the study of economics surely goes to Lord J.M Keynes. He defined economics as the "study of the administration of scares resources and the determinants of income and employment".

Prof. Samuelson recently given a definition based on growth aspects which is known as Growth definition. "Economics is the study of how people and 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 and distribute them for consumption, now or in the future, among various persons or groups in society. Economics analyses the costs and the benefits of improving patterns of resources use". Main features of growth definition are; it is applicable even in barter economy, the inclusion of time element makes the scope of economics dynamic and it is an improvement in scarcity definition.

Meaning and Definition of Managerial Economics.

Managerial Economics as a subject gained popularly in U.S.A after the publication of the book "Managerial Economics" by Joel Dean in 1951. Joel Dean observed that managerial Economics shows how economic analysis can be used in formulating policies.

Managerial economics bridges the gap between traditional economic theory and real business practices in two ways. Firstly, it provides number of tools and techniques to enable the manager to become more competent to take decisions in real and practical situation. Secondly, it serves as an integrating course to show the interaction between various areas in which the firm operates.

According to Prof. Evan J Douglas, Managerial economics is concerned with the application of business principles and methodologies to the decision making process within the firm or organization under the conditions of uncertainty. It seeks to establish rules and principles to facilitate the attainment of the desired economic aim of management. These economic aims relate to costs, revenue and profits and are important within both business and non business institutions.

Spencer and Siegleman defined managerial Economics as "the integration of economic theory with business practice for the purpose of facilitating decision making and forward planning of management" managerial economics helps the managers to analyze the problems faced by the business unit and to take vital decisions. They have to choose from among a number of possible alternatives. They have to choose that course of action by which the available resources are most efficiently used. Cristopor I Savage and John R Small opinioned that "managerial economics is some thing that concerned with business efficiency".

According to Benham, Economics is "a study of the factors affecting the size, distribution and stability of a country's national income".

Objectives and Uses (importance) of managerial Economics

Objectives: the basic objective of managerial economics is to analyze the economic problems faced by the business. The other objectives are:

1. To integrate economic theory with business practice.

2. To apply economic concepts and principles to solve business problems.

3. To allocate the scares resources in the optimal manner.

4. To make all-round development of a firm.

5. To minimize risk and uncertainty

6. To helps in demand and sales forecasting.

7. To help in profit maximization.

8. To help to achieve the other objectives of the firm like industry leadership, expansion.implimentation of policies etc...

Importance:

In order to solve the problems of decision making, data are to be collected and analyzed in the light of business objectives. Managerial economics provides help in this area. The importance of managerial economics maybe relies in the following points:

1. It provides tool and techniques for managerial decision making.

2. It gives answers to the basic problems of business management.

3. It supplies data for analysis and forecasting.

4. It provides tools for demand forecasting and profit planning.

5. It guides the managerial economist.

6. It helps in formulating business policies.

7. It assists the management to know internal and external factors influence the business.

Following are the important areas of decision making;

a) Selection of product.

b) Selection of suitable product mix.

c) Selection of method of production.

d) Product line decision.

e) Determination of price and quantity.

f) Decision on promotional strategy.

g) Optimum input combination.

h) Allocation of resources.

i) Replacement decision.

j) Make or buy decision.

k) Shut down decision.

l) Decision on export and import.

m) Location decision.

n) Capital budgeting.

Scope of Managerial / Business Economics

The scope of managerial economics refers to its area of study. Scope of Managerial Economics is wider than the scope of Business Economics in the sense that while managerial economics dealing the decisional problems of both business and non business organizations, business economics deals only the problems of business organizations. Business economics giving solution to the problems of a business unit or profit oriented unit. Managerial economics giving solution to the problems of non profit organizations like schools, hospital etc., also. The scope covers two areas of decision making (A) operational or internal issues and (B) Environmental or external issues.

A) Operational/internal issues

These issues are those which arise within the business organization and are under the control of the management. They pertains to simple questions of what to produce, when to produce, how much to produce and for which category of consumers. The following aspects may be said to be fall under internal issues.

1. **Demand analysis and Forecasting**: - The demands for the firms product would change in response to change in price, consumer's income, his taste etc.which are the determinants of demand. A study of the determinants of demand is necessary for forecasting future demand of the product.

2. **Cost analysis**: - Estimation of cost is an essential part of managerial problems. The factors causing variation of cost must be found out and allowed for it management to arrive at cost estimates. This will helps for more effective planning and sound pricing practices.

3. **Pricing Decisions: -** The firms aim to profit which depends upon the correctness of pricing decisions. The pricing is an important area of managerial economics. Theories regarding price fixation helps the firm to solve the price fixation problems.

4. **Profit Analysis:** - Business firms working for profit and it is an important measure of success. But firms working under conditions of uncertainty. Profit planning become necessary under the conditions of uncertainty.

5. **Capital budgeting: -** The business managers have to take very important decisions relating to the firms capital investment. The manager has to calculate correctly the profitability of investment and to properly allocate the capital. Success of the firm depends upon the proper analysis of capital project and selecting the best one.

6. **Production and supply analysis:** - Production analysis is narrower in scope than cost analysis. Production analysis is proceeds in physical terms while cost analysis proceeds in monitory term. Important aspects of supply analysis are; supply schedule, curves and functions, law of supply, elasticity of supply and factors influencing supply…

B) Environmental or external issues

It refers to the general business environment in which the firm operates. A study of economic environment should include:

The types of economic system in the country.

1. The general trend in production,employment,income,prices,savings and investments

2. Trends in the working of financial institutions like banks, financial corporations, insurance companies etc..

3. Magnitude and trends in foreign trade.

4. Trends in labour and capital market.

5. Government economic policies viz., industrial policy, monitory policies, fiscal policy, price policy etc…

Functions and Responsibilities of managerial economist

A managerial economist can play an important role by assisting the management to solve the difficult problems of decision making and forward planning. Managerial economists have to study external and internal factors influencing the business while taking the decisions. The important questions to be answered by the managerial economists include:

1. Is competition likely to increase or decrease?

2. What are the population shifts and their influence in purchasing power?

3. Will the price of raw materials increase or decrease? Etc...

4. .managerial economist can also help the management in taking decisions regarding internal operation of the firm. Following are the important specific functions of managerial economist;

1. Sales forecasting.

2. Market research.

3. Production scheduling

4. Economic analysis of competing industry.

5. Investment appraisal.

6. Security management analysis.

7. Advise on foreign exchange management.

8. Advice on trade.

9. Environmental forecasting.

10. Economic analysis of agriculture Sales forecasting

The **responsibilities** of managerial economists are the following;

1. To bring reasonable profit to the company.

2. To make accurate forecast.

3. To establish and maintain contact with individual and data sources.

4. To keep the management informed of all the possible economic trends.

5. To prepare speeches for business executives.

6. To participate in public debates

7. To earn full status in the business team.

Chief Characteristics of Managerial or Business economics.

Following are the important feature of managerial economics

1) Managerial economics is **Micro economic** in character. Because it studies the problems of a business firm, not the entire economy.

2) Managerial economics largely uses the body of economic concepts and principles which is known as **"Theory of the Firm" or "Economics of the firm".**

3) Managerial economics is **pragmatic.** It is purely practical oriented. So Managerial economics considers the particular environment of a firm or business for decision making.

4) Managerial economics is **Normative** rather than positive economics (descriptive economics). Managerial economics is **prescriptive** to solve particular business problem by giving importance to firms aim and objectives.

5) **Macro economics is also useful** to managerial economics since it provides intelligent understanding of the environment in which the business is operating.

6) **It is management oriented.**

Managerial economics as a tool for decision making and forward planning.

Decision making:

Decision making is an integral part of modern management. Perhaps the most important function of the business manager is decision making. Decision making is the process of selecting one action from two or more alternative course of actions. Resources such as land, labour and capital are limited and can be employed in alternative uses, so the question of choice is arises.

Managers of business organizations are constantly faced with wide variety of decisions in the areas of pricing, product selection, cost control, asset management and plant expansion. Manager has to choose best among the alternatives by which available resources are most efficiently used for achieving the desired aims. Decision making process involves the following elements;

The identification of the firm's objectives.

1. The statement of the problem to be solved.

2. The listing of various alternatives.

3. Evaluation and analysis of alternatives.

4. The selection best alternative

5. The implementation and monitoring of the alternative which is chosen.

Following are the important areas of decision making;

a) Selection of product.

b) Selection of suitable product mix.

c) Selection of method of production.

d) Product line decision.

e) Determination of price and quantity.

f) Decision on promotional strategy.

g) Optimum input combination.

h) Allocation of resources.

i) Replacement decision.

j) Make or buy decision.

k) Shut down decision.

l) Decision on export and import.

m) Location decision.

n) Capital budgeting.

Forward Planning:

Future is uncertain. A firm is operating under the conditions of risk and uncertainty. Risk and uncertainty can be minimized only by making accurate forecast and forward planning**.** Managerial economics helps manager in forward planning Forward planning means making plans for the future. A manager has to make plan for the future e.g. Expansion of existing plants etc...The study of macro economics provides managers a clear understanding about environment in which the business firm is working. The knowledge of various economic theories viz, demands theory, supply theory etc. also can be helpful for future planning of demand and supply. So managerial economics enables the manager to make plan for the future.

Economics Vs Managerial economics.

Economics	Managerial Economics
1. Dealing both micro and macro aspects	1. Dealing only micro aspects
2. Both positive and normative science.	2. Only a normative science.
3. Deals with theoretical aspects	3. Deals with practical aspects.
4. Study both the firm and individual.	4. Study the problems of firm only.
5. Wide scope	5. Narrow scope.

Model questions:

Fill in the blanks. (Weightage-1/4)

1. The famous book on economics "An Enquiry into the Nature and Cause of Wealth of Nation" was written by…………

2. ……………. is known as the 'father of economics".

3. Welfare definition of economics is given by……………..

4. The scarcity definition is suggested by……….

5. …………… bridges the gap between traditional economic theory and real business practices

Short answer type (Weightage -1)

1. Define managerial economics?

2. What is the difference between business economics and managerial economics?

3. What is scarcity definition?

4. What you mean by decision making?

5. What is forward planning?

6. What is economic problem?

Short essay type (Weightage -2)

1) Define Managerial economics? What are its basic characteristics?

2) What are the responsibilities of managerial economist?

3) What is decision making? What are its elements or steps?

4) Distinguish between economics and managerial economics?

Essay type (Weightage -4)

1) Define Managerial economics? Explain the scope of managerial economics?

2) Explain role and functions and responsibilities of managerial economists?

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MODULE - II

DEMAND CONCEPTS

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Meaning of Demand

Demand is a common parlance means desire for an object. But in economics demand is something more than this. In economics 'Demand' means the quantity of goods and services which a person can purchase with a requisite amount of money.

According to Prof.Hidbon, "Demand means the various quantities of goods that would be purchased per time period at different prices in a given market. Thus demand for a commodity is its quantity which consumer is able and willing to buy at various prices during a given period of time. Simply, demand is the behavior of potential buyers in a market.

In the opinion of Stonier and Hague, "Demand in economics means demand backed up by enough money to pay for the goods demanded". In other words, demand means the desire backed by the willingness to buy a commodity and purchasing power to pay. Hence desire alone is not enough. There must have necessary purchasing power, ie, .cash to purchase it. For example, everyone desires to posses Benz car but only few have the ability to buy it. So everybody cannot be said to have a demand for the car. Thus the demand has three essentials-Desire, Purchasing power and Willingness to purchase.

Demand Analysis

Demand analysis means an attempt to determine the factors affecting the demand of a commodity or service and to measure such factors and their influences. The demand analysis includes the study of law of demand, demand schedule, demand curve and demand forecasting. Main objectives of demand analysis are;

1) To determine the factors affecting the demand.

2) To measure the elasticity of demand.

3) To forecast the demand.

4) To increase the demand.

5) To allocate the recourses efficiently

Law of Demand

The law of Demand is known as the 'first law in market". Law of demand shows the relation between price and quantity demanded of a commodity in the market. In the words of Marshall "the amount demanded increases with a fall in price and diminishes with a rise in price".

According to Samuelson, "Law of Demand states that people will buy more at lower price and buy less at higher prices". In other words while other things remaining the same an increase in the price of a commodity will decreases the quantity demanded of that commodity

and decrease in the price will increase the demand of that commodity. So the relationship described by the law of demand is an inverse or negative relationship because the variables (price and demand) move in opposite direction. It shows the cause and effect relationship between price and quantity demand.

The concept of law of demand may be explained with the help of a demand schedules.

Individual demand Schedule

An individual demand schedule is a list of quantities of a commodity purchased by an individual consumer at different prices. The following table shows the demand schedule of an individual consumer for apple.

Price of Apple (In Rs.)	Quantity demanded
10	1
8	2
6	3
4	4
2	5

When the price falls from Rs 10 to 8, the quantity demanded increases from one to two. In the same way as price falls, quantity demanded increases. On the basis of the above demand schedule we can draw the demand curve as follows;
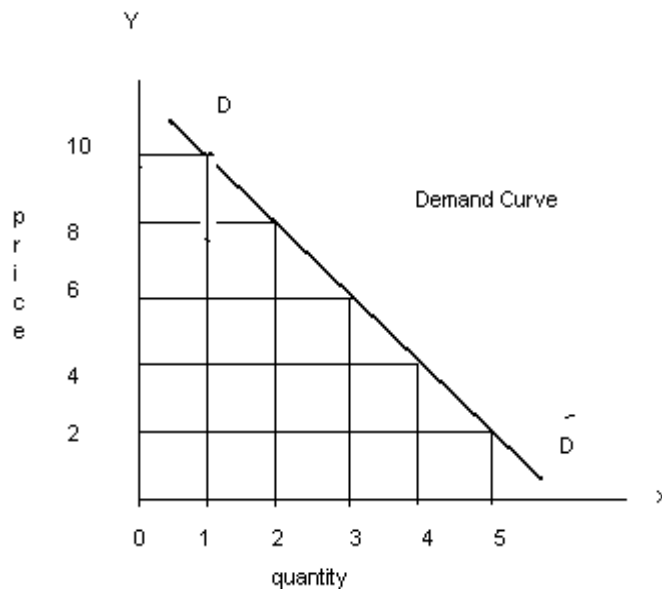
The demand curve DD shows the inverse relation between price and demand of apple. Due to this inverse relationship, demand curve is slopes downward from left to right. This kind of slope is also called "negative slope"

Market demand schedule

Market demand refers to the total demand for a commodity by all the consumers. It is the aggregate quantity demanded for a commodity by all the consumers in a market. It can be expressed in the following schedule.

Market Demand Schedule for egg.

Price per dozen(Rs)	Demand by consumers				Market Demand
	A	**B**	**C**	**D**	
10	1	2	0	0	3
8	2	3	1	0	6
6	3	4	2	1	10
4	4	5	3	2	14
2	5	6	4	3	18

Derivation of market demand curve is a simple process. For example, let us assume that there are four consumers in a market demanding eggs. When the price of one dozen eggs is Rs.10, A buys one dozen and B buys 2 dozens. When price falls to Rs.8, A buys 2 , B buys 3 and C buys one dozen. When price falls to Rs.6, A buys 3 b buys 4,C buys 2 and D buys one dozen and so on. By adding up the quantity demanded by all the four consumers at various prices we get the market demand curve. So last column of the above demand schedule gives the total demand for eggs at different prices,ie,"Market Demand" as given below;
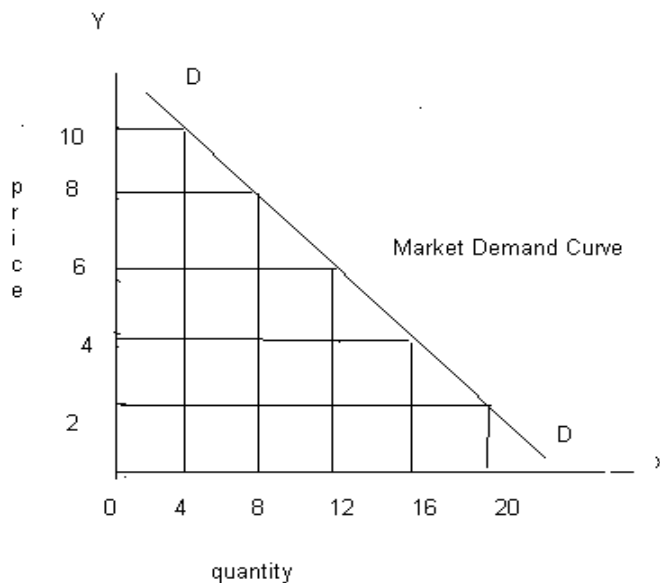
Assumptions of Law of Demand

Law of demand is based on certain basic assumptions. They are as follows

1) There is no change in consumers' taste and preference

2) Income should remain constant.

3) Prices of other goods should not change.

4) There should be no substitute for the commodity.

5) The commodity should not confer any distinction.

6) The demand for the commodity should be continuous.

7) People should not expect any change in the price of the commodity.

Why does demand curve slopes downward?

Demand curve slopes downward from left to right (Negative Slope). There are many causes for downward sloping of demand curve:-

1) Law of Diminishing Marginal utility

As the consumer buys more and more of the commodity, the marginal utility of the additional units falls. Therefore the consumer is willing to pay only lower prices for additional units. If the price is higher, he will restrict its consumption

2) Principle of Equi- Marginal Utility

Consumer will arrange his purchases in such a way that the marginal utility is equal in all his purchases. If it is not equal, they will alter their purchases till the marginal utility is equal.

3) Income effect.

When the price of the commodity falls, the real income of the consumer will increase. He will spend this increased income either to buy additional quantity of the same commodity or other commodity.

4) Substitution effect.

When the price of tea falls, it becomes cheaper. Therefore the consumer will substitute this commodity for coffee. This leads to an increase in demand for tea.

5) Different uses of a commodity.

Some commodities have several uses. If the price of the commodity is high, its use will be restricted only for important purpose. For e.g. when the price of tomato is high, it will be used only for cooking purpose. When it is cheaper, it will be used for preparing jam, pickle etc...

6) Psychology of people.

Psychologically people buy more of a commodity when its price falls. In other word it can be termed as **price effect.**

7) Tendency of human beings to satisfy unsatisfied wants.

Exceptions to the Law of Demand. (Exceptional Demand Curve).

The basic feature of demand curve is negative sloping. But there are some exceptions to this. i..e... In certain circumstances demand curve may slope upward from left to right (positive slopes). These phenomena may due to;

1) Giffen paradox

The Giffen goods are inferior goods is an exception to the law of demand. When the price of inferior good falls, the poor will buy less and vice versa. When the price of maize falls, the poor will not buy it more but they are willing to spend more on superior goods than on maize. Thus fall in price will result into reduction in quantity. This paradox is first explained by Sir Robert Giffen.

2) Veblen or Demonstration effect.

According to Veblen, rich people buy certain goods because of its social distinction or prestige. Diamonds and other luxurious article are purchased by rich people due to its high prestige value. Hence higher the price of these articles, higher will be the demand.

3) Ignorance.

Some times consumers think that the product is superior or quality is high if the price of that product is high. As such they buy more at high price.

4) Speculative Effect.

When the price of commodity is increasing, then the consumer buy more of it because of the fear that it will increase still further.

5) Fear of Shortage.

During the time of emergency or war, people may expect shortage of commodity and buy more at higher price to keep stock for future.

6) Necessaries

In the case of necessaries like rice, vegetables etc., People buy more even at a higher price.
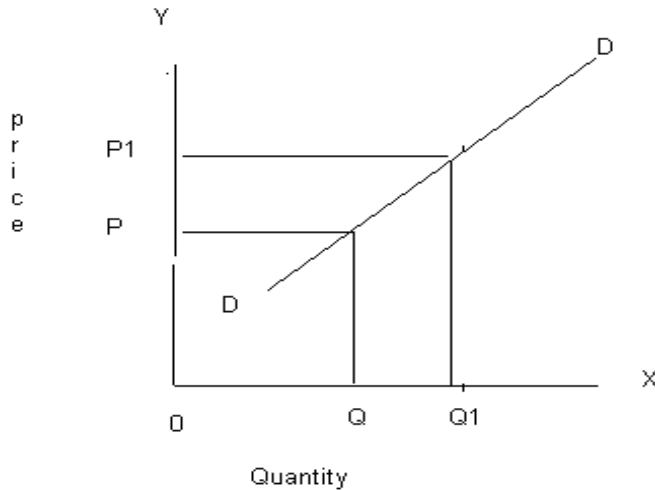
7) Brand Loyalty

When consumer is brand loyal to particular product or psychological attachment to particular product, they will continue to buy such products even at a higher price.

8) Festival, Marriage etc.

In certain occasions like festivals, marriage etc. people will buy more even at high price.

Exceptional Demand Curve (perverse demand curve)

When price raises from OP to OP1 quantity demanded also increases from OQ to OQ1. In other words, from the above, we can see that there is positive relation between price and demand. Hence, demand curve (DD) slopes upward.

CHANGES IN DEMAND

Demand of a commodity may change. It may increase or decrease due to changes in certain factors. These factors are called **determinants of demand.** These factors include;

1) Price of a commodity

2) Nature of commodity

3) Income and wealth of consumer

4) Taste and preferences of consumer

5) Price of related goods (substitutes and compliment goods)

6) Consumers' expectations.

7) Advertisement etc...

Demand Function.

There is a functional relationship between demand and its various determinants. I.e., a change in any determinant will affect the demand. When this relationship expressed mathematically, it is called Demand Function. Demand function of a commodity can be written as follows:

D = f (P, Y, T, Ps, U)

Where, **D**= Quantity demanded   **P**= Price of the commodity

     Y= Income of the consumer   **T**= Taste and preference of consumers.

     Ps = Price of substitutes   **U**= Consumers expectations & others

f = Function of (indicates how variables are related)

Extension and Contraction of Demand.

     Demand may change due to various factors. The change in demand due to change in price only, where other factors remaining constant, it is called extension and contraction of demand. A change in demand solely due to change in price is called extension and contraction. When the quantity demanded of a commodity rises due to a fall in price, it is called extension of demand. On the other hand, when the quantity demanded falls due to a rise in price, it is called contraction of demand. It can be understand from the following diagram.
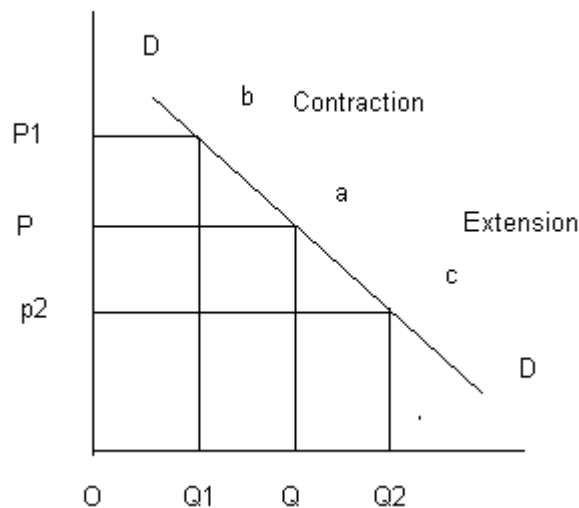

     When the price of commodity is OP, quantity demanded is OQ. If the price falls to P2, quantity demanded increases to OQ2. When price rises to P1, demand decreases from OQ to OQ1. In demand curve, the area **a** to **c** is extension of demand and the area **a** to **b** is contraction of demand. As result of change in price of a commodity, the consumer moves along the same demand curve.

Shift in Demand (Increase or Decrease in demand)

     When the demand changes due to changes in other factors, like taste and preferences, income, price of related goods etc... , it is called shift in demand. Due to changes in other factors, if the consumers buy more goods, it is called increase in demand or upward shift. On the other hand, if the consumers buy fewer goods due to change in other factors, it is called downward shift or decrease in demand.

     Shift in demand cannot be shown in same demand curve.   The increase and decrease in demand (upward shift and downward shift) can be expressed by the following diagram.
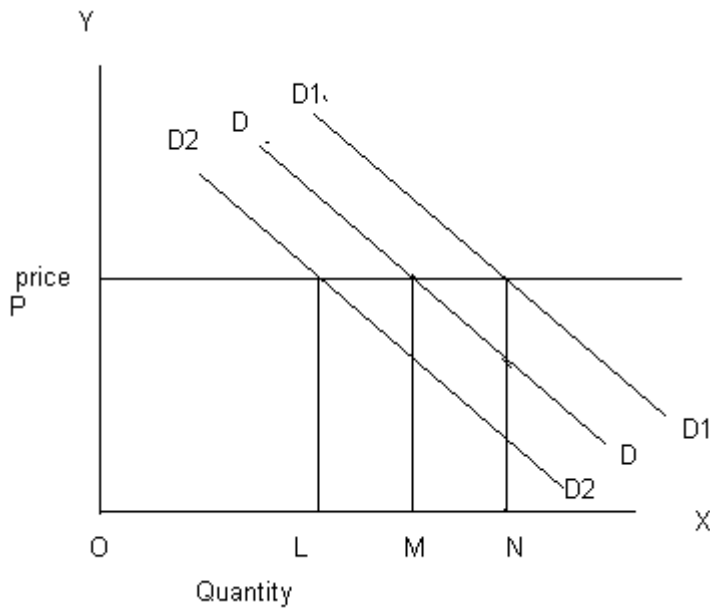
DD is the original demand curve. Demand curve shift upward due to change in income, taste & preferences etc of consumer, where price remaining the same. In the above diagram demand curve D1- D1 is showing upward shift or increase in demand and D2-D2 shows downward shift or decrease in demand.

Comparison between extension/contraction and shift in demand

SL. No	Extension/Contraction of Demand	Shift in Demand
1	Demand is varying due to changes in price	Demand is varying due to changes in other factors
2	Other factors like taste, preferences, income etc... remaining the same.	Price of commodity remain the same
3	Consumer moves along the same demand curve	Consumer may moves to higher or lower demand curve

Different types of demand.

Joint demand:

When two or more commodities are jointly demanded at the same time to satisfy a particular want, it is called joint or complimentary demand.(demand for milk, sugar, tea for making tea).

Composite demand:

The demand for a commodity which can be put for several uses (demand for electricity)

Direct and Derived demand:

Demand for a commodity which is for a direct consumption is called direct demand.(food, cloth). When the commodity is demanded as s result of the demand of another commodity, it is called derived demand.(demand for tyres depends on demand of vehicles).

Industry demand and company demand:

Demand for the product of particular company is company demand and total demand for the products of particular industry which includes number of companies is called industry demand

Model questions:

Fill in the blanks. (Weightage-1/4)

1. Demand has three essentials-Desires+ Purchasing power +…………….

2. …………… is known as the 'first law in market".

3. Law of demand states that price and quantity demanded have………..relationship.

4. …………….means relationship between demand and its various determinants expressed mathematically.

5. In economics, desire backed by purchasing power is called…………

6. The change in demand due to change in price only, where other factors remaining constant, it is called……….

7. The demand changes due to changes in other factors, like taste and preferences, income, price of related goods etc... , it is called …………….

8. Generally demand curve have …………slope.

Short answer type (Weightage -1)

1) What is demand?

2) What is demand analysis?

3) State the "law of demand"?

4) What is demand schedule?

5) What is Giffen paradox?

6) What is Veblen effect?

7) Define demand function?

8) What is shift in demand?

9) What is extension and contraction?

10) What is market demand schedule?

Short essay type (Weightage -2)

1) Define law of demand? What are its basic assumptions?

2) Why demand curve slopes downward?

3) What are the exceptions to the law of demand?

4) Explain the extension and contraction of demand?

5) Explain the shift in demand?

6) What are different types of demand?

Essay type (Weightage -4)

1) Define demand .discuss various determinants of demand?

2) Explain and illustrate shift in demand, extension and contraction of demand and make a comparative study?

ELASTICITY OF DEMAND

Meaning of Elasticity

Law of demand explains the directions of changes in demand. A fall in price leads to an increase in quantity demanded and vice versa. But it does not tell us the rate at which demand changes to change in price. The concept of elasticity of demand was introduced by Marshall. This concept explains the relationship between a change in price and consequent change in quantity demanded. Nutshell, it shows the rate at which changes in demand take place.

Elasticity of demand can be defined as "the degree of responsiveness in quantity demanded to a change in price". Thus it represents the rate of change in quantity demanded due to a change in price. There are mainly three types of elasticity of demand:

1. Price Elasticity of Demand.

2. Income Elasticity of Demand. and

3. Cross Elasticity of Demand.

Price Elasticity of Demand

Price Elasticity of demand measures the change in quantity demanded to a change in price. It is the ratio of percentage change in quantity demanded to a percentage change in price. This can be measured by the following formula.

Price Elasticity = <u>Proportionate change in quantity demanded</u>

Proportionate change in price

OR

Ep = <u>Change in Quantity demanded / Quantity demanded</u>

Change in Price/price

OR

Ep = <u>(Q2-Q1)/Q1</u>

(P2-P1) /P1 ,

Where: Q1 = Quantity demanded before price change

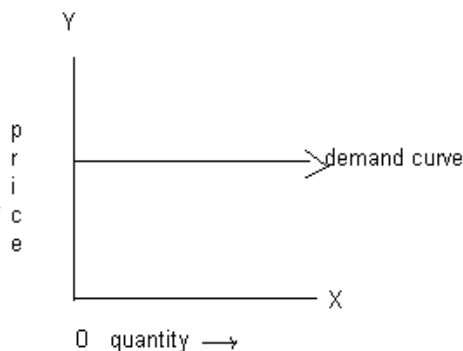Q2 = Quantity demanded after price change

P1 = Price charged before price change

P2 = Price charge after price change.

There are five types of price elasticity of demand. (Degree of elasticity of demand) Such as perfectly elastic demand, perfectly inelastic demand, relatively elastic demand, relatively inelastic demand and unitary elastic demand.

**Perfectly elastic demand (infinitely elastic)**

When a small change in price leads to infinite change in quantity demanded, it is called perfectly elastic demand. In this case the demand curve is a horizontal straight line as given below. (Here **ep= **)
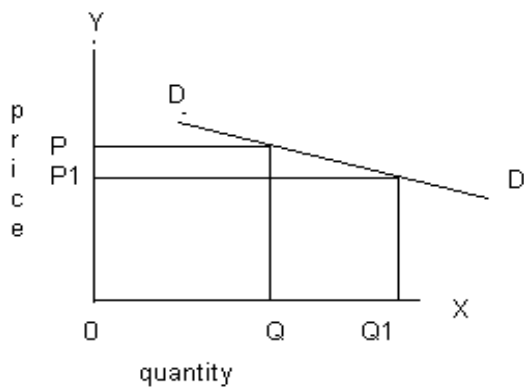

2) Perfectly inelastic demand

In this case, even a large change in price fails to bring about a change in quantity demanded. I.e. the change in price will not affect the quantity demanded and quantity remains

the same whatever the change in price. Here demand curve will be vertical line as follows and **ep= 0**
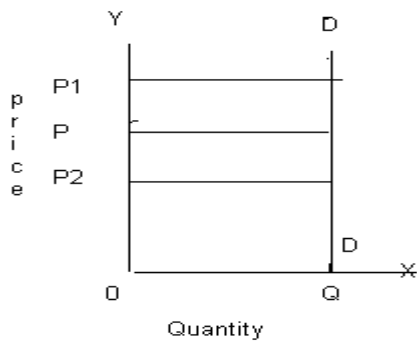

Quantity

3) Relatively elastic demand

Here a small change in price leads to very big change in quantity demanded. In this case demand curve will be fatter one and **ep=>1**


quantity

4) Relatively inelastic demand

Here quantity demanded changes less than proportionate to changes in price. A large change in price leads to small change in demand. In this case demand curve will be steeper and **ep=<1**

quantity
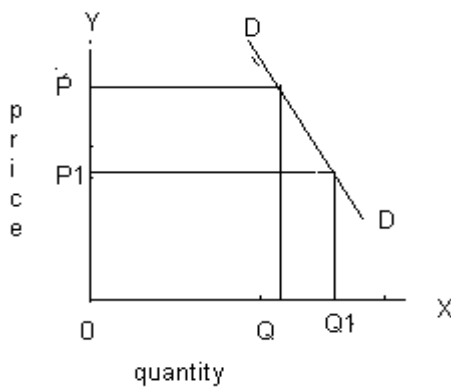
5) Unit elasticity of demand (unitary elastic)

Here the change in demand is exactly equal to the change in price. When both are equal, **ep= 1,** the elasticity is said to be unitary**.**
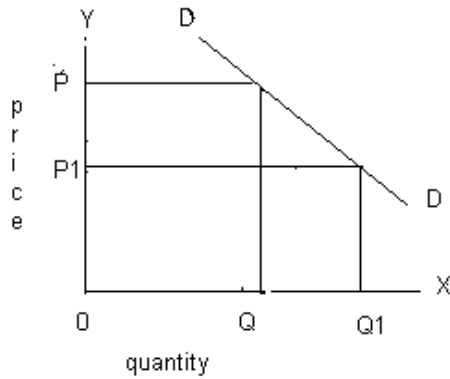
The above five types of elasticity can be summarized as follows

Sl. No	type	Numerical expression	description	Shape of curve
1	Perfectly elastic		infinity	Horizontal
2	Perfectly inelastic	0	Zero	Vertical
3	Unitary elastic	1	One	Rectangular hyperbola
4	Relatively elastic	>1	More than one	Flat
5	Relatively inelastic	<1	Less than one	Steep

Income Elasticity of Demand

Income elasticity of demand shows the change in quantity demanded as a result of a change in consumers' income. Income elasticity of demand may be stated in the form of formula:

Ey = Proportionate Change in Quantity Demanded

Proportionate Change in Income

Income elasticity of demand mainly of three types:

1) Zero income Elasticity.
2) Negative income Elasticity
3) Positive income Elasticity.

Zero income elasticity – In this case, quantity demanded remain the same, eventhogh money income increases.ie, changes in the income doesn't influence the quantity demanded (Eg.salt,sugar etc). Here **Ey** (income elasticity) = **0**

Negative income elasticity -In this case, when income increases, quantity demanded falls.Eg, inferior goods. Here **Ey = < 0.**

Positive income Elasticity - In this case, an increase in income may lad to an increase in the quantity demanded. i.e., when income rises, demand also rises. (**Ey =>0**) This can be further classified in to three types:

a) Unit income elasticity; Demand changes in same proportion to change in income.i.e, **Ey = 1**

b) Income elasticity greater than unity: An increase in income brings about a more than proportionate increase in quantity demanded.i.e, **Ey =>1**

c) Income elasticity less than unity: when income increases quantity demanded is also increases but less than proportionately. I.e., **Ey = <1**

Business decision based on income elasticity.

The concept of income elasticity can be utilized for the purpose of taking vital business decision. A businessman can rely on the following facts.

If income elasticity is greater than Zero, but less than one, sales of the product will increase but slower than the general economic growth

If income elasticity is greater than one, sales of his product will increase more rapidly than the general economic growth.

Firms whose demand functions have high income elasticity have good growth opportunities in an expanding economy. This concept helps manager to take correct decision during business cycle and also helps in forecasting the effect of changes in income on demand.

Cross Elasticity of Demand

Cross elasticity of demand is the proportionate change in the quantity demanded of a commodity in response to change in the price of another related commodity. Related commodity may either substitutes or complements. Examples of substitute commodities are **tea and coffee.** Examples of compliment commodities are **car and petrol.** Cross elasticity of demand can be calculated by the following formula;

Cross Elasticity = Proportionate Change in Quantity Demanded of a Commodity

Proportionate Change in the Price of Related Commodity

If the cross elasticity is positive, the commodities are said to be substitutes and if cross elasticity is negative, the commodities are compliments. The substitute goods (tea and Coffee)

have positive cross elasticity because the increase in the price of tea may increase the demand of the coffee and the consumer may shift from the consumption of tea to coffee.

Complementary goods (car and petrol) have negative cross elasticity because increase in the price of car will reduce the quantity demanded of petrol.

The concept of cross elasticity assists the manager in the process of decision making. For fixing the price of product which having close substitutes or compliments, cross elasticity is very useful.

Advertisement Elasticity of Demand

Advertisement elasticity of demand (Promotional elasticity of demand) measure the responsiveness of demand due to a change in advertisement and other promotional expenses. This can be measured by the following formula;

Advertisement Elasticity = Proportionate Increase in Sales

Proportionate increase in Advertisement expenditure.

There are various determinants of advertisement elasticity, they are;

1. Type of commodity- elasticity will be higher for luxury, new product, growing product etc.,

2. Market share – larger the market share of the firm lower will be promotional elasticity.

3. Rival's reaction – if the rivals react to increase in firm's advertisement by increasing their own advertisement expenditure, it will reduce the advertisement elasticity of the firm.

4. State of economy – if economic conditions are good, the consumers are more likely to respond to the advertisement of the firm.

Advertisement elasticity helps in the process of decision making. It helps to deciding the optimum level of advertisement and promotional cost. If the advertisement elasticity is high, it is profitable to spend more on advertisement. Hence, advertisement elasticity helps to decide optimum advertisement and promotional outlay.

Importance of Elasticity.

The concept of elasticity of demand is much of practical importance;

1. **Production**- Producers generally decide their production level on the basis of demand for their product. Hence elasticity of demand helps to fix the level of output.

2. **Price fixation**- Each seller under monopoly and imperfect competition has to take into account the elasticity of demand while fixing their price. If the demand for the product is inelastic, he can fix a higher price.

3. **Distribution**- Elasticity helps in the determination of rewards for factors of production. For example, if the demand for labour is inelastic, trade union can raise wages.

4. **International trade**- This concept helps in finding out the terms of trade between two countries. Terms of trade means rate at which domestic commodities is exchanged for foreign commodities.

5. **Public finance**- This assists the government in formulating tax policies. In order to impose tax on a commodity, the government should take into consideration the demand elasticity.

6. **Nationalization**- Elasticity of demand helps the government to decide about nationalization of industries.

7. **Price discrimination**- A manufacture can fix a higher price for the product which have inelastic demand and lower price for product which have elastic demand.

8. **Others**- The concept elasticity of demand also helping in taking other vital decision Eg.Determining the price of joint product, take over decision etc..

Determinants of elasticity.

Elasticity of demand varies from product to product, time to time and market to market. This is due to influence of various factors. They are;

1. **Nature of commodity-** Demand for necessary goods (salt, rice,etc,) is inelastic. Demand for comfort and luxury good are elastic.

2. **Availability/range of substitutes –** A commodity against which lot of substitutes are available, the demand for that is elastic. But the goods which have no substitutes, demand is inelastic.

3. **Extent /variety of uses-** a commodity having a variety of uses has a comparatively elastic demand.Eg.Demand for steel, electricity etc..

4. **Postponement/urgency of demand-** if the consumption of a commodity can be post pond, then it will have elastic demand. Urgent commodity has inelastic demand.

5. **Income level-** income level also influences the elasticity. E.g. Rich man will not curtail the consumption quantity of fruit, milk etc, even if their price rises, but a poor man will not follow it.

6. **Amount of money spend on the commodity-** where an individual spends only a small portion of his income on the commodity, the price change doesn't materially affect the demand for the commodity, and the demand is inelastic... (match box, salt Etc)

7. **Durability of commodity-** if the commodity is durable or repairable at a substantially less amount (eg.Shoes), the demand for that is elastic.

8. **Purchase frequency of a product/time –**if the frequency of purchase of a product is very high, the demand is likely to be more price elastic.

9. **Range of Prices-** if the products at very high price or at very low price having inelastic demand since a slight change in price will not affect the quantity demand.

10. **Others –** the habit of consumers, demand for complimentary goods, distribution of income and wealth in the society etc., are other important factors affecting elasticity.

Measurement of Elasticity

There are various methods for the measurement of elasticity of demand. Following are the important methods:

1. **Proportional or Percentage Method**: Under this method the elasticity of demand is measured by the ratio between the proportionate or percentage change in quantity demanded and proportionate change in price. It is also known as formula method. It can be computed as follows:
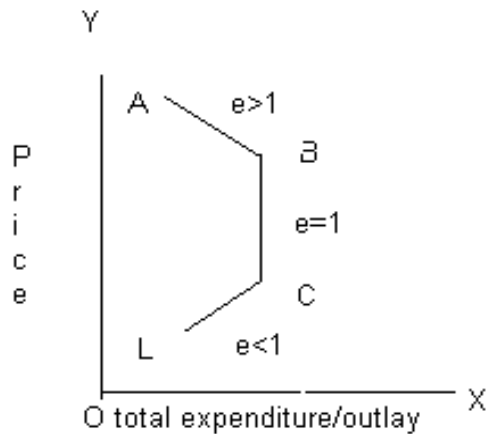

ED = Proportionate change in quantity demanded

Proportionate change in price.

OR

= Change in Demand

Original Quantity demanded

Change in Price

Original price

2. **Expenditure or Outlay Method**: This method was developed by Marshall. Under this method, the elasticity is measured by estimating the changes in total expenditure as a result of changes in price and quantity demanded. This has three components

- If the price changes, but total expenditure remains constant, unit elasticity exists.

- If the price changes, but total expenditure moves in the opposite directions,   demand is elastic (>1).

- If the price changes and total revenues moves in the same direction, demand is inelastic (<1). This can be expressed by the following diagram.

3. **Geometric or Point method:** This also developed by Marshall. This is used as a measure of the change in quantity demanded in response to a very small change in the price. In this method we can measure the elasticity at any point on a straight line demand curve by using the following formula;

    ED = <u>Lower section of the Demand curve</u>

    Upper section of Demand curve.
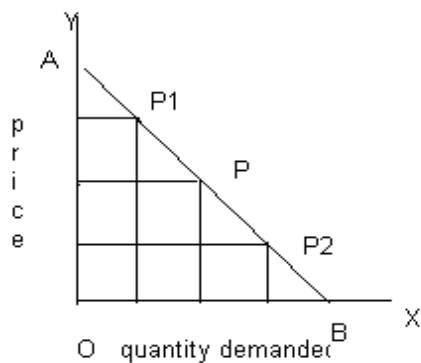
    In the above diagram, AB is a straight line demand curve with P as its middle point. Further it is assumed that AB is 6 cm. then,

    At point P, ED = PB/PA=3/3=1

    At point P1, ED = P1B/P1A= 4.5/1.5= 3=>1,

    At point A, ED = AB/A= 6/0=   (infinity),

    At point P2, ED = P2B/P2A = 1.5/4.5 = 1/3 = <1,

    At point B, ED = B/BA = 0/6 = 0

4. **Arc Method**: the point method is applicable only when there are minute (very small) changes in price and demand. Arc elasticity measures elasticity between two points. It is a measure of the average elasticity According to Watson," Arc elasticity is the elasticity at the midpoint of an arc of a demand curve". formula to measure elasticity is:

$$ED = \text{Q/ P} \times (P1+P2)/(Q1+Q2) \text{ or } \underline{\text{Change in D}} \text{ x } \underline{\text{Average P}}$$

$$\text{Average D} \quad \text{Change in P.}$$

Where,   Q= change in quantity   Q1= original quantity

P1 = original price   Q2= new quantity

P2 = New price   P= change in price

Model questions:

Fill in the blanks. (Weightage-1/4)

1. --------- means the degree of responsiveness of demand to the changes in   price

2. Generally income elasticity for a commodity is…………….

3. ep = 0 in the case of -----------elasticity

4. Tea and coffee are………….goods

5. car and petrol are…………….goods

Short answer type (Weightage -1)

1. What you mean by elasticity?

2. What is price elasticity?

3. What is income elasticity?

4. What is cross elasticity?

5. What is promotional elasticity?

Short essay type (Weightage -2)

1. What are the various degrees of price elasticity?

2. What is the importance of the concept of elasticity?

3. What are different types of elasticity?

Essay type (Weightage -4)

1. What is elasticity of demand? State the determinants of elasticity?

2. Define elasticity of demand? Discuss various methods for measuring elasticity?

DEMAND ESTIMATION AND FORECASTING

Demand Estimation

Business enterprice needs to know the demand for its product. An existing unit must know current demand for its product in order to avoid underproduction or over production. The current demand should be known for determining pricing and promotion policies so that it is able to secure optimum sales or maximum profit. Such information about the current demand for the firm's product is known as demand estimation.

Demand Estimation is the process of finding current values of demand for various values of prices and other determining variables.

Steps in Demand Estimation

1. Identification of independent variables such as price, price of substitutes, population, percapita income, advertisement expenditure etc.,

2. collection of data on the variables from past records, publications of various agencies etc.,

3. Development a mathematical model or equation that indicates the relationship between independent and dependant variables.

4. Estimation of the parameters of the model. I.e., to estimate the unknown values of the parameters of the model.

5. Development of estimates based on the model.

Tools and techniques for demand estimation includes;

1. Consumer surveys.

2. consumer clinics and focus groups

3. Market Experiment.

4. Statistical techniques.

Demand Forecasting.

Accurate demand forecasting is essential for a firm to enable it to produce the required quantities at the right time and to arrange well in advance for the various factors of production. Forecasting helps the firm to assess the probable demand for its products and plan its production accordingly.

Demand Forecasting refers to an estimate of future demand for the product. It is an "objective assessment of the future course of demand". It is essential to distinguish between forecast of demand and forecast of sales. Sales forecast is important for estimating revenue,

cash requirements and expenses. Demand forecast relate to production inventory control, timing, reliability of forecast etc...

Levels of Demand forecasting

Demand forecasting may be undertaken at three different levels;

1. **Macro leve**l – Micro level demand forecasting   is related to the business conditions prevailing in the economy as a whole.

2**. Industry Level** – it is prepared by different trade association in order to estimate the demand for particular industries products. Industry includes number of firms. It is useful for inter- industry comparison.

3. **Firm level** – it is more important from managerial view point as it helps the management in decision making with regard to the firms demand and production.

Types of Demand Forecasting.

Based on the time span and planning requirements of business firms, demand forecasting can be classified into short term demand forecasting and long term demand forecasting.

Short term Demand forecasting: Short term Demand forecasting is limited to short periods, usually for one year. Important purposes of Short term Demand forecasting are given below;

Making a suitable production policy to avoid over production or underproduction.

1. Helping the firm to reduce the cost of purchasing raw materials and to control inventory.

2. Deciding suitable price policy so as to avoid an increase when the demand is low.

3. Setting correct sales target on the basis of future demand and establishment control. A high target may discourage salesmen.

4. Forecasting short term financial requirements for planned production.

5. Evolving a suitable advertising and promotion programme.

Long term Demand Forecasting: this forecasting is meant for long period. The important purpose of long term forecasting is given below;

1. Planning of a new unit or expansion of existing on them basis of analysis of long term potential of the product demand.

2. Planning long term financial requirements on the basis of long term sales forecasting.

3. Planning of manpower requirements can be made on the basis of long term sales forecast.

4. To forecast future problems of material supply and energy crisis.

Demand forecasting is a vital tool for marketing management. It is also helpful in decision making and forward planning. It enables the firm to produce right quantities at right time and arrange well in advance for the factors of production.

Methods of Demand Forecasting (Established Products)

Several methods are employed for forecasting demand. All these methods can be grouped into survey method and statistical method.

Survey Method.

Under this method, information about the desire of the consumers and opinions of experts are collected by interviewing them. This can be divided into four types;

1. Opinion Survey method: This method is also known as Sales- Force –Composite method or collective opinion method. Under this method, the company asks its salesmen to submit estimate for future sales in their respective territories. This method is more useful and appropriate because the salesmen are more knowledgeable about their territory.

2. Expert Opinion: Apart from salesmen and consumers, distributors or outside experts may also be used for forecast. Firms in advanced countries like USA, UK etc...make use of outside experts for estimating future demand. Various public and private agencies sell periodic forecast of short or long term business conditions.

3. Delphi Method: it is a sophisticated statistical method to arrive at a consensus. Under this method, a panel is selected to give suggestions to solve the problems in hand. Both internal and external experts can be the members of the panel. Panel members are kept apart from each other and express their views in an anonymous manner.

4. Consumer Interview method: under this method a list of potential buyers would be drawn and each buyer will be approached and asked about their buying plans. This method is ideal and it gives firsthand information, but it is costly and difficult to conduct. This may be undertaken in three ways:

A) Complete Enumeration – in this method, all the consumers of the product are interviewed.

B) Sample survey - in this method, a sample of consumers is selected for interview. Sample may be random sampling or Stratified sampling.

C) End-use method – the demand for the product from different sectors such as industries, consumers, export and import are found out.

Statistical Methods

It is used for long term forecasting. In this method, statistical and mathematical techniques are used to forecast demand. This method is relies on past data. This includes;

1. Trent projection method: under this method, demand is estimated on the basis of analysis of past data. This method makes use of time series (data over a period of time). Here we try to ascertain the trend in the time series. Trend in the time series can be estimated by using least square method or free hand method or moving average method or semi-average method.

2. Regression and Correlation: these methods combine economic theory and statistical techniques of estimation. in this method, the relationship between dependant variables(sales) and independent variables(price of related goods,income,advertisement etc..) is ascertained. This method is also called the economic model building.

3. Extrapolation: in this method the future demand can be extrapolated by applying binomial expansion method. This is based on the assumption that the rate of change in demand in the past has been uniform.

4. Simultaneous equation method: this means the development of a complete economic model which will explain the behavior of all variables which the company can control.

5. Barometric techniques: under this, present events are used to predict directions of change in the future. This is done with the help of statistical and economic indicators like:

> Construction contract,
>
> Personal income
>
> Agricultural income
>
> Employment
>
> GNP
>
> Industrial production
>
> Bank deposit etc…

Forecasting Demand for a New Product.

Joel Dean has suggested six approaches for forecasting the demand for new products.

1. **Evolutionary Approach:** In this method, the demand for new product is estimated on the basis of existing product. E.g. Demand forecasting of colour TV on the basis of demand for black & white TV.

2. **Substitute Approach:** The demand for the new product is analyzed as substitute for the existing product.

3. **Growth curve Approach:** On the basis of the growth of an established product, the demand for the new product is estimated.

4. **Opinion Polling Approach:** In this approach, the demand for the new product is estimated by inquiring directly from the consumers by using sample survey.

5. **Sales Experience Approach:** The demand is estimated by supplying the new product in a sample market and analyzing the immediate response on that product in the market..

6. **Vicarious Approach:** Consumers reactions on the new products are fount out indirectly with the help of specialized dealers.

Factors Affecting Demand Forecasting.

The following are the important factors governing demand forecasting:

1. Prevailing Business conditions (price level change, percapita income, consumption pattern, saving, investments, employment etc..,

2. Condition within the Industry (Price –product-competition policy of firms within the industry).

3. Condition within the firm. (Plant capacity, quality, important policies of the firm).

4. Factors affecting Export trade (EXIM control, EXIM policy, terms of export, export finance etc..,)

5. Market behavior

6. Sociological Conditions (Population details, age group, family lifecycle, education, family income, social awareness etc...)

7. Psychological Conditions (taste, habit, attitude, perception, culture, religion etc…)

8. Competitive Condition (competitive condition within the industry)

Criteria for Good forecasting Method.

A good forecasting method should satisfy the following criteria:

1. **Plausibility**-It should be reasonable or believable.

2. **Simplicity**- It should be simple and easy.

3. **Economy** – it should be less costly.

4. **Accuracy** – it should be as accurate as possible.

5. **Availability** –Relevant data should be easily available.

6. **Flexibility** – it should be flexible to adopt required changes.

Concept of Revenue

For the purpose of demand analysis, it is considered useful to distinguish between various types of revenue:

Average Revenue (AR);

AR means the total receipts from sales divided by the number of unit sold.

AR= TR/Q

Total Revenue (TR):

TR means the total sales proceeds .it can be ascertained by multiplying quantity   sold by price.

TR =P$\times$Q

Incremental Revenue (IR):

IR measures then differences between the new TR and existing TR

IR=R2-R1 = R

Marginal Revenue (MR);

It is the additional revenue which would be earned by selling an additional unit of a firm's products. It shows the change in TR when one more or one less unit is sold.

MR= R2-R1/Q2-Q1 =   R/ Q

Where, R1= TR before price change

R2= TR after price change

Q1 = old quantity before price change

Q2 = new quantity after price change

The relationship between AR, TR and MR can be understand with the help of the following table

Quantity demanded (Q)	AR	TR	MR
1	9	9	9
2	8	16	7
3	7	21	5
4	6	24	3
5	5	25	1
6	4	24	-1
7	3	21	-3
8	2	16	-5
9	1	9	-7

The study of the above table reveals that:

1. So long as AR is falling, MR will be less than AR

2. MR falls more steeply than AR

3. TR will be rising so long as MR is positive

4. Where MR is negative, TR will be falling

5. TR will be maximum at the point where MR is Zero.

The relation between elasticity of demand and TR can be summarized as under:

Change in price	Elasticity .>1	Elasticity .=1	Elasticity <1
Rises in price	TR falls	TR unchanged	TR rises
Fall in price	TR rises	TR unchanged	TR falls

Incremental Revenue is the change in total revenue irrespective of changes in price. It is not confined to the effect of price change. it rather measures the the effect of managerial decision on total revenue.

Model questions

Fill in the blanks. (Weightage-1/4)

1. --------- Is an "objective assessment of the future course of demand".

2. Vicarious approach is meant for the forecasting of ………

3. …….method is also called "economic model building"

4. ………..is the base of marketing planning.

Short answer type (Weightage -1)

1. What you mean by demand fore casting?

2. What is demand estimation?

3. What is Delphi method?

4. What are the levels of forecasting?

5. What is survey method?

Short essay type (Weightage -2)

1. What are the objectives of demand forecasting?

2. What are the factors affecting demand forecasting?

3. What are the methods for forecasting demand for the new product?

4. What are the criteria for ideal forecasting method?

Essay type (Weightage -4)

1. What is demand forecasting? State various methods for demand forecasting?

2. Define demand forecasting? How it different form demand estimation?
   Explain   its   objectives?

PRODUCTION

Introduction

In Economics the term production means process by which a commodity(or commodities) is transformed in to a different usable commodity.   In other words, production means transforming inputs(labour ,machines ,raw materials etc.) into an output. This kind of production is called manufacturing. The production process however does not necessarily involve physical conversion of raw materials in to tangible goods . it also includes the conversion of intangible inputs to intangible outputs .   For example , production of legal, medical ,social and consultancy services- where lawyers, doctors, social workers consultants are all engaged in producing intangible goods.

An '*input*' is good or service that goes in to the process of production and "*out put*' is any good or service that comes out of production process.

5.1 Fixed and variable inputs.

In economic sense, a fixed input is one whose supply is inelastic in the short run .Therefore, all of its users cannot buy more of it in short   run.   Conceptually, all its users, cannot employ more of it in the short run. If one user buys more of it, some other users will get less of it. A variable input is defined as one whose supply in the short

run is elastic, eg:Labour, raw materials etc. All the users of such factors can employ larger quantity in the short run.

In technical sense ,a fixed input remains fixed (constant) up to a certain level of output whereas a variable input changes with change in output . A firm has two types of production function:-

(1) Shot run production function

(2) Long run production function

5.2 Production function

Production function shows the technological relationship between quantity of out put and the quantity of various inputs used in production. Production function is economic sense states the maximum output that can be produced during a period with a certain quantity of various inputs in the existing state of technology. In other words, It is the tool of analysis which is used to explain the input - output relationships.

In general, it tells that production of a commodity depends on the specified inputs. in its specific tem it presents the quantitative relationship between inputs and output . inputs are classified as:-

1 . Fixed input or fixed factors.

2. Variable input or variable factors.

<u>Short run and Long run</u>

Shot run refers to a period of time in which the supply of certain inputs (E.g. :- plant, building ,machines, etc) are fixed or inelastic. Thus an increases in production during this period is possible only by increasing the variable input . In some Industries, short run may be a matter of few weeks or a few months and in some others it may extent even up to three or more years.

The long run refers to a period of time in which " supply of all the input is elastic ; but not enough to permit a change in technology. In the long run, the availability of even fixed factor increases. Thus in the long run, production of commodity can be increased by employing more of both ,variable and fixed inputs.

In the strict sense ,production function is defined as the transformation of physical input in to physical out put where out put is a function input .It can be expressed algebraically as;

$$Q=f (K,L etc).Where$$

Q- Is the quantity of out put produced during a particular period

K, L etc are the factors of production

f -denotes the function of or depends on.

The production functions are based on certain assumptions;

1. Perfect divisibility of both inputs and out put;

2. Limited substitution of one factor for the others

3. Constant technology; and

4. Inelastic supply of fixed factors in the short run

Cobb-Douglas Production Function.

One of the important tool of statistical analysis in production function that measures the relation between change in physical input is cob-Douglas production function . The concept was originated in USA. This   is more peculiar to manufacturing concerns. The cob-Douglas formula says that labour contributes about 75% increases in manufacturing production while capital contributes only 25%.The formula is as follows:-

$$O=KL^aC (1-a)$$

Where O is output. L is the quantity of labour 'C' is the quantity of capital employed K and a(a<1)are positive constants. a and 1-a measure percentage response of output to percentage change in labour and capital respectively.

The production function shows at One (1%)percentage change in labour, capital remaining constant, is associated with 0.75% change in output . Similarly One percentage change in capital, labour remaining constant, is associated with a 20%change in output. Returns to scale are constant. That is if factors of production are increased, each by 10 percentage then the output also increases by 10 percentage

The laws of production

Production function shows the relationship between a given quantity of input and its maximum possible out put.   Given the production function,   the relationship   between additional quantities of input and the additional output can be easily obtained. This kind of relationship yields the law of production The traditional theory of production studies the marginal input-output relationship under (I) Short run; and (II) long run. In the short run, input-output relations are studied with one variable input, while other inputs   are   held constant .The Law of production under these assumptions are called " the Laws of variable production". In the long run input output relations are studied assuming all the input to be variable. The long-run input output relations are studied under `Laws of Returns to Scale.

Law of Diminishing Returns (Law of Variable Proportions)

The Laws of returns states the relationship between the variable input and the output in the short term. By definition certain factors of production (e.g.-Land, plant, machinery etc) are available in short supply during the short run .   Such factors which are available in unlimited supply even during the short periods are known as variable factor. In short-run

there fore ,the firms can employ a limited or fixed quantity of fixed factors and an unlimited quantity of the variable factor . In other words, firms can employ in the short run varying quantities of variable inputs against given quantity of fixed factors. This kind of change in input combination leads to variation in factor proportions. The Law which brings out the relationship between varying factor properties and output are there fore known as the Law of variable proportions..

The variation in inputs lead to a disproportionate increase in output more and more units of variable factor when applied cause an increase in output but after a point the extra output will grow less and less. The law which brings out this tendency in production is known as' Law of Diminishing Returns'

The Law of Diminishing returns levels that any attempt to increase output by increasing only one factor finally faces diminishing returns. The Law states that when some factor remain constant ,more and more units of a variable factor are introduced the production may increase initially at an increasing rate; but after a point it increases only at diminishing rate. Land and capital remain fixed in the short-term whereas labour shows a variable nature.

The following table explains the operation of the Law of Diminishing Returns.

No. of Workers	Total product	Average product	Marginal product
1	10	10	10
2	22	11	12
3	36	12	14
4	52	13	16
5	66	13.2	14
6	76	12.7	10
7	82	11.7	6
8	85	10.5	3
9	85	905	0
10	83	8.3	(-2)

The above table illustrates several important features of a typical production function. With one variable input.- here both Average Product (AP) and Marginal Product (MP) first rise ,reach a maximum - then decline. Average product is the product for one unit of labour . It is arrived at by dividing the Total Product (TP) by number of workers Marginal product is the additional product resulting term additional labour. It is found out by dividing the change in total product by the change in the number of workers. The total output increases at an increasing rate till the employment of the 4th worker. The rate of increase in the marginal product reveals this .Any additional labour employed beyond the 4th labour clearly faces the operation of the Law of Diminishing Returns. The maximum marginal product is 16 after which it continues to fall , ultimately becoming negative. Thus when more and more units of labour are combined with other fixed factors the total output increase first at an increasing rate then at a diminishing rate finally it becomes negative.

The graphical representation the above table is shown below

Stage 1   Stage 2   Stage 3

Y

Output

TP

AP

O   MP   X

No. of worker
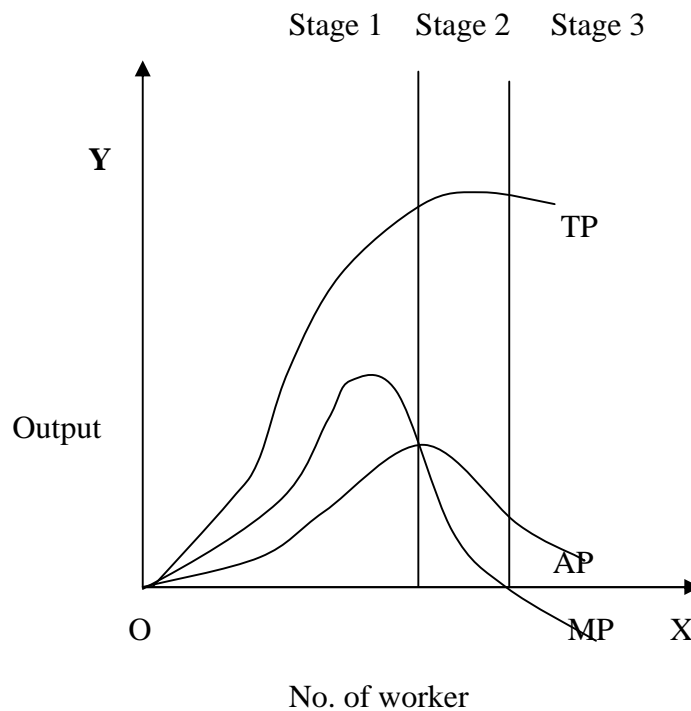
OX axis represents the units of labour and OY axis represents the unit of output . The total output(TP)curve has a steep rise till the employment of the 4th worker. This shows that the output increases at an increasing rate till the employment of the 4th labour . TP curve still goes on increasing but only at a diminishing rate. Finally TP curve shows a downward trend.

The Law of Diminishing Returns operation at three stages .At the first stage, total product increases at an increasing rate .The marginal product at this stage increases at an increasing rate resulting in a greater increases in total product .The average product also increases. This stage continues up to the point where average product is equal to marginal product .the law of increasing returns is in operation at this stage

The Law of increasing Returns operates form the second stage on wards .At the second stage , the total product continues to increase but at a diminishing rate . As the marginal product at this stage starts falling ,the average product also declines . The second stage comes to an end where total product become maximum and marginal product becomes zero. The marginal product becomes negative in the third stage. So the total product also declines. The average product continues to decline in the third stage.

Assumptions of Law Diminishing Returns

The Law of Diminishing Returns is based on the following assumptions;-

Returns is based on the following assumptions;-

1. The production technology remains unchanged

2. The variable factor is homogeneous.

3. Any one factor is constant

4. The fixed factor remains constant.

5.6 Law of Returns to scale

In the long –run all the factor of production are variable ,and an increase in output is possible by increasing all the inputs. The Law of Returns to scale explains the technological relationship between changing scale of input and output. The law of returns of scale explain how a simultaneous and proportionate Increase in all the inputs affect the total output. The increase in output may be proportionate , more than proportionate or less than proportionate. If the increase in output is proportionate to the increase in input , it is constant Returns to scale .If It is less then proportionate it is diminishing returns to scale. The increasing returns to the scale comes first ,then constant and finally diminishing returns to scale happens.

Increasing Returns to scale

When proportionate increase in all factor of production results in a more than proportionate increase in output and this results first stage o f production which is known as increasing returns to scale. Marginal output increases at this stage. Higher degree of specialization, falling cost etc will lead higher efficiency which result increased returns in the very first stage of production.

Constant Returns to scale

Firms cannot maintain increasing returns to scale indefinitely after the first stage , firm enters a stage when total output tends to increase at a rate which is equal to the rate of increase in inputs. This stage comes in to operation when the economies of large scale production are neutralized by the diseconomies of large scale operation.

Diminishing Returns to Scale

In this stage ,a proportionate increase in all the input result only less than proportionate increase in output . This is because of the diseconomies of large scale production. When the firm grows further, the problem of management arise which result inefficiency and it will affect the position of output.

5.7 Economies of Scale

The factors which cause the operation of the laws of returns the scale are grouped under economies and diseconomies of scale . Increasing returns to scale operates because of economies of scale and decreasing returns to scale operates because of diseconomies of scale where economies and diseconomies arise simultaneously. Increasing returns to scale operates when economies of scale are greater then the diseconomies of scale and

returns to scale decreases when diseconomies .overweight the economies of scale . Similarly when economies and diseconomies are in balance ,returns to scale becomes constant.

When a firm increases all the factor of production it enjoys the same advantages of economies of production . The economies of scale are classified as ;

1. Internal economies.

2. .External economies

Internal economies of scale

Internal economies are those which arise form the explanation of the plant-size of the firm. Internal economies of scale may be classified;-

(a) Economies in production.

(b) Economies in marketing

(c) Economies in economies

(d) Economies in transport and storage

A . Economies in production :-it arises term

1. Technological advantages

2. Advantages of division of labour and specialization

B . Economies in marketing;-It facilitates through

1. Large scale purchase of inputs.

2. Advertisement economies ;

3. Economies in large scale distribution

4. Other large-scale economies

C . Managerial economies ;- It achieves through

1. Specialization in management

2. Mechanization of managerial function.

D . Economies in transport and storage

Economies in transportation and storage costs arise form fuller utilization of transport and storage facilities.

External Economies of scale

External or pecuniary economies to large size firms arise from the discounts available to it due to;

1 . Large scale purchase of raw materials

2 . Large scale acquisition of external finance at low interest

3 . Lower advertising rate fun advertising media.

4 . Concessional transport charge on bulk transport.

5 . Lower wage rates if a large scale firm is monopolistic employer of certain kind of specialized labour

Thus External economies of scale are strictly based on experience of large –scale firms or well managed small scale firms. Economies of scale will not continue for ever. Expansion in the size of the firms beyond a particular limit , too much   specialization,   inefficient supervision,   Improper labour relations etc will lead to diseconomies of scale .

5.8 Isoquant curve.

The terms " Iso-quant" has been derived from the Greek word *iso* means `equal` and Latin word *quantus* means `quantity`.   The iso-quant curve is therefore also known as`` equal  product  curve ``or production indifference curve .   An   iso- quant curve is locus of point representing   the various combination of two inputs –capital   and   labour – yielding   the same output. It shows   all possible combination of two inputs, namely-capital and labour which can produce a particular quantity of output or different combination of the two inputs that can give in the same output . An isoquant curve all along its length represents a fixed quantity of output.

The following table illustrates combination of capital (K) and labour   (L) which give the same output say-20units.

The combinations of A uses one unit of 'K' and 12 units of 'L' to produce is20 units. likewise the combinations B,C,D and E give the same output --20 units.

Combination	Capital	Labour	Output
A	1	12	20
B	2	8	20
C	3	5	20
D	4	3	20
E	5	2	20
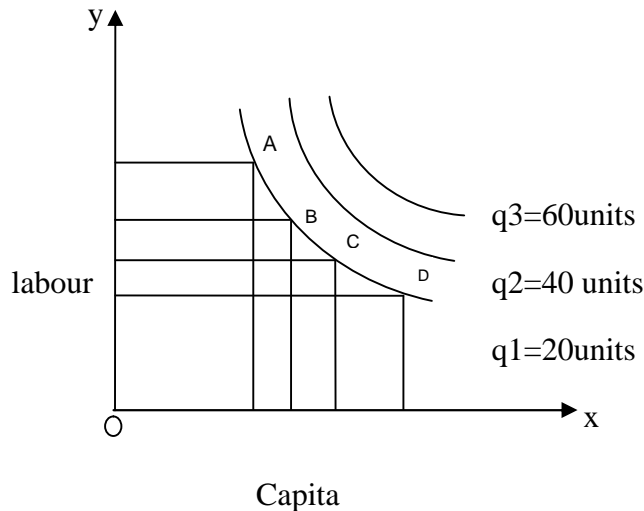
Capita

The above curve shows the four different combinations of inputs. (capital and labour) which give the same output namely 20units ,40units ,60units respectively. Thus it provides fixed level of output. Further the shape of isoquants reveal the degree of substitutability of one factor for another to yield the same level of output . It also implies the diminishing marginal rate of technical substitution. Marginal rate of technical substitution refers to the rate at which one output can be substituted for another in order to keep the output constant . The slope of an isoquant indicates the marginal rate of technical substitution at the point.

Properties of Isoquants

1. Isoquants have a negative slope:-An isoquant has a negative slope in the economic region or in the relevant range. Economic region means where substitution between input is technically possible that keeps same output.

2 . Isoquants are convex to origin:-

Convex nature of Isoquant shows the substitutability of One factor for another and the diminishing marginal rate of technical substitution

3 . Isoquant cannot Intersect or be tangent to each other

5.9 Marginal Rate of Technical substitution (MRTS)

MRTS is the rate at which marginal unit of an input can be substituted for the marginal units of the other input so that the level of output remains the same. In other words it is the ratio of marginal unit of labour substituted for the marginal units of capital without affecting the total output. This ratio indicates the slop of Isoquants

5.10 Isocost Curve

Isocost curve shows the different combination that a firm can buy with a certain an unit of money.
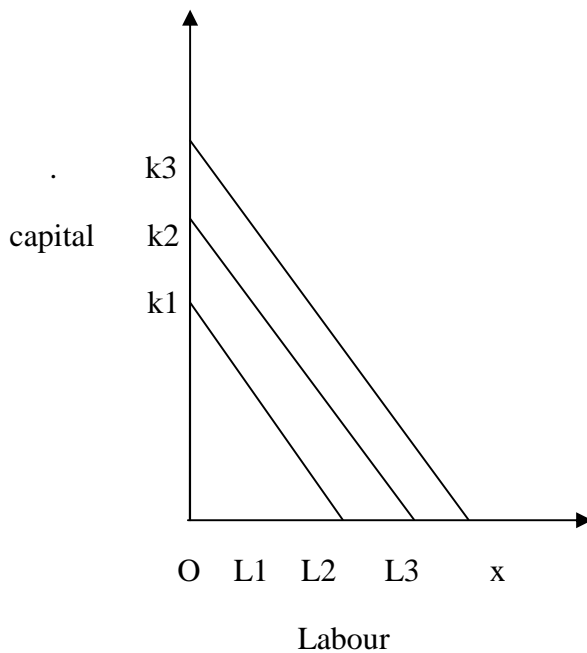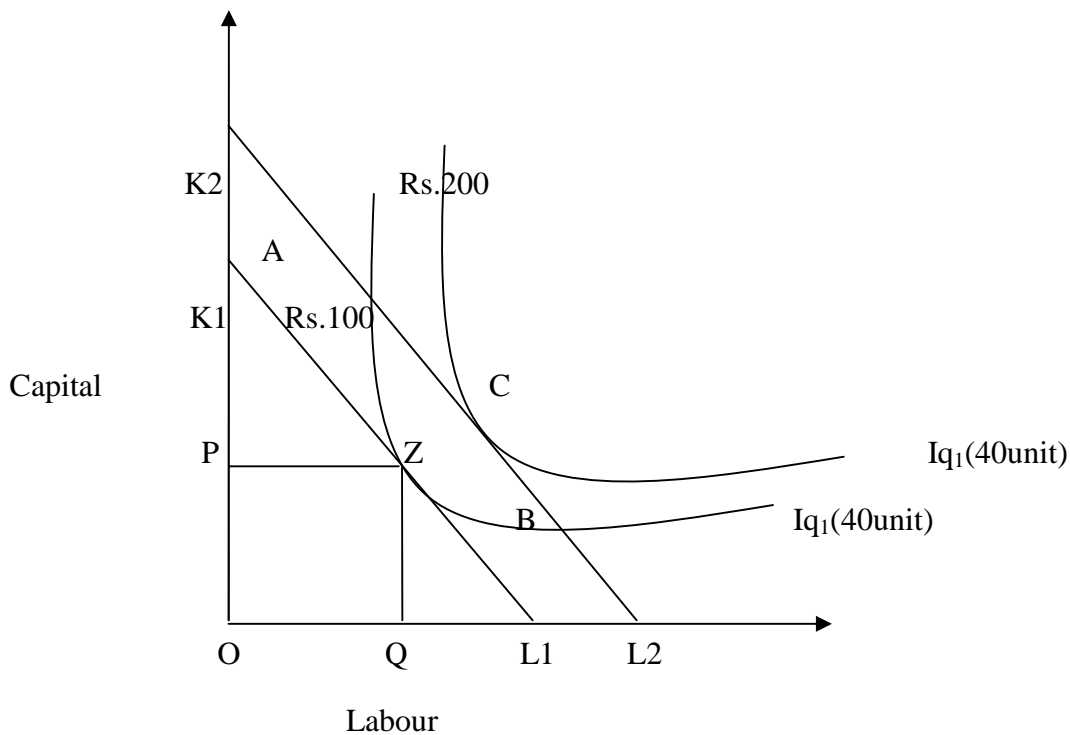
Labour

Usually, the management has to incur expenditure in buying inputs namely - labour , raw –materials, machinery etc. Further ,management is expected to know price of inputs what it costs to produce a given output. Therefore, it is required to minimize the cost of output that it produces. Here management is more helpful to draw isocost curve that represents the equal cost . An iso-cost line is so called because it shows the all combinations of inputs having equal total cost. The isocost lines are straight lines which represents the same cost with different input combinations. .Suppose a firm decides to spend Rs.100 on output .If one unit of labour costs Rs.10 the firm can purchase 10units of labour. Similarly, If a unit of capital cost Rs.25,the firm can spend the whole amount on buying 4 units of capital likewise the firm can spend partly on capital, say 2 units and party on labour ,say 5 units for this Rs.100.

The figure shows that the firm has the option to spend the total money either on capital or labour or on both, from this Rs.100, the firm can buy either OL, units of labour or OK, units of capital or any combination of those two between the extremes'K1'and L1. An isocost curve represents the same cost for all the different combination of inputs. The upward isocost curve as represented by K2 L2 and K3 L3shows higher amounts spent on larger quantities of both K and L

5.11 Optimum Combination of inputs

A profit maximizing firm seeks to minimize its cost for a given output or to maximize the output for a given total cost. A certain quantity of output can be produced with different Input combinations. Optimum input combination is that which bears least cost .Thus the input combination that results in the minimum cost of production is to be found out .This is known as least - cost input combination. This can be found out by combining Isoquant curves and Isocost curves. The production function is represented by Isoquant curve and the

cost function is represented by Isocost curve .The least cost combination exists at a point where Isoquant is tangent to Isocost.

The figure shows the least –cost combination of capital end labour .The Isoquant Iq1, is tangent to the Isocost curve K1,L1 at point `z` .At this point in the combination is OP of capital and OQ of labour . The point `z` gives the ideal combination which minimizes cost of production per units ,It is the point at which the firm is in equilibrium. At the point `z` the isocost line K1,L1, representing Rs100 is tangent to the isoquant curve Iq1, representing 20units of output .Any other point on Iq1, would mean the same output ,but at high cost .The point A or B or Iq1, gives the same output but with a higher cost combination of inputs K2 L2 representing Rs.200 . The point C` is the least cost point of producing 40 units formed by the intersection of Iq$_2$(40 units)and K$_2$,L$_2$(Rs.200)

Questions:-

(*Each question carries a weightage of One-fourth)*

1. The law of variable proportion was first explained by………….

2. Labour is……………..nature.

3. …………………..is considered as produced means of production.

4. The technical relation between a given set of inputs and the output is called
    ……………

5. All inputs become …………….in the long run.

(*Each question carries a weightage of One*)

1. Define production function ?

2. Distinguish between fixed and variable inputs?

3. State the Cobb-Douglas production function ?

4. Explain the term Law of return?

5. What is meant by economies of scale?

6. State the tern isoquants?

7. What is Marginal Rate of Technical Substitution ?

(*Each question carries a weightage of Two*)

1. Explain the peculiarities of factors of production?

2. Explain the law of variable proportion ?

3. Distinguish between isoquants and isocosts?

4. Explain the input –output relationship?

5. Discuss the term optimum combination of inputs?

(*Each question carries a weightage of One-four*)

1. Briefly explain the concept of Law of diminishing returns? Discuss its assumption and importance?

2. Explain the various economies and diseconomies of scale?

Short answer questions:

 1. Define Consumption.

 2. Define Utility.

 3. What is Cardinal Utility Approach?

 4. What is Consumer Surplus?

Essay questions:

 a. What is Cardinal Utility Approach? What are its assumptions and limitations?

 b. State the concept of Consumer Surplus. What are its limitations? Discuss its importance.

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COST CONCEPTS

</div>

Introduction

The term *cost* simply means cost of production. It is the expenses incurred in the production of goods. It is the sum of all money-expenses incurred by a firm in order to produce a commodity. Thus it includes all expenses from the time the raw material are bought till the finished products reach the wholesaler.

A managerial economist must have a proper understanding of the different cost concept which are essential for clear business thinking. The cost concept which are relevant to business operation and decision can be grouped on the basis of their propose under two overlapping categories:

1. Concept used for accounting purpose

2. Concept used in economics analysis of the business

Types of Cost (or Cost Concepts)

There are several types of costs(or cost concepts).Following are the important items:-

Money Cost : money cost means the total money expenses incurred by a business firm on the various items entered into the production of a particular product. For example , money payments made on wages and salaries to workers and managerial staff, payments for raw materials purchased, expenses on power and light, insurance, transportation, advertisement; and also payments made on the purchase of machinery and equipments etc. constitute money cost of production. Money cost is also called nominal cost.

Real Cost : Real cost means the real cost of production of a particular product. It is the next best alternative sacrificed in order to obtain that product. .It also denotes the 'efforts' of workers and sacrifices of owners undergone in the production of a particular product.

Opportunity Cost: Opportunity cost refers to the cost of foregoing or giving up an opportunity. It is the cost of the next best alternative. It implies the income of benefit foregone because a certain course of action has been taken. As Adam smith observed , if a hunter can bag a deer or a beaver in the single day , the cost of deer is a beaver and the cost of beaver is a deer. A man who marries a girl is foregoing the opportunity of marrying another girl. A film actress can either act in films or do modeling work. She cannot do both the jobs at the same time. Her acting in the film results in the loss of an opportunity of doing modeling work . Likewise , if an old building is proposed to be used for a business, where rent of the building is the opportunity cost . The opportunity cost concept was first developed by an Austrian economist, Wieser .

The opportunity cost concept plays an important role in managerial decisions. It is useful in determination of relative prices of different goods. It is also useful in fixing the price of an output factor. Above all, it helps in the best allocation of available resources.

Sunk Cost : Sunk costs are those which have already been incurred and which cannot be changed by any decision made now or in the future. These are past or historical costs.

Incremental cost: These are additional costs incurred due to a change in the level or nature of activity.

Differential Cost : It refers to the change in cost due to change in the level of activity or pattern of production or method of production.

Explicit Cost: Explicit costs are those costs, which are actually paid (or paid in cash.). They are paid out costs.

Implicit Cost: Implicit costs are those costs, which are not paid in cash to anyone. These are not actually incurred, but are computed for decision-making purpose. These are the costs, which the entrepreneur pays to himself. For example, rent charged on owned premises, wages of entrepreneur, interest on owned capital etc. Implicit costs are also known as imputed costs or hypothetical costs.

Accounting cost: Accounting costs represent all such expenditures, which are incurred by a firm on factors of production . Thus , accounting costs are explicit costs. In short, all items of expenses appearing on the debit side of trading , profit and loss account of a firm represent the accounting cost. Since all the expenses on production are in money terms, the accounting costs are money costs or nominal costs.

Economic Cost

Economic cost refers total of explicit cost and implicit cost. Thus it includes the payment for factors of production(that is rent, wages etc.) and the payments for the self owned factors (interest on owned capital, rent on owned premises, salary to entrepreneur etc.)

Difference between Accounting Cost and Economic Cost

Accounting cost means the expenses incurred by the firm on production and sale of goods or service. These are paid by the firm to the outsiders. For example, payment made for wages, raw materials, fuel, power, building etc. are the accounting costs. Accounting cost is the money paid for contractual payments. It includes payments and charges made by the enterprise to the suppliers of resources. It is the explicit cost. But economic cost includes not only explicit cost but also implicit or imputed cost. Implicit cost includes rent charged on owned premises, interest charged on owned capital, wages paid to entrepreneur etc. Implicit cost is not included in accounting cost. Accounting cost includes only explicit costs which are recorded in the books of account. Implicit cost will not be recorded in the books of account. Thus the economist's concept of cost is more comprehensive as compared to accountant's concept of cost.

Accounting cost are generally used for financial reporting and control. Economic costs are used for decision-making

In short, accounting costs involve only cash payments made by the entrepreneur. On the other hand, economic costs include all these accounting costs plus the implicit cost

Social Cost of Production(or Social Cost)

In the production of goods, costs will be incurred not only by the owners business but also by the society. Cost incurred by a society in terms of resources used in the production of a commodity is known as social cost of production. It is the opportunity cost borne by a whole society or community. Social costs include not only the cost borne by the owners of a business(or producers) but also the cost passed on to the society. For example, production of certain commodities (chemical, rubber, petroleum, steel etc) causes environment pollution . Pollution caused while producing a commodity imposes a social cost on those residents who suffer ill health. Some industries leave wastes which the adjoining areas have to bear. A cost that is not borne by the firm but is incurred by others in the society is called external cost. Social cost includes external costs and privet cost (because firms are also apart of society). Thus, social cost is the total cost of the society on account of production of a commodity. For example, the social cost of liquor sold by a firm includes the cost incurred by the firm (private cost) and the cost like expenditure of additional police force to deal with the drunken people and such other incidental expenses for the society. Take another example. When people go for picnic in the park and throw wrappers, then they impose a real cost on the residents of that area who have to clean up the park. This is social cost.. Thus social cost includes real cost which is the cost borne by the society, directly or indirectly due to the production of goods . In short social costs are those costs ,which are incurred by the society in producing commodities and services. It is the sum of private costs of production and economic damage upon society. ..

Private Cost of Production(Private Costs)

Private cost are the costs incurred by a firm in production a commodity or service . All the actual costs incurred by a firm or producers are private costs. Private costs include both explicit cost and implicit cost. Private costs have to be borne by only those persons or firms who make decision . These do not include the effect of the produced commodity on the society.

Difference between Private Cost and Social Cost

Private costs are the costs incurred by a firm while producing a commodity or service. But social costs are those costs , which are incurred by the society in producing commodities or services. Social costs include private costs and external costs. Private costs include both explicit and implicit costs. Private costs do not include external costs.

The concept of social cost enables to understand the social implication of the utilization of scarce resources among the different sections of the society . The economic optimum is the yardstick in matters of private cost, but social optimum is the governing factor in the case of social cost.

Fixed and Variable Cost :-

Fixed Cost: Fixed cost are those costs which do not vary with the volume of production. These costs remain fixed or constant up to a certain level of production. Even if the production is zero, a firm will have to incur fixed costs. Examples   are   rent,   interest, depreciation, insurance, salaries etc. The fixed costs are also called supplementary costs, capacity costs or period costs or overhead costs.

Average fixed cost(fixed cost per unit) changes with a change in the quantity of production. If the volume of production increases, average fixed cost will decrease . If the quantity of production decrease, average fixed cost will increase. Thus, there Is an inverse relationship between fixed costs and quantity of production.

Average fixed cost is obtained by dividing total fixed cost by total output. Total fixed cost curve and average fixed cost curve are shown below :
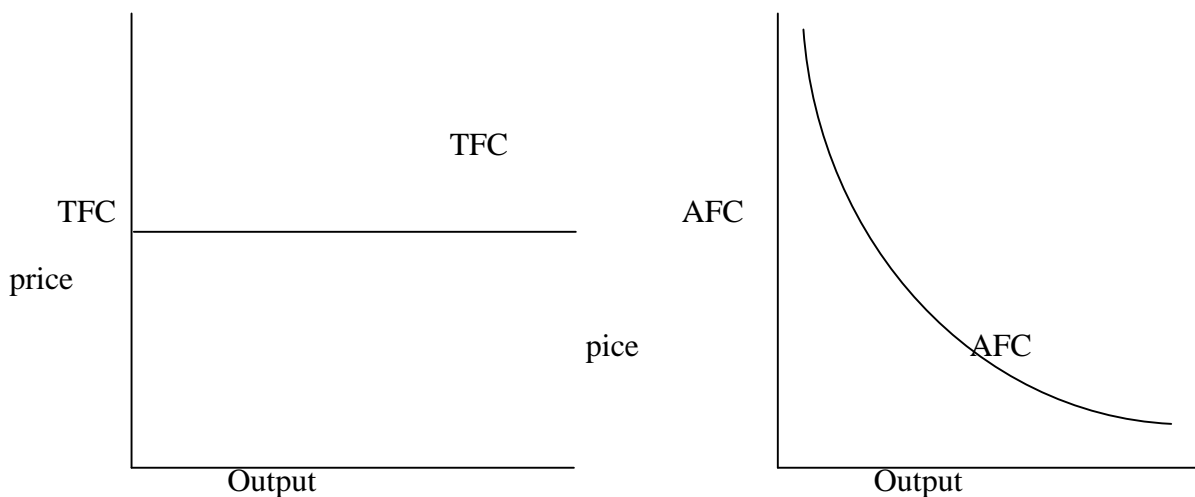
From the above graph it is clear that the total fixed cost curve is horizontal to the OX axis.. On the other hand the average fixed cost curve slopes from left to right. This implies that as the output increases , the average fixed cost falls.

Variable Cost:

Variable costs are those costs, which change with the quantity of production. When the output increases, variable cost also increases. When the output decreases , the variable cost also decreases. Thus , there is a direct relationship between variable cost and volume of production.

Variable costs are also known as prime costs or direct costs. Examples are materials, wages, power, stores etc . Prime or variable cost consist of direct material cost, direct labour cost and other direct expenses

Business cost and full cost

Business cost include all the expenses which are incurred to carryout a business. It includes all the payments and contractual obligations made by the firm together with the book

cost of depreciation on plant and equipment. These cost concepts are used for calculating business profits and losses and for filing returns for income- tax and also for other legal purposes

The concept of full costs ,includes business costs, opportunity costs and normal profits.The opportunity cost includes the expected earnings from the second best use of the resources,or the market rate of interest on the total money capital and also the value of the entrepreuners own services which are not charged for in the current business.Normal profit is a necessary minimum earning in addition to the opportunity cost,which a firm must get to remain in its present occupation.

Total cost, Average cost and Marginal cost

Total cost means the sum of total fixed cost and total variable cost. In other words it is the aggragate money cost of production of a commodity

Average cost is the cost per unit of output.That is total cost divided by number of units produced Average cost=total average fixed cost+total average variable cost

Marginal cost is the additional cost to total cost when an additional unit is produced.

Short run and Long run costs

Short run cost are those costs which may vary with output while fixed factors remain constant.Output may vary by changing the variable factors only. But on the other hand long run is a period which is enough to adjust all input factors . Thus long run costs are those costs which vary with output when all input factors(fixed and variable) are variable.

Cost function

The relationship between cost and output is technically known as cost function where –

TC = f (Q)   TC= Total cost,

f= function of,

Q=Quantity produced

Revenue Concept

Revenue means the current income or simply 'sales receipts'. In other words it is the money value of output sold in the market. Furthur it has great relevance in economics and business.

Types of revenue

Mainly there are four main concepts of revenue

1. Total revenue

2.Average revenue

3.Marginal revenue

4. Incremental revenue

Total revenue means the product of price of the commodity to the total quanity of outputs produced in a current business period. **Average revenue** is obtained by dividing the total revenue with number of units sold.**Marginal revenue** is the additional revenue to total revenue when an additional unit is produced.

Incremental Revenue

Incremental revenue simply refers to increase in revenue. It is the difference between the new total revenue and the existing total revenue. It measures the impact of decision alternatives on the total revenue . The formula for measuring incremental revenue is as follows:

$$IR = R_2 - R_1$$

Where, IR = Incremental revenue

R_2 = New total revenue

R_1 = Old or existing total revenue

Suppose the present volume of production is 50000 units and the selling price is Rs.3. The existing total revenue is Rs.150000 (i.e.,50000 x 3). Suppose the firm has decided to increase the production to 75000 units. The firm expects that the 75000 units can be sold at a price of Rs.2.50. Then the total revenue (new) would be Rs.187500(i.e.,75000x2.5).In this case the incremental revenue would be Rs.37500 (i-e1,87,500-1,50,000). As a result of the decision taken to increase the production from 50,000 units to 75,000 units, there is an increase in the total measure by Rs. 37,500.This is the incremental revenue. It may be noted that incremental revenue will result not from change in price alone but from any decision alternative.

Questions

(*Each question carries a ¼ weightage*)

1. Money cost are also known as----------------------?

2. -----------Costs do not vary with the volume of production ?

3. ----------cost is more useful for decision making ?

4. When the marginal revenue is---------------total revenue is maximum ?

5. ------------Is the difference between the new total revenue and the existing total revenue ?

(*Each question carries a weightage of 1*)

1. Define sunk Cost ?

2. Distinguish between Accounting cost and economic cost?

3. Define fixed cost ?

4. What is explicit Cost ?

5. What are Social costs ?

6. What is Marginal revenue

   (*Each question carries a weightage of 2*)

1. Distinguish between marginal cost and incremental cost ?

2. Distinguish between long run cost and short run cost ?

3. State the relation ship between TC, AC and MC ?

4. Distinguish between marginal revenue and incremental revenue ?

MODULE – III

MEANING OF CONSUMER BEHAVIOUR

The behaviour of individual demand depends on consumer behaviour. Consumer behaviour is the study of consumer while engaged in the process of consumption. It tells us how a consumer with his limited resources purchases different varieties of goods and services in the market.

Theories of Consumer Behaviour

The basic objective of a consumer is to get maximum satisfaction from consuming goods and services. This is possible when he reaches the position of equilibrium. It is necessary to find out how a consumer allocates his income or various goods so as to get maximum satisfaction or to reach equilibrium.

Various theories (or approaches) have been developed to explain the behaviour of consumers. There are three approaches to study the consumer behaviour. They are:

1. Cardinal utility approach
2. Ordinal utility approach
3. Revealed preference theory of Paul Samuelson.

Cardinal Utility Approach (Cardinal Analysis)

The cardinal utility theory was developed by classical economists (Gossen of Germany, William Stanley Jevons of England, Leon Walras of France and Karl Menger of Austria). Neo-classical economists, particularly Alfred Marshal made significant refinements in the cardinal utility theory. Hence cardinal utility theory is also known as neo-classical utility theory or Marshallian utility theory.

The cardinal utility theory states that utility is measurable just as height, weight, length, temperature etc. According to cardinal utility theory utility is measurable cardinally or quantitatively. I means utility can be measured in cardinal numbers like 1, 2, 3 and so on. Boulding suggested another unit of measurement of utility. This unit of measurement is called 'utils'. Thus utility can be measured in utils. For example, an apple possesses 10 utils and an orange possesses 5 utils. Here the utility of an apple is twice that of an orange. In short, cardinal utility approach states that utility is measurable in cardinal numbers.

Assumptions of Cardinal Utility Theory

The cardinal utility approach is based on the following assumptions:

1. Utility is measurable in numerical terms.
2. Every consumer is rational.
3. Every rational consumer intends to maximize his or her satisfaction from his or her money income.

4. The consumer has limited income to spend on the goods and services he or she chooses to consume.
5. Utility gained from the successive units of a commodity goes on diminishing. In other words, marginal utility of a commodity diminishes as the consumer acquires more and more units of a commodity.
6. The marginal utility of money remains constant.
7. The utilities are independent (i.e, the commodities are neither substitutes or complements).
8. Utility derived from various goods and services consumed by a consumer can be added together to obtain the total utility.

Defects or Limitations of Marshallian Utility Analysis (Cardinal Utility Approach)

The cardinal utility approach has the following limitations or weaknesses:

1. Utility is a subjective and psychological concept. Hence, it cannot be measured cardinally.
2. The cardinal approach assumes that the utility depends upon that commodity alone (ie., utilities are independent). This assumption is not correct. In actual life, utility depends upon the availability of substitutes and complements.
3. The assumption that the marginal utility of money remains constant is wrong. As the consumer's money stock increases, the marginal utility of money decreases. So, money cannot be used as a measuring rod.
4. Money is not a correct and perfect measure of utility. This is because the value of money often changes.
5. The assumption that man is rational is not correct. No consumers compare the utility and disutility from each unit of a commodity while buying it. Further, due to ignorance or advertisement, the consumer may be forced to choose a wrong them.
6. The cardinal approach does not study income effect, substitution effect and price effect.
7. The approach fails to clarify the study of inferior and Giffen goods.
8. The cardinal theory is based on a number of unrealistic assumptions. In other words, the theory assumes too much but explains too little.

Consumer's Equilibrium in terms of the Utility Analysis

The objective of every consumer is to get maximum utility or satisfaction from spending his or her limited income. He would like to spend his or her limited income on a commodity or several commodities in such a way as to get maximum satisfaction (total utility). When he gets maximum satisfaction, he is said to be in equilibrium. In short, the position of maximum satisfaction implies consumer's equilibrium. In short, the position of maximum satisfaction implies consumer's equilibrium position. This can be determined with the help of three fundamental laws-(1) Law of diminishing marginal utility, (single commodity), (2) Law of equi-marginal utility (two or more commodities), and (3) Concept of consumer surplus.

In fact, the above three laws fall under cardinal utility approach to the theory of consumer behaviour. Here we discuss only law of diminishing marginal utility and concept of consumer surplus.

Law of Diminishing Marginal Utility

This is an important law of utility. This law explains human behaviour (consumer behaivour) in relation to the consumption of a commodity. Law of Diminishing Marginal Utility states that as a consumer consumes more and more of a commodity, the utility derived by him from every subsequent unit goes on falling (diminishing). It is the experience of every consumer that as he goes on consuming a particular commodity; each successive unit gives him lesser and lesser satisfaction. In other words, the total utility goes on increasing, but at diminishing rate. Marshall defined it as "the additional benefit which a person derives from a given increase of his stock of a thing diminishes with every increase in stock that he already has".

A German economist H.H. Gossen was the first to explain this law. Hence it is also known as Gossen's first law of consumption.

The law states that from the first unit, an individual gets the greatest satisfaction. For example, let us assume that a man is very hungry. In order to satisfy his hunger, he goes on eating the mangoes one after another. The first mango gives him the greatest amount of satisfaction or utility, the second mango gives him slightly less satisfaction, the third mango gives him still less utility and so on. Ultimately he may reach a stage where he may refuse to eat any more mangoes because at that stage he might have actually derived disutility. In this way, the utility goes on diminishing as we consumer more and more of a commodity.

The following table shows how the marginal utility goes on diminishing when we consume increasing number of mangoes.

No. of Mangoes	Total Utility	Marginal Utility
1	5	5
2	9	4
3	12	3
4	14	2
5	15	1
6	15	0
7	14	-1

The above table shows that, when we eat the first mango, we get the greatest amount of utility (5 units). But the consumption of the second mango yields us only 4 units of marginal utility, though total utility goes up to 9 units. When we consume the third mango we deserve 12 units of total utility, but the marginal utility further diminished to 3 units. So, as we go on consuming more and more mangoes, the total utility derived goes on increasing but the

marginal utility goes on diminishing. From the first mango to fifth mango the total utility increases from 5 to 15 units. But the marginal utility goes on diminishing from 5 to 1 units. The six mangos does not yield any marginal utility. So we do not consume the sixth mango at all. The seventh mango gives us negative utility (-1). Hence a rational consumer goes on consuming up to fifth mango (marginal unit) and stops further consumption after this limit.

The law of Diminishing Marginal Utility can be described through the following diagram:
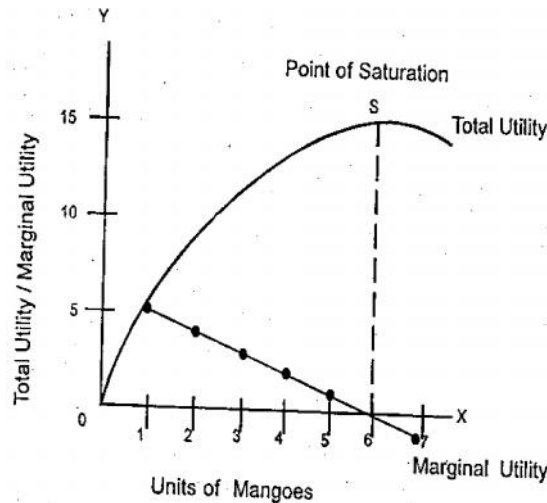
It is clear from the above graph that as the units of mango increase, the total utility increases but at a decreasing rate. However at 'S' the total utility curve becomes flat indicating zero marginal utility i.e. zero utility from the 6th unit. It implies that at 'S' the slope is zero indicating saturation point. From the graph it is clear that total utility is maximum when marginal utility is zero. At the 6th unit the consumer stops further consumption. If he consumes the 7th unit, he will derive negative utility. Thus at 6th unit of consumption, he enjoys the maximum utility. This is the consumer's equilibrium.

Relation Between Marginal Utility and Total Utility

The relation between marginal utility and total utility as indicated by the above chart and graph can be stated as follows:

Marginal Utility	*Total Utility*
1. Declines	1. Increases but at a diminishing rate
2. Reaches zero	2. Reaches maximum
3. Becomes negative	3. Declines from the maximum

Consumer's Surplus

The concept of Consumer Surplus stems from the demand curve. It was originally developed by the French engineer-economist A.J.Dupuit in 1844. He tried to measure

consumer surplus that would accrue to people as a result of the construction of a bridge across the river. But Marshall refined the concept in his book "Principles of Economics". Marshall developed the concept and gave definite shape to it. Recently, Prof. Boulding named it as "Buyer's Surplus". Today most economists believe that the concept of Consumer's Surplus is a product from the fertile brain of Marshall.

There are certain commodities which are highly useful but they are relatively cheap. Newspaper, salt, match box, post card etc. are some classic examples. For these commodities we are often prepared to pay a higher price than what we actually pay. Thus we get extra or surplus satisfaction over and above the price we pay. This is called Consumer's Surplus. For instance, a post card is priced 50 paise, but we are prepared to pay R. 1.50 for it rather than go without it. Then if we actually pay 50 paise and purchase it we may say that we get a surplus satisfaction to the extent of Rs.1 (1.50-0.50). So Rs. 1 is termed as consumer's surplus by Marshall.

According to Marshall, "Consumer's Surplus is the excess of the price which we would be willing to pay rather than go without the thing over what we actually pay is the economic measure of this surplus satisfaction".

Prof. Samuelson defines it thus: "The gap between the total utility of a good and its total market value is called consumer's surplus".

In short,

Consumer's surplus = What we are prepared to pay - What we actually pay

Or

Total utility - Total amount spent

or

Total utility - (Market price x Quantity purchased)

The concept of consumer's surplus can be explained with an illustration and a diagram. The following table shows how the consumer gets surplus satisfaction. The market price is Rs. 2 per orange.

Orange (Number)	Marginal Utility (Price willing to pay)	Market Price (Amt. spent	Consumer's Surplus
1	6	2	4
2	5	2	3
3	4	2	2
4	3	2	1
5	2	2	0
	-------	-------	-------
	20	10	10
	====	====	====

Consumer's Surplus = Total utility - Total amount spent

= 20 -10 = 10

It is clear that the consumer is willing to pay Rs. 6 for the first orange since he gets utility equal to Rs.6. But he actually pays Rs.2 for it because the price prevailing in the market is Rs.2. Therefore, he gets extra satisfaction of (6-2=4) Rs. 4 from the first orange. Similarly we can calculated the consumer's surplus from the second, third, fourth and fifth oranges. The second orange brings a consumer surplus of Rs. 3 but it is less than the first one does. This is so because the marginal utility diminishes. As he buys more and more the marginal utility goes on falling and hence the consumer's surplus also diminishes.

The consumer is willing to pay in all Rs. 20 for all 5 oranges because he gets total utility of 20 from the five oranges. But since the market price is Rs. 2 per orange, the consumer pays the same price for all the five oranges. Thus he pays (5x2) Rs.10. Therefore the surplus satisfaction is equal to Total utility - (Market Price x Qty)=20 - (2x5) = 10.

The above illustration is shown in the following diagram.
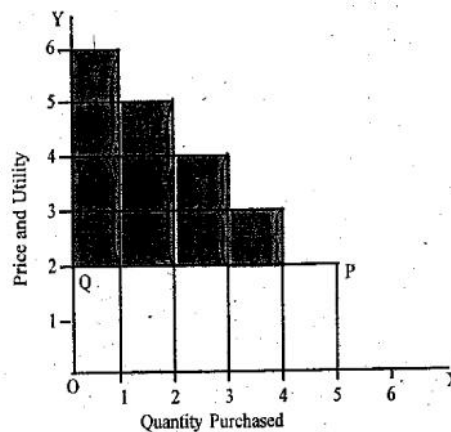
MP or OQ shows the market price per orange. It is same for all units (i.e Rs.2). OM is the quantity purchased when price is equal to marginal utility. The total amount paid is therefore OM x MP, i.e, OMPQ (total price paid for all five oranges). But total satisfaction derived will be equal to the total area OMPQ + the shaded area. Therefore the shaded area represents consumer's surplus (4+3+2+1). For the fifth orange, there is no consumer surplus. This is because the marginal utility (price willing to pay) is equal to the actual price.

The concept of consumer's surplus is based on the law of DMU. As we go on purchasing more and more oranges, the marginal utility goes on diminishing. We stop purchasing when the price we have to pay is equal to the marginal utility. The marginal utility of the earlier oranges will be more than the price. Therefore the consumer gets more satisfaction than the price that he pays for them. This is how the consumer's surplus arises.

Assumptions of the Theory of Consumer Surplus

Marshall's concept of consumer surplus is based on the following assumptions:

1. Utility can be measured.
2. The marginal utility of money to consumer remains constant.
3. The commodity has no substitute.
4. The income, taste and fashion of consumer remains constant.
5. The utility of a commodity depends upon the quantity of that commodity alone. For example, the utility derived from Coca Cola depends only on its quantity. The quantity of Pepsi does not affect it.
6. This theory is applicable only if the law of DMU is valid.

Ordinal Utility Approach (Ordinal Analysis)

The modern economists have discarded the concept of cardinal utility. Instead they have used the concept of ordinal utility for analyzing consumer behaviour. The ordinal utility approach to the theory of consumer behaviour is based on the idea that utility is not measurable in monetary terms. It is only comparable by ranking the level of satisfaction. This means it is always possible for a consumer to say whether a commodity is more or less or equally useful as compared to another. For example, a consumer may not be able to say that an ice cream gives 5 utils and chocolate gives 2 utils. But he or she can always say whether chocolate gives more or less utility that ice cream. This assumption forms the basis of the ordinal theory of consumer behaviour. In short, the ordinal approach involves the use of ordinal numbers to measure the utility.

Concept of Ordinality: The numbers 1, 2, 3 etc. are cardinal numbers. The number 2 for example is twice the number 1, the number 9 is thrice the number 3 and so on. In contrast, the 1st, 2nd, 3rd etc. are ordinal numbers. Such numbers are ordered, or ranked. There is no way of knowing, just from the ranking, what the size relation of numbers is. The 2nd may or may not be twice as big as the 1st.

Ordinal Utility Approach (Indifference Curve Analysis or Technique)

The modern economists believe that utility is subjective. It is a psychological concept. Hence it is not possible to measure utility quantitatively. The modern economists developed an alternative approach to analyse consumer behaviour. This alternative approach is Indifference curve Theory.

The 'Indifference Curve Technique' or the 'Ordinal Utility Analysis' was first introduced by English economist Edgeworth in 1881. An Italian economist Pareto refined Edgeworth's concept in 1906. It was further refined by Russian economist, Slustky in 1915. It was given perfection by Prof.J.R. Hicks and R.G.D. Allen of the Cambridge University in 1934. The most detailed presentation of the technique was made by Hicks in his book 'Value and Capital' published in 1939.

According to Indifference Curve Analysis, utility is not measurable in cardinal numbers. It is measurable ordinally. This means utility is measured as the level of satisfaction and not the amount of satisfaction. Consumers can only say whether a good or a combination of goods give him or her greater, less, or equal satisfaction (cannot say 'how much greater or less). One can simply rank the goods or combinations of goods in the order of preferences.

For example, there are two goods, say, apple and orange. Once can only say that apple is preferred to orange but, he or she cannot say by 'how much'. It may also happen that there can be some combinations of two or more goods that give the same level of satisfaction. This means the consumer is indifferent (no combination gives greater or less satisfaction i.e., all combinations give equal satisfaction).

Meaning and Nature of Indifference Curve

The basic instrument of Hicks - Allen ordinal analysis of demand is the indifference curve. Every consumer makes his purchases according to his scale of preferences. He prepares several lists of goods in order of preference or importance. Each list contains several alternative combinations of goods which give the same total satisfaction, but the amount of total satisfaction yielded by one list is different from that yielded by another list. Let us give ordinal numbers to these lists arranged in the order of preferences as First, Second, Third and so on. Therefore, the second list yields more satisfaction than the first list. The third list gives more satisfaction than the second one and so one. Of course the consumer would not be able to afford to buy all the combinations contained in a single list or all the different lists that he prepares. This is because his income is limited. But from the lists, he can say which list or which groups or combinations would yield greater satisfaction or lower satisfaction or the same level of satisfaction.

If all combinations of two or more goods give the same level of satisfaction, the consumer gives equal preference to all such combinations. In such a situation, the consumer does not bother about the selection of a particular combination. This is because he gets the same total utility whether he chooses one or the other of such combinations. If he chooses one combination, he is indifferent about the other combinations. This can be shown graphically with the help of a curve. Such a curve is known as indifference curve. Thus indifference curve may be defined as a curve which shows number of alternative combinations of two or more goods which yield the same level of satisfaction to the consumer.

Let us explain the indifference curve analysis with the help of an indifference schedule and curve.

Indifference Schedule: It is a schedule showing different combinations of two or more commodities which yield the same level of satisfaction. For example, a consumer buys two commodities, apple and orange. Let us make two combinations. Combination A consists of 1 unit of apple and 20 units of orange. Combination B consists of 2 units of apple and 15 units of orange. If a consumer is asked to give his preference, it may by any of the three: 1) he prefers combination A to B, or 2) he prefers combination B to A, or 3) combinations A and B are equally preferable. I the 3rd case he is indifferent between combinations A and B. This is because both the combinations are yielding the same level of satisfaction. In the first and second cases, he has given a clear preference. But in the third case he is indifferent. This means both combinations are preferable. There may be a series of such combinations giving the same level of satisfaction. These can be tabulated. Such tabulation or list is known as indifference schedule. An indifference schedule is given below:

Combination	Units of Apple	Units of Orange
A	1	20
B	2	15
C	3	11
D	4	8
E	5	6

The above indifference schedule shows five combinations of apples and oranges. Each one of these combinations yields the same level of satisfaction to the consumer. Therefore, the consumer can choose any of these alternative combinations.

If the combinations of the indifference schedules are represented on a diagram, we shall get a line known as indifference curve. This is shown below:
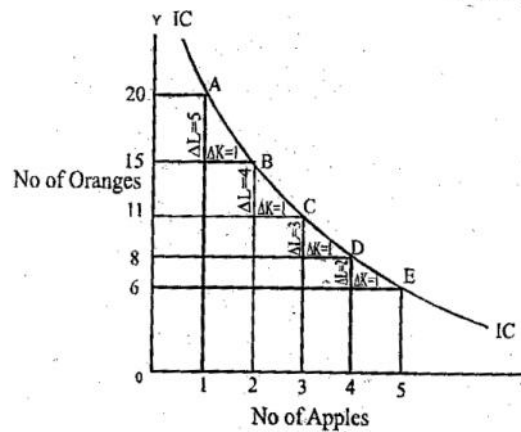
In the above graph, apple is measured on X axis and orange on the Y axis. The various combinations are plotted in the graph. The plotted points are joined by a line. This line becomes an indifference curve (IC). The points A, B, C, D and E are called *locus points*. These points represent the five combinations which give the same level of satisfaction. The indifference curve may be rightly called as *iso-utility curve*.

Assumptions of Indifference Curve Analysis

Indifference curve analysis is based on the following assumptions:

1. The consumer is rational
2. Consumer purchases a group or combination of two goods.
3. Consumer has full knowledge about the market conditions.
4. Utility cannot be measured cardinally but can be expressed ordinally.
5. Marginal utility of money does not remain constant.
6. The preference of consumers is consistent.

7. Consumer's preference and indifference are transitive. It means if a consumer prefers A to B and B to C, then A is preferable to C. or, if he treats A = B and B =C, he must treat A=C.

8. The consumer can arrange the combinations of goods in a scale of preference. The scale of preference is a set of alternative combinations of a number of goods from which the consumer has to choose the best combination.

Marginal Rate of Substitution

The concept of marginal rate of substitution is an important concept under indifference curve analysis. It is the rate at which consumer substitutes one commodity for the other. In order to understand this, let us go back to our Indifference Schedule. In this schedule, we can see that initially the consumer substitutes 1 apple for 5 oranges. His level of satisfaction remains the same. Thus here, the rate of substitution between apple and orange is 5:1 (or simply 5). This is the rate of substitution. Again when the consumer goes to combination C, 4 units of oranges are exchanged for one unit of apple. Here marginal rate of substitution is 4:1 (or 4). We can find for other levels also as shown below:
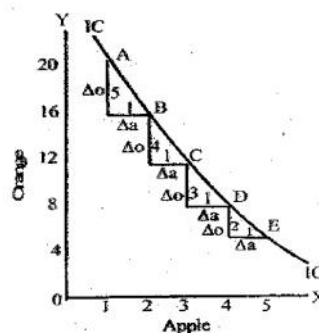
Combination	Apple	Orange	MRS
A	1	20	-
B	2	15	5
C	3	11	4
D	4	8	3
E	5	6	2

Symbolically MRS between Apple and Orange (a and o) is

$$MRS_{80} = \frac{\Delta 0}{a}$$

Where D0 = change in quantity of orange and Da = change in quantity of apple.

Marginal rate of substitution may be shown in figure.

In the above graph, over the segment AB, and MRS = 5:1. This means 1 unit of a is substituted for 5 units of 0. Over the segment BC, it is 4:1, over the segment CD, it is 3:1 and

so on. The MRS measures the average number of units of o the consumer is willing to forego for obtaining one additional unit of a. This rate of substitution is represented by the slope of the indifference curve (IC).

Diminishing Marginal Rate of Substitution

It may be noted that the MRS is always diminishing. It means that as we add one more unit of one commodity, we forego less and less of the other, the satisfaction remaining the same. To understand this, let us consider the indifference schedule. Initially the consumer was ready to give up 5 oranges for one apple. The MRS between orange and apple (MRS_{ao}) was 5. In the next round, he is ready to exchange only 4 oranges for one apple. Thus the MRS_{ao} is 4. In the next round, he is ready to exchange only 4 oranges for one apple. Thus the MRS_{ao} is 3. In the next round he forgoes only 2 oranges for one apple ($MRS_{ao}=2$). Thus we can see that MRS_{ao} is diminishing. In other words, the lengths of the line Do becomes shorter and shorter as the consumer goes on substituting the apple for orange. Why this happens? This happens because of three reasons. First, the consumer must reduce the consumption of one commodity (orange in our example) when he increases the consumption of another (apple in our example, when the consumer has more and more of apple and lesser stock of oranges, his intensity of want for apple diminishes but for orange increases. Therefore, he does not want more of apples now and he is not ready to give up more number of oranges for apple. Third, the goods are not perfect substitutes of each other in the satisfaction of a particular want. If they are perfect substitutes, the MRS will remain constant.

In short, the MRS is higher in the beginning but goes on diminishing gradually and finally it will tend to be horizontal

Properties (Characteristics) of Indifference Curve

Indifference curve has the following properties:

1. The indifference curve slopes downwards from left to right. This is because of the operation of the principle of diminishing marginal rate of substitution.

2. The indifference curve is convex to the point of origin. This is also because of the operation of the principle of DMRS.

3. The indifference curve has a negative slope. This is because when the amount of one commodity is increased, the amount of the other must be reduced, in order to maintain the same level of satisfaction. The portions AC and D of the indifference curve have positive slope.
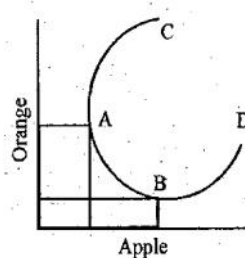
4. Two indifference curves cannot intersect each other. If they intersect each other, there is a common point on the two curves. This further means that the same combination sometimes gives more, sometimes less and sometimes equal satisfaction. This is unscientific.

The IC shown in figure will never exist

5. Higher ICs represent higher levels of satisfaction than lower ICs.
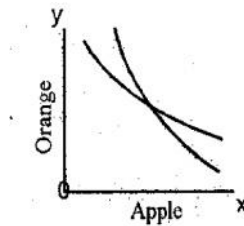
Consumer's Equilibrium

The aim of every consumer is to get maximum satisfaction from the goods to be purchased. Therefore, he wants to reach the highest possible indifference curve. But there are certain limits. These limits are relating to his money income and the prices of the goods. The budget line describes these limits.

Before explaining the consumer's equilibrium, let us make the following assumptions:

Every consumer has scale of preferences

He has a given amount of income to spend

Prices of the goods are given and are constant

Goods are homogenous and divisible

The consumer is rational and tries to maximize his satisfaction

Where consumer get maximum satisfaction, he is said to be in equilibrium. When the indifference map and budget line are combined together, we can find out the consumer's equilibrium. Let us explain the consumer's equilibrium with the help of the graph (Fig.15) given on next page.
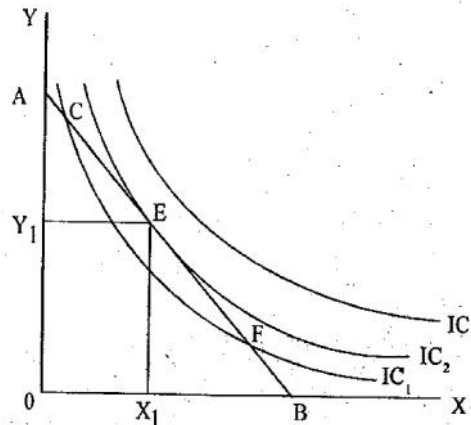
In the graph three indifference curves are given. They are IC_1, IC_2, and IC_3. These show combinations of two goods X and Y which give different levels of satisfaction to a consumer. AB is the budget line. It shows various combinations of X and Y which can be bought with his fixed income (given the prices of X and Y). Given the money income to spend and the prices of the two goods, the consumer can buy and combination of X and Y which lies on the budget line AB. All the combinations on AB cost the consumer the same amount of money. In order to maximize his satisfaction, the consumer will try to reach the highest possible indifference curve. But he cannot reach IC_3. This is because he has only limited income. His income is represented by the budget line AB. So he has to choose that combination which lies on his budget line. In the graph we can see that combinations C, E and F lie on the budget line AB. These are affordable. He has to choose from these combinations only. He will test each point. Take C first. We find that C lies on a lower indifference curve (IC). So it is not the point of equilibrium. This is because he can get more satisfaction with the same amount of money. Similarly, F also lie on lower indifference curve (IC_1). It also does not give maximum possible satisfaction. Now look at point E. This lies on the budget line and also on the highest possible indifference curve (IC_2). So, E is the point of equilibrium. A point E the budget line AB is tangent to indifference curve IC_2. Thus we can say that with given income and price of goods, the consumer will get maximum satisfaction at point E where the budget line AB is tangent to indifference curve IC_2. At the equilibrium point E, the slopes of the budget line AB and the indifference curve IC_2 are equal. That is why budget line AB is tangent to IC_2. Thus, when the consumer buys OX_1 quantity of commodity X and OY_1 quantity of commodity Y, he will be in equilibrium.

Income Effect (or Change in Income) and Income Consumption Curve (ICC)

In the difference curve analysis we have made two assumptions. One assumption is that the income of the consumer remains constant. The second assumption is that the prices of two goods remain constant. However, in reality, these assumptions do not hold good. This means that these assumptions can change in reality. Changes in income and price will affect the consumer's equilibrium. The effect of change in consumer's income on his total satisfaction or demand (purchase) of two commodities (prices and other factors remaining constant) is known as income effect. In short, the effect of a change in income on quantity demanded or consumer's equilibrium is called income effect.

Income Consumption Curve and the Nature of the Commodity

The effect of changes in income on the consumption (income effect) of different kinds of commodities is different. It may be positive or negative or even neutral. In fact, the nature of a commodity determines whether the effect is positive or negative. When the ICC slopes upward, the income effect is positive (the ICC has positive slope) to both commodities. This means that the consumer increases the consumption of both commodities with the increase in his income. The income effect is positive (ICC is upward sloping) in case both goods are normal goods are normal goods as shown in Fig. 16. But sometimes, the income effect may be positive for one commodity and negative for another. The income effect of a commodity is positive when the consumer purchases more of that commodity with the increase in income. This is a normal good. If income effect of a commodity is negative, it will mean that consumer purchases less of that good as the income increases. Such goods are inferior goods. Examples are maize, jowar, bajra, low quality clothes etc. When the income of the consumer increases he likes to spend more on normal goods and less on inferior goods. That is, he substitutes superior (normal) goods in place of inferior goods. This may be discussed below.

Negative Income Effect: The Case of Inferior Goods

(a) When Good X is Inferior: This may be explained with the help of a graph (Fig.17). In the graph, the ICC begins to move towards Y axis on which we measure good Y. This shows that after a certain point, the consumer purchases less of good X and purchases more and more of good Y as the income increases. Here good X is inferior good and good Y is normal or superior good. In this case income effect is positive for good Y (superior or normal) and income effect is negative for good X (inferior). Thus, in case of inferior good, the ICC will at first be upward rising and then backward bending (slopes backward, i.e., slopes upward to the left or bends back towards Y axis). This is shown in figure.
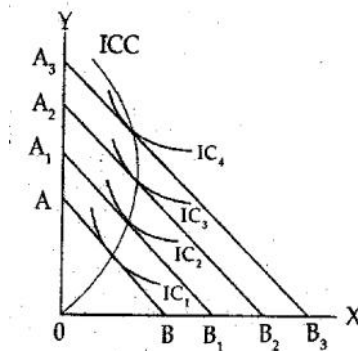
(b)   When Good Y is inferior: When good X is normal and good Y is inferior, the ICC will slope towards good X. This is shown in Fig. 18.
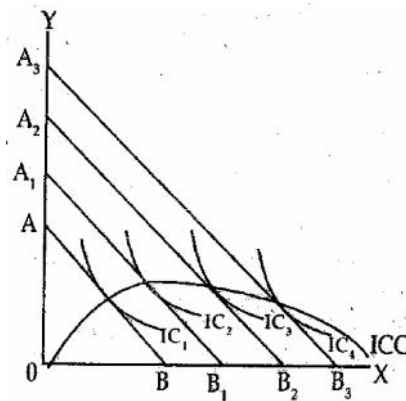
In the given graph, ICC slopes downwards to the right and bends towards good X. It shows that good X is purchased more and good Y is purchased less with the increased income. Here, income effect is positive (because both income and demand are increased) in the case of good X and negative in case of good Y.

The slope of the ICC will, however, depend upon the income elasticity for these two goods. If income elasticity for Y is high and that of X is low, the ICC will be sloping upwards to the left more nearer the Y axis. If income elasticity for X is high and that of Y is low, the ICC will be sloping upwards to the right more nearer the X axis.

The slope of the income consumption curve gives an indication of income elasticity. If the curve is relatively flat, income elasticity is high. If it has an angle of 45°, income elasticity is unity. If the curve is steep, income elasticity is low. If the curve is vertical line, income elasticity is zero. If the curve has negative slope, income elasticity is negative.

It may be noted here that both the commodities cannot be negative at the same time. The reason for this is that, when one commodity is inferior, the consumer spends the excess of his income on the consumption of the other commodity. So the consumer will not be able to spend his total income when both commodities are inferior. In other words, if both the goods are inferior, there will be decrease in expenditure on the two goods resulting in disequilibrium. Here the consumer will be below the budget line. He will not be reaching in optimum position of equilibrium. This is based on the assumption that the consumer spends his entire income on the purchase of two commodities. It may be noted that the consumer may consume two normal or luxury goods.

Zero Income Effect (Neutral Income Effect)

The income effect is zero for those commodities which the consumer purchases in fixed quantities. Examples are drugs, salt etc. He wouldn't buy more when income increases. Similarly he wouldn't buy less when the income decreases. This means that he would buy such commodities in fixed quantities whether the income increases or falls. In the case of such commodities there is no income effect.

The Price Effect (or Change in Price) and Price Consumption Curve

It is possible that the income of the consumer remains the same, but the prices of commodities may change. When the price of one commodity changes (say X), the equilibrium

of the consumer also changes. The slope of the budget line of the consumer also shifts. When the price of a good falls the real income of the consumer increases. Then the consumer would be better off (he becomes 'rich'). Accordingly, he would shift to a higher indifference curve. On the other hand, if the price of a good rises, the real income of the consumer falls. Then he would be worse off. Accordingly, he would shift to a lower indifference curve. The effect of a change in price of a good on the quantity of its purchase is known as price effect (the price of other good and the income of the consumer remain the same). The price effect is shown in the following diagram:
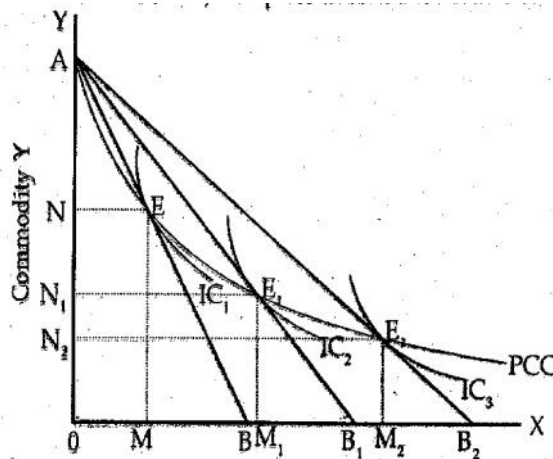

In the diagram, commodity X is taken on X axis and commodity Y is taken on Y axis. Money income of the consumer remains constant. The price line is AB. The consumer reaches at the equilibrium point E. At that point the price line AB is tangent to indifference curve IC_1. In other words, the equilibrium occurs at a point where the price or budget line touches the highest possible indifference curve. At this point, he buys OM quantity of X and ON quantity of Y. Suppose the price of X falls. Now the real income of the consumer increases (the price of commodity Y and the money income of the consumer remain the same). The consumer shall be able to buy more quantity of X. Whenever there is change in the price of commodity X, the budget or price line changes its slope. That is, with every change in the price of commodity X, the price line shifts. As already stated, the money income of the consumer remains unchanged and the price of Y also remains unchanged. Hence, the price line shall not be parallel to the old price line (only a shift in price line but not parallel). It starts from point A. This indicates that with the money income of the consumer and the price of Y remaining constant, the consumer shall not be able to buy more quantity of Y. He shall buy more of X only because the price of X has fallen. Here, when the price of X falls, his real income increases. hence, his price line shift to AB_1. Now the consumer reaches at a new equilibrium point E_1. At this point, he buys OM_1 quantity of X and ON_1 quantity of Y. Suppose the price of X falls further. Again, the real income of the consumer increases. The price line again shifts to AB_2. The new point of equilibrium is E_2 where the budget line AB_2 is tangent to the higher indifference curve IC_3. At this point, the quantity of purchase of X is OM_2 and that of Y is ON_2. When we join all successive points of equilibrium, we get a curve. This curve is called price consumption curve (PCC). It is also called *price offer curve*. Thus, the curve connecting different equilibrium points when the price of only one commodity changes and the price of other commodity and the money income remain the same is known as

PCC. It shows how the change in price of good affects the consumer's purchases or equilibrium. From the graph it is clear that the consumer will get higher level of satisfaction from higher indifference curve and feel better off.

PCC may have different shapes and slopes. If price of X falls, the demand for Y may increase, may decrease or may remain constant. If the demand for Y increases the PCC will be upward sloping. If the demand for Y decreases, the PCC will be downward sloping. If the demand for Y remains constant, the PCC is horizontal. These different shapes of PCC may be explained below.
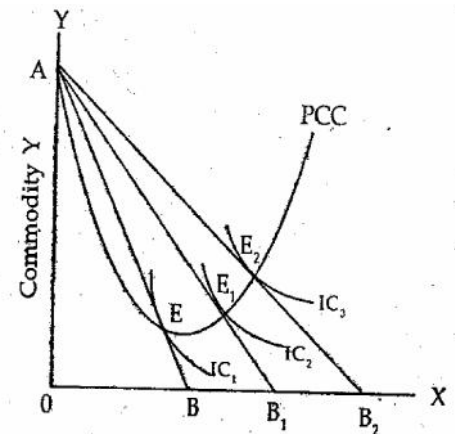
Downward Sloping PCC

In the given graph (Fg.23) the PCC is a downward sloping curve. In this case, the consumer purchases larger quantity of X and smaller quantity of Y when the price of X falls. Thus, the demand for X is elastic. Elasticity is greater than one.
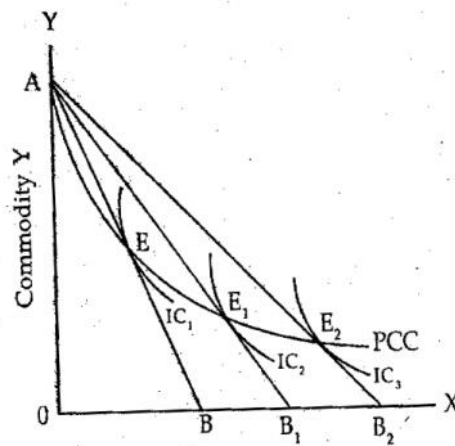

Upward Sloping PCC

In the case of upward sloping PCC, we can see that the quantity purchased of both X and Y rises due to fall in the price of X. We get upward sloping PCC for commodity X when the demand for X is less elasticity (less than one) as shown in figure.

Backward Sloping PCC

When the PCC for commodity X is backward sloping (as shown in figure), we can find that the consumer purchases less and less of X and more and more of Y due to fall in the price of X. This happens in the case of Giffen goods.
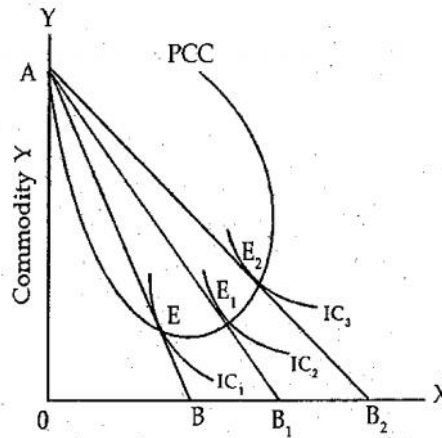

Horizontal PCC

Horizontal PCC for X indicates that when the price of X falls, its quantity purchased increases proportionately, while quantity purchased of Y remains at the same level. In this case, price elasticity of demand for X = 1 (unit elasticity) as shown in Fig. 26.
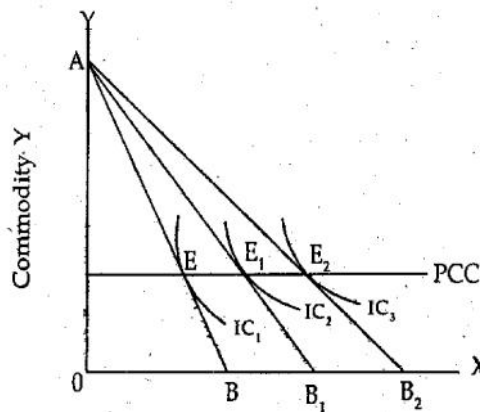
PCC with Varying Slope

Generally PCC has different slopes at different price ranges. At higher price levels, it usually slopes downwards. Thereafter, it may have a horizontal shape for some price ranges. Ultimately it slopes upwards for further falling in price. APCC with different shapes and slopes is illustrated figure.

Commodity X (Fig. 27)
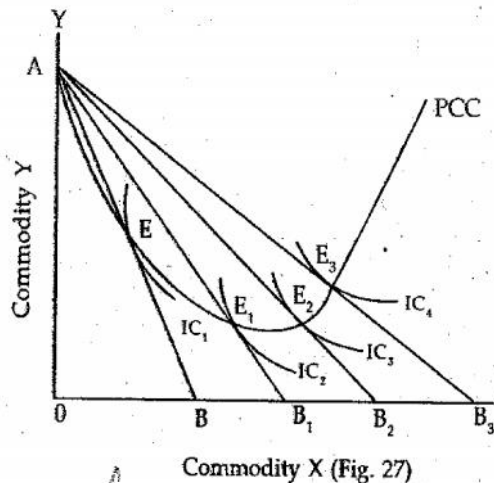
Substitution Effect

Another important factor responsible for the changes in consumption of goods is the substitution effect. The substitution effect shows the change in the quantity of a good purchased due to a change in the relative price of a good, while the income of the consume remains constant. When the price of a good falls, the real income of the consumer increases. Suppose, a customer has Rs. 100 with him. He buys 4 oranges at the rate of Rs.25. Suppose, the price of oranges falls to Rs.20. If he buys 4 oranges as before, he can save Rs.20. Or he can buy 5 Oranges falls to Rs.20. If he buys 4 oranges now Ii.e., he can spend more with the amount saved). Thus, when the price of a commodity falls, the real income of the consumer increases and vice versa. The increase in real income induces the consumer to buy more of it under the income effect. But with fall in the price of a good, it becomes relatively cheaper. This induces the consumer to buy more to substitute it in place of the costlier good. This is called substitution effect.

Thus, a change in price has both income as well as substitution effects.

Hicksian Decomposition of Price Effect into Income Effect and Substitution Effect (or Separation of Break up of Substitution and income Effects from the Price Effect)

As price falls, demand for normal goods increases as a result of substitution effect. When price falls, real income increases. As a result, demand for normal goods increases. This is due to income effect. Thus, as price falls, demand for normal goods increases as a result of both substitution effect and income effect.

The price effect comprises the income effect and the substitution effect (or price effect=income effect +substitution effect). But how? When the price of a good falls (price of other good and money income remaining constant), the quantity demanded of the good (whose price has fallen) increases. This is the price effect. The price effect has two effects. First, the consumer (hw has a constant money income) substitutes this commodity for the other. This is the substitution effect. The substitution effect relates to the increase in the quantity demanded of X when its price falls while keeping the real income of the consumer constant. He substitutes the cheaper good (X) for relatively costlier good (Y). This means that he will buy

more of X instead of buying Y. Second, when the price of the commodity falls, the real income of the consumer increases (the price of Y is constant). With this increased real income (surplus money) the consumer can buy more of X or both the goods. This is the income effect (if the price of a good increases, the reverse happens). In both cases, the quantity demanded of the good(s) increases as a result of fall in the price of one good. This is the price effect. The total increase in demand happens in two ways-due to substitution effect and due to income effect. Thus, price effect is the result of substitution effect and income effect. In other words, price effect=substitution effect + income effect.

Now the question arises, if PE = SE + IE, then how these should be separated or decomposed. There are two methods for decomposing the price effect into substitution effect and income effect. One method was given by J.R. Hicks. The other was suggested by E. Slutsky. Here we discuss only the method proposed by Hicks (Hicksian approach).

Hicks has separated the substitution effect and income effect from the price effect through "compensating variation in income" by changing the relative price of a good while keeping the real income of the consumer constant. According to Hicks, "when the relative prices of the goods change, the money income of the consumer is altered in such a manner that his real purchasing power remains constant and he is neither better off nor worse off than before, i.e., he continues to remain on the same indifference curve". Let us now discuss Hicksian approach.

Inferior Commodity Case (HIcksian Method)

Substitution effect for any commodity raises its demand due to fall in its relative price. Suppose there are only two goods in the market -A and B. Whenever relative price of A falls compared to that of B, A becomes cheaper compared to B. Therefore, demand for A increases and that of B decreases as a result of substitution effect. Thus, substitution effect is always positive. This is because both real income and demand move in the same direction, ie., both increases. Moreover, when the price of a commodity falls relative to other commodity, consumers will substitute the cheaper commodity in place of costlier one. Thus, demand increases. Since the demand increase, substitution effect will always be positive. But the income effect is not like that. It depends on the nature of the commodity. It is positive for normal good. This is because when the price of good A falls, the real income of the consumer increases. Hence, he will demand more of that good. Thus, the demand for A increases. Hence, the price effect for A is positive. On the other hand, the income effect for inferior good is negative. Suppose there were two goods - X and Y. X is inferior while Y is normal (superior). Suppose the price of X (inferior good) falls. The price of Y and the income of the consumer remain the same. Then the substitution effect of X is positive. This is because X become cheaper and its demand will increase. But when its price falls, real income increases. The consumer no longer wants to purchase the inferior good. He reduces his demand for inferior good and purchases normal good in its place. Thus, for inferior good the income effect is negative. As already pointed out, the price effect is the sum of substitution effect and income effect. In case of inferior good, the substitution effect and income effect work at the opposite direction. However, the positive substitution effect is stronger or more than the negative income effect. Put it in another way, the negative income effect is smaller or weaker

than the positive substitution effect. Hence, the net result of purchase of inferior good will increase. This is because substitution effect is stronger. In other words, as price falls, demand for inferior good increases to a lesser extent than that of any normal good. This may be explained with the help of a graph.
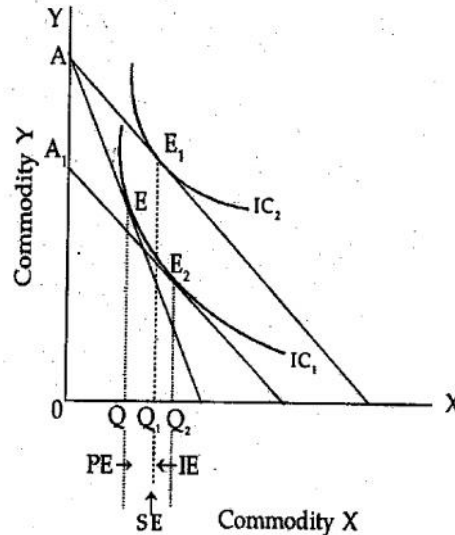
There are two commodities - x and Y. X is inferior good, while Y is normal good. X is taken on OX axis and Y on OY axis. The prices of X and Y and the money income of the consumer are given. The budget line is AB. It is tangent to the indifferent curve IC, with the equilibrium point E. The consumer is purchasing OQ quantity of X. When the price of X falls, the budget line AB shifts its position to AC. His equilibrium shirts to the point E_1 on IC_2 (higher indifference curve) where AC is tangent. Now he purchases QQ, more quantity of X due to fall in its price. This is price effect. This is positive because he purchases more, i.e., movement is forward. From the price effect, we have to separate substitution effect and income effect. In order to break up income effect and substitution effect, the money income of the consumer is reduced (money is taken away from him) to keep his real income as constant by compensating variation in income in such a way that the budget line AC shirts parallel to its left and the new budget line is $A_1 C_1$. This is tangent to the initial indifference curve IC_1 is substitution effect (i Hicksian sense). This would induce the consumer to buy QQ_2 more quantity of X. Now if the amount of money which was taken away from him is given back to him, he will move from E_2 on IC_1 to E_1 on IC_2. The movement from E_2 to E_1 is the income effect. This is in the opposite direction. This induces the consumer to purchase $Q_1 Q_2$ less quantity of X. This is due to negative income effect. We can see that negative income effect $Q_1 Q_2$ is smaller or weaker than the stronger positive substitution effect (QQ_2). Hence the net purchase of X increases only by an amount of QQ_1. This is means that the consumer will buy only QQ_1 more of X.

Thus, price effect is equal to positive substitution effect + negative income effect and the result is positive price effect (buying more). That is $QQ_1 = QQ_2 - Q_1 Q_2$.

Giffen Commodity Case (HIcksian Approach)

All Giffen goods are inferior goods but all inferior goods are not Giffen goods. This implies that there is similarity as well as difference between inferior goods and Giffen goods. The similarity is that the income effect is negative on both. The dissimilarity is that in case of inferior goods substitution effect is stronger than income effect, while income effect is stronger than substitution effect in case of Giffen goods.

A Giffen good is a good whose demand increases with the increase of its price and vice versa. A fall in price leads to a reduction in the quantity purchased. Thus, for a Giffen good, price and quantity purchased move in the same direction. In the case of Giffen good, the income effective is negative. This means that the consumer buys less of this good with the increase in his income. As the price of a Giffen good falls the real income of the consumer increases. However, he purchases less of this good because it is an inferior good. Thus, its income effect is negative. But its substitution effect is positive. He purchases more of this good due to substitution effect as its relative price falls. Thus, the income effect and substitution effect work in the opposite direction as in the case of inferior good. But the income effect is stronger than substitution effect.

Now let us see how the price effect of a Giffen good is decomposed into substitution effect and income effect with the help of a graph.
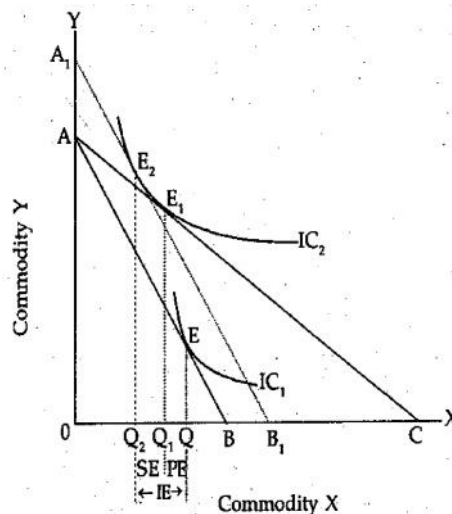
Initially the consumer is at equilibrium point E when the price line (budget line) AB is tangent to the difference curve IC_1. He purchases OQ quantity of commodity X (Giffen good) Suppose the price of X falls. As a result, the price line shifts to AC. The new equilibrium point is at E_1 on the high difference curve IC_2. At this point the consumer purchases OQ_1 quantity of X. We can see that QQ_1 quantity is less than OQ quantity. This shows that X is a Giffen good. This is because its quantity demanded decreases with fall of price. Hence movement from E to E_1 is called price effect. The movement is backward (i.e., purchase is less). Hence price effect is negative. Due to the price effect, the consumer purchases QQ_1 less of X. If we assume that price of Y does not fall and the income of consumer is increased in such a way so as to keep him on the same indifference curve IC_2. Then the price line shifts parallel to the right of

original price line AB. The new price line is A_1B_1. This is tangent to the indifference curve IC_2 at point E_2. Thus, the new equilibrium point E_2. At this point the consumer purchases OQ_2 quantity of X. The movement from E to E_2 is called income effect. This movement is backward (purchase is less). Hence income affect is negative. It is bigger or stronger as well. Due to income effect, the consumer purchases QQ_2 less of X. Again, movement from E_2 to E_1 is called substitution effect. The movement is forward (i.e., purchase is more). Hence substitution effect is positive. Due to substitution effect he purchases $Q_2 Q_1$ more of X. Here QQ_2 (negative income effect) is greater than $Q_2 Q_1$ (positive substitution effect). Here QQ_2 is bigger than $Q_2 Q_1$. It means that negative income effect is stronger than positive substitution effect. Hence, price effect is negative. Thus, the consumer purchases QQ_1 less of X as its price falls.

Demand Curve for Normal, Inferior and Giffen goods

The shape of the demand curve depends on the nature of the goods. Goods may be normal, inferior or Giffen goods.

Demand Curve for Normal Goods

When price falls, demand for normal good increases and vice versa. It happens so because of price effect. Thus, change in price and change in demand moves in opposite direction. That is, demand curve for normal good is negatively slopped. To be more clearly, demand curve for normal goods slopes downward from left to right. It is shown in the given graph.
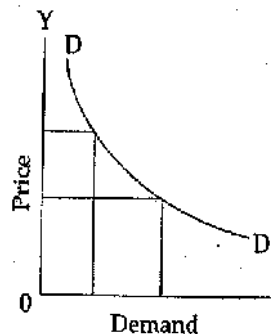
Normal good may be luxury or comfort or necessity. If demand is not very sensitive to income, the product is known as a 'necessity product'. If demand is very sensitive to income, the product is known as a 'luxury product'. As income increases, the demand curve for a luxury good shirts more to the right than a necessity good.

Demand Curve for Inferior Goods

When price falls, demand for inferior good increases as a result of price effect. However, it increases only to a lesser extent than that of any normal good. Hence, demand curve will be steep. In the case of inferior good also there is an inverse relationship between price and demand. That is, demand curve for inferior good has negative slope. It is shown in the following graph:
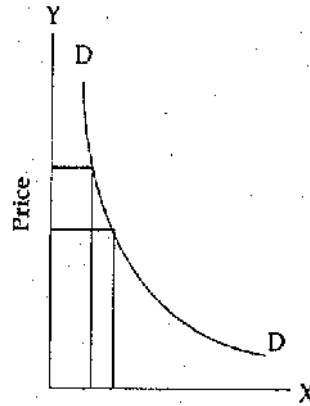
Demand Curve for Giffen Goods

When price falls, demand for Giffen goods decreases as a result of price effect. Thus, in the case of Giffen goods, the law of demand does not held good. Here, the change in price and change in demand move in the same direction. In other words, the demand curve for Giffen good is positively slopped. This is shown below:
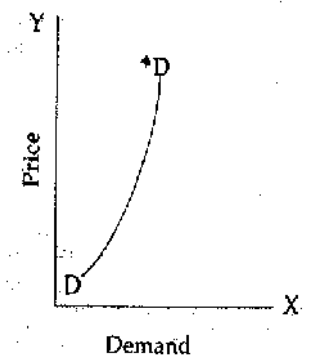
Demand

Now the three demand curves may be shown in one graph as below:
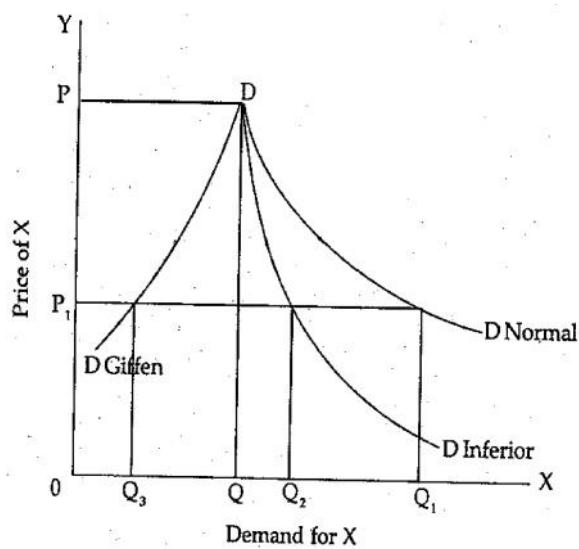
Demand for X

In the above graph we can see that at initial price level P, demand for X is OQ for all types of commodities. As price level decreases from P to P_1, if X is a normal good, demand

increases from QO to OQ_1. Joining the two combinations (P, Q) and (P_1 Q_1) we get the negatively sloped demand curve for normal good, DD normal. Again, as price level decreases from OP to OP_1, if X is an inferior good, demand increases from OQ to OQ_2. Joining the two combinations (P, Q) and (P_1, Q_2) we get the negatively slopped demand curve for inferior good, DD inferior. We can see that both DD normal and DD inferior are negatively sloped, but DD inferior is steeper than DD normal. Again, as price level decreases from OP to OP_1, if X is Giffen good, demand decreases from the OQ to OQ_3. Joining the two combinations (P, Q) and (P_1 Q_3), we get the positively sloped demand curve for Giffen good, DD Giffen.

Applications or Importance of Indifference Curve Analysis

The ordinal approach of consumer behaviour is very useful in every walk of life. It is useful not only for consumption but also for production, exchange, distribution, investment choice, taxation etc. Indifference curve analysis is an important tool for decision making. Following are the uses of indifference curve analysis:

1. **Helpful in production function:** It is useful in production function. The production equilibrium of a firm will be decided on the basis of Iso-quants. Iso-quants give same level of production from various combinations of two factors of production in the same manner as indifference curves give same level of satisfaction from various combinations of two commodities. In short, the IC is used to find out the producer's equilibrium.

2. **Helpful in Exchange:** It is useful in exchange between two individuals for the commodities possessed by each of them.

3. **Useful in international trade:** It is useful in international trade. It is helpful in determining the rate at which the commodities of one country will be exchanged by commodities of another country.

4. **Useful in taxation:** It is useful in taxation. It helps the Govt. to choose whether direct tax or indirect tax is to be imposed.

5. **Useful in public finance:** The famous law of maximum social advantage can be explained by way of indifference curves. An impact of benefits arising from public expenditure and cost that is caused by public revenue can be explained by way of indifference curve analysis. Thus, it is useful in the areas of public finance.

6. **Helpful to Government:** It helps the Govt. in deciding rationing and subsidies.

7. **Useful in investment management:** It is useful in security analysis and portfolio management.

8. **Helpful in measuring consumer surplus:** It helps in measuring consumer surplus.

Cardinal Utility Approach Versus Ordinal Utility Approach

We have explained both cardinal utility analysis and ordinal utility analysis (indifferent curve analysis). Now we can compare these two approaches.

Similarities

There are certain similarities between the two approaches. They are as follows:

1. Both approaches assume that the consumer behaves rationally and tries to maximize his utility or satisfaction.

2. In both approaches, the condition of equilibrium is identical. The necessary equilibrium condition of the cardinal utility approach is:

$$\frac{\text{MU of X}}{\text{MU of Y}} = \frac{\text{Price of X}}{\text{Price of Y}}$$

The necessary equilibrium condition of the ordinal utility approaches is:

$$\text{MRS}_{xy} = \frac{\text{Price of X}}{\text{Price of Y}}$$

Thus both conditions are one and the same i.e., $MU_x/MU_y = MRS_{xy}$. In short, both arrive at the same conclusion with respect to consumer behaviour.

3. Both approaches are based on the assumption of diminishing marginal utility. The cardinal utility analysis assumes that the marginal utility to the consumer from a commodity diminishes as he gets more and more of it. The cardinal utility approach (indifference curve analysis) assumes that the indifference curves are convex to the point of origin. This convexity implies that the marginal rate of substitution between the commodities diminishes as more and more of one commodity is substituted for the other. Thus, the diminishing marginal rate of substitution is equivalent to the diminishing marginal utility.

4. Both of them use introspective method. The law of DMU is based purely on introspection. The indifference curves are also obtained through introspective method. As stated by Tapas Majumdar, 'the basic methodological approach of Hicks-Allen is same as in the Marshallian marginal utility hypothesis, it is that is to say, mainly introspective.

5. Both the approaches hold the law of equi-margianl utility.

Superiority of Indifference Curve Analysis (Ordinal Utility Approach) over Cardinal Utility Analysis

Inspite of their similarity in some respects, indifference curve analysis is superior to Marshallian Utility Analysis (Cardinal Utility Analysis). The indifference curve technique is a improvement over the Marshallian Utility Analysis. It is a break-through in demand analysis. Let us examine the distinct merits of indifference curve analysis over Marshallian utility analysis.

1. The IC approach is ordial while the utility approach is cardinal. Ordinal analysis is more realistic

2. Cardial analysis assumes that marginal utility of money is constant. This is not correct. The marginal utility of money will go on increasing as the consumer spends his money income. The IC approach assumes that marginal utility money is subject to change.

3. Marshall's utility approach is a single commodity analysis. He avoided the discussion of substitutes and complementary goods by grouping them together as one commodity. This assumption is far away from reality because a consumer buys not one but combinations of goods at a time. The IC approach is a two-commodity model. It discusses consumer behaviour in case of substitutes, complementaries and unrelated goods.

4. Marshallian utility analysis fails to analyse the income and substitution effects of a price change. In the IC approach, when the price of a good falls, the real income of the consumer increases. This is the *income effect*. Secondly, with the fall in price, the good become cheaper. The consumer substitutes it for some other good. This is the *substitution effect*. The IC technique discusses the income effect when the consumer's income changes; the price effect when the price of a particular good changes and its dual effect in the form of the income and substitution effect.

5. Marshall failed to explain the case of Giffen goods and took it as an exception to the law of demand. Under IC approach, the case of Giffen goods has been properly explained through income and substitution effects

6. The cardinal approach is based on the law of diminishing marginal utility. This is very hypothetical. But the ordinal approach (IC approach) is based on the principle of DMRS. This is practical.

7. The law of DMU, the concept of consumer surplus, and the law of equi-marginal utility can easily be illustrated through the device of indifference curves. In short, the entire utility analysis can be illustrated through IC approach. Besides, the IC approach provides a framework for the measurement of consumer surplus. This important in welfare economics.

8. It is claimed that the IC approach is logically true and conclusive. It is also universal because all consumers are guided by the scale of preferences, prices of other goods and the nature of goods and their quality. The utility analysis does not take these real factors into account.

9. Utility analysis is based on a large number of assumptions. But the IC approach is based on fewer assumptions.

Thus, the IC approach is an improvement over the Marshallian utility analysis.

Criticisms or Shortcoming of Indifference Curve Analysis

The indifference curve analysis is no doubt superior to the utility analysis. But it is not free from criticisms. Prof. Amstrong and Frank Knight have strongly criticized the IC approach. The following are the major criticisms against IC approach:

1. **Old wine in new bottle:** It is pointed out that the IC approach is nothing but old wine in new bottle. The logic is that of Marshall but terms are different. Hicks used 'preference' in place of 'utility', 'ordinal' and place of 'cardinal' and MRS in place of DMU. Thus it tells nothing new.

2. **Deals with only two goods:** It deals with only two goods on which the consumer spends his entire money income. But in real life, such cases are not found. A consumer generally spends his income not on two goods, but on more than two goods. The IC analysis can be extended to more than two goods. But in such cases, the indifference map loses all its simplicity and the entire analysis becomes very complicated. For three goods, we have to draw three dimensional diagram. It is very difficult to explain in case of three goods.

3. **Wrong assumption of rationality:** It assumes that a consumer behaves rationally when he is spending his money on goods. This assumption is not very realistic. There are many consumers who spend their money in an irrational and thoughtless manner.

4. **Inapplicable in case of risk and uncertainty:** John von Neuman and Oskar Morgenstern in their classic work 'The Theory of Games and Economic Behaviour' pointed out that the IC approach fails to explain consumer behaviour when risk and uncertainty arise. Prof. Samuelson has called the entire technique as non-operational.

5. **Ignores the market behaviour:** It is pointed out that the IC approach ignores the market behaviour. It does not explain much on market changes in the prices of other goods. It deals only with the prices of two goods.

6. **Unrealistic assumption of perfect competition:** It is based on unrealistic assumption of perfect competition and homogeneity of goods. But in real life the consumer is confronted with differentiated products and monopolistic competition.

7. **Consumers do not have complete knowledge of all his scale of preferences:** The IC analysis requires highly introspective information from the consumer because he is required to arrange all combinations according to his preference. It is difficult for human brain to have complete knowledge of his scale of preference. In the words of Prof.Robertson, "Indifference jumps from the frying pan of difficulty on measuring the utility into the fire of unreality of assuming consumer's complete knowledge of all his scales of preferences".

8. **Not amenable to experiments:** The IC technique is not very much amenable to experiments or research. Further, indifference curves are imaginary curves.

9. **Micro-economic in character**: It deals only with the choice and equilibrium of an individual consumer. It does not study the group equilibrium or group choice.

10. **All commodities are not divisible:** It assumes that all commodities are divisible. But there are some commodities which are not divisible. Commodities like watches, cars, computers etc., are indivisible.

Difference between Utility Analysis and Indifference Analysis

	Utility Analysis		Indifference Analysis
1.	Cardinal measurement of utility	1.	Ordinal measurement of utility
2.	Assumption of constant marginal utility of money	2.	Assumption that marginal utility of money is not constant
3.	Does not recognize cross effect	3.	Recognizes cross effect
4.	Des not distinguish between income effect and substitution effect	4.	Distinguishes between income effect and substitution effect
5.	Considers Giffen case as a paradox	5.	Provides explanation to Giffen case
6.	Does not recognize the interdependence of goods	6	Recognize the complementarity and substitutability of goods
7.	Less scientific	7.	More scientific
8.	Deals with one commodity	8.	Deals with two commodities
9	Does not explain the welfare effect of the society	9.	Explains the welfare effects of the society

REVIEW QUESTIONS

A.   Objective Type Questions

Fill in the blanks

1.   ....means the power of a commodity to satisfy a want
2.   .... utility is the utility of an additional unit.
3.   The cardinal utility theory was developed by ....economists.
4.   .... approach states that utility is measurable quantitatively.
5.   When marginal utility reaches zero,................reaches maximum.
6.   According to indifference curve analysis, utility is not measurable in ....numbers.
7.   .... shows quantity of two goods bought at their fixed prices with the available income.
8.   The gap between the total utility of a good and its total market value is called..........
9.   The modern economists believe in ....utility approach.
10.   The modern economists believe that utility is ....
11.   The detailed presentation of indifference curve analysis was made by ......
12.   Indifference curve is....................to the point of origin.
13.   If income consumption curve is relatively flat, income elasticity is..............   .
14.   Substitution effect is always...........................   .

Ans: 1-utility, 2-marginal, 3-classical, 4-Cardinal, 5-total utility, 6- cardinal, 7-budget line, 8-consumer surplus, 9-ordinal, 10-subjective, 11- J.R.Hicks, 12-convex, 13-high, 14-positive.

MODULE – IV

MARKET STRUCTURES AND PRICE OUTPUT DETERMINATION

Introduction

The determination of price of the product is an important managerial function. Price affects profit through its effect both on revenue and cost. profit is concerned With the difference between cost and the revenue .It always depends on cost and volume of sales. Therefore the management always tries to find out the optimum combination of price and output which offers the maximum profit to the firm. Thus pricing occupies on important place in economic analysis of firms.

The knowledge of market and market structure with which a firm operates is more helpful in price output decisions . Market in economic term means a meeting place where buyers and sellers deal directly or indirectly. Clark and Clark defines market as that "any body of persons who are in intimate business relations and carry on extensive transactions in any commodity" . Market structures are different market forms based on the degree of competition prevailing in the market. Broadly the market forms are classified into two types:-

> 1.Perfectly competitive market
>
> 2. Imperfectly competitive market

Perfect Competition

The term perfect competition is used in wider sense. perfect competition means all the buyers and sellers in the market are aware of price of products .The following are the characteristics of perfectly competitive market

1. Large number of buyers and sellers in the market
2. Homogeneous product
3. Free entry or exit
4. All the buyers and sellers in the market have perfect knowledge about the market conditions.
5. Perfect mobility of factor of production
6. Absence of transportation costs.

When the first three assumptions are satisfied there exists pure competition .competition becomes perfect only when all the assumptions are satisfied . In perfect competition ,the demand for the output for each producer is perfectly elastic .With the larger number of firms and homogeneous products, no individual firm is in a position to influence the price .

Equilibrium Price

The demand curve normally slopes downwards showing that more quantity of commodity will be demanded at a lower price than at a higher prices. Similarly supply curve showing an upward trend where the producers will offer to sell a larger quantity at a higher price than at a lower price . Thus the quantity demanded and quantity supplied vary with price .The price that tends to settle down or comes to stay in the market (where both buyers and sellers are satisfied) is at which quantity demanded equals quantity supplied. The point so formed is known as equilibrium point and price is known as equilibrium price.

Effect of time on supply

According to Marshall ,time has great influence on the determination of price .The following are the market periods based on time- market period, short period and long period.

1.Very short period(Market period)

2.Short period

3.Long period

Market period or very short period may be only a day or very few days .Change in supply is not possible where the period is very short and quantity demanded will be the determining factor in this period Further, supply curve in the market period is remain fixed showing vertical straight line.

The short period is a period not sufficient to make any changes in the existing fixed plant capacity. Increase in supply in the short period is possible by increasing the variable factors of production only The supply curve slopes upward to right showing that some increase in supply is possible when the price increases.

Long period is a time long enough to adjust the supply to any changes in demand .The long run supply curve is less steep then short run supply curve showing increase in quantity supplied when price changes.

6.5 Price determination Under perfect competition

In perfect competition the market price of a commodity is determined by its demand and supply. The price of a commodity determines at the point where quantity demanded equates quantity supplied. It can be explained through the following diagram.

Quantity demanded and supplied
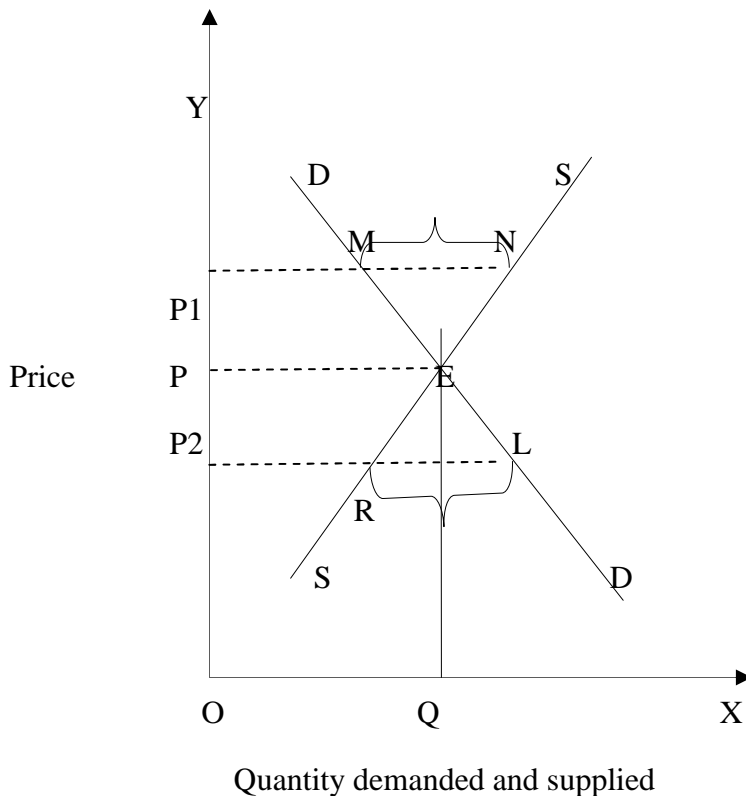
In the above diagram ,DD denotes the demand curve and SS denotes the supply curve . Demand   and supply   curves   slopes in opposite direction.   In   this diagram OP is the equilibrium price where the demand curve equates with the supply curve. In this figure , the point E determines the equilibrium price and OQ is the equilibrium quantity.

From the diagram it can be noted that if the price increases to OP_1 ,the demand will be P_1M and supply will be P_1N.So MN will be excess supply . under this circumstance, the firm will be forced to lower the price in order to   sell the excess stock. It the firm can minimizes the price, the profit will be low .Thus we can say that at the point of equilibrium firm can derive maximum profit. At the point of equilibrium, there are two conditions to be satisfied.

1) MC=MR

Where MC =marginal Cost(Cost of producing an additional unit)

   MR=marginal Revenue realized from the sale of an additional unit)

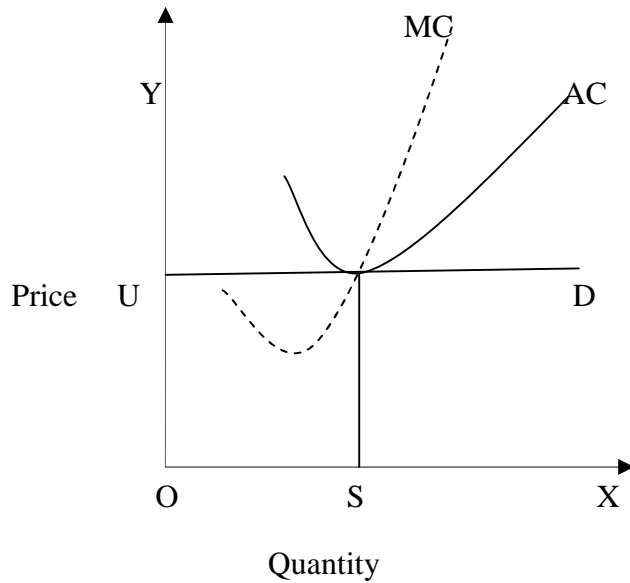2) MC Curve Cuts MR curve from below that is MC Curve should have positive slope.

Under perfect competition ,the following equations are satisfied.

MC=MR,MR=AR

Price=AR=AC

There fore ,Price= MR=MC=AR=AC.

The equations can be satisfied with the following diagrams

Quantity

When the firm is OS quantity of goods, the MC curve cuts the AC curve at its lowest. At the lowest point the AC curve is tangential to the demand (ie AC=MC=AR) curve .Thus the price OU is equal to the marginal cost(ST)which is again equal to average cost (ST).The firms under perfect competition will be the cost efficient size or optimum size which gives the lowest possible average cost of production per unit**.**

During the Market period

In very short period ,supply is inelastic ,thus the price depends on changes in demand .The supply curve will be vertical straight line parallel to y-axis.
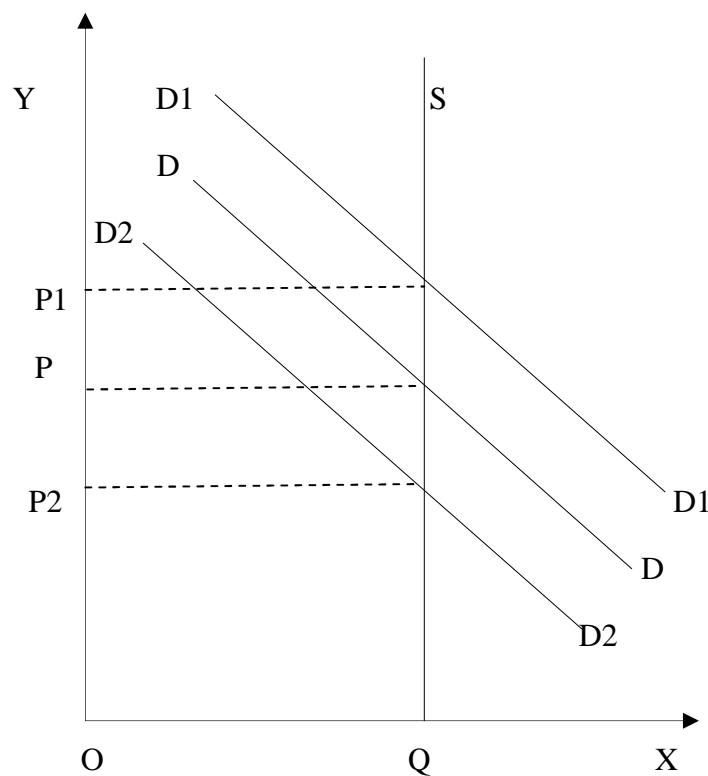
In the above diagram, SP is the supply curve. It means where ever the price is ,the fixed supply is to be sold in the market .Here DD is the demand curve .The supply is SQ .The point of equilibrium is at 'S' so the equilibrium is OP. Here the demand alone determines the price because supply is fixed. If the demand increases to D1D1, the price will increase from OP to OP$_1$ and vice versa ,ie, if the demand decreases to D2D2 , the price will decrease to OP$_2$.

If the commodity is non- perishable, It can be stored .The seller does not sell the goods if the price is low. But the price is high he will sell whole stock .The curve will be curved at beginning ;then it will become a straight line .Under very short period , the demand alone determines the price.

During short period

In this period ,the firm can make slight changes in their supply of goods without changing the capacity of plant.
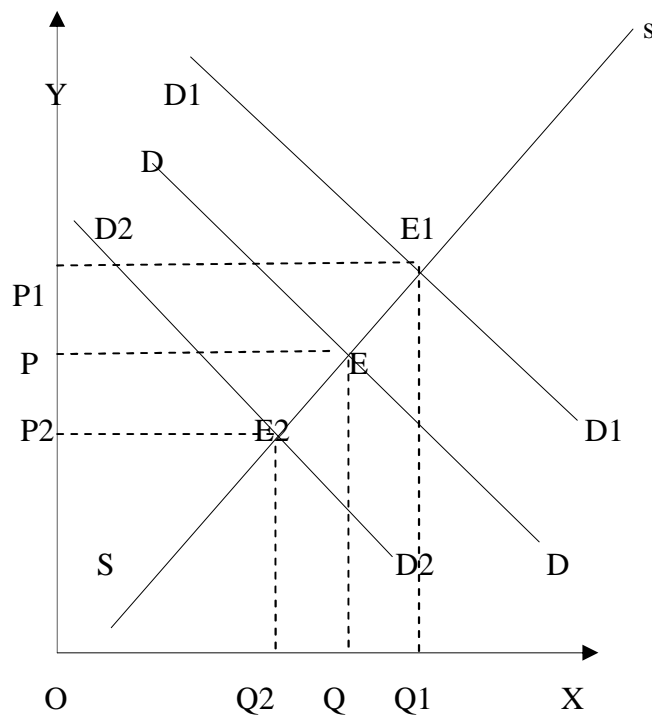
In this diagram ,DD is the demand curve and SS is the supply curve. At point 'E' the demand curve equals the supply curve ,the equilibrium price is OP.If the demand is increased to D1D1 the equilibrium price will be OP1 and if the demand decreased to D2D2 , the equilibrium will be OP2. But the quantity will be decreased from OQ to OQ2. The firm in the short run can produce output by increasing the variable inputs. . A firm gets maximum profit where MC=MR .The price determination by the industry is given in the following diagram.

Quantity demanded and supplied
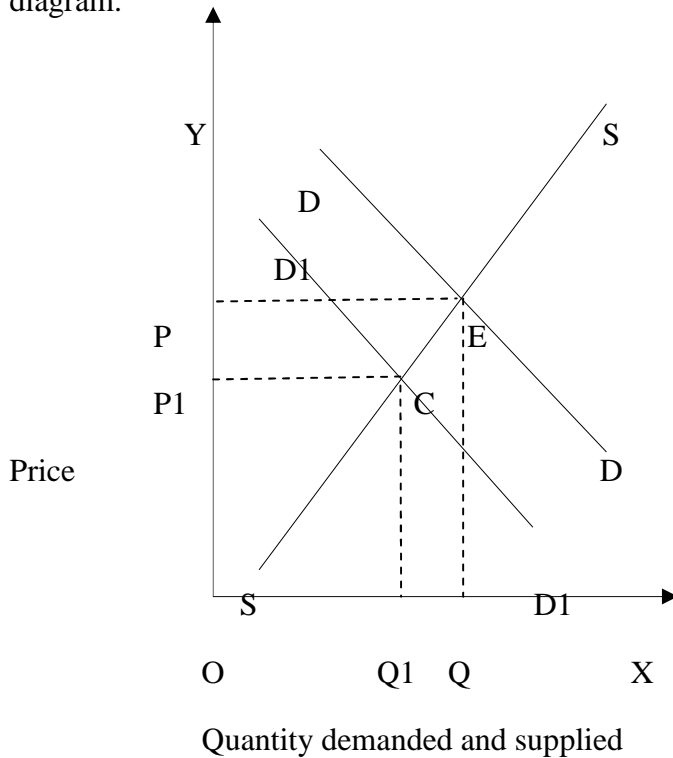
In the above diagram, it can be revealed that the price is determined by the industry OP**.** when the demand is shifted to D1D1 then the quantity demanded is decreased from OQ to OQ1 and also price decreases from OP to OP1. In the case of a firm, MR=AR, thus demand =AR=MR=price
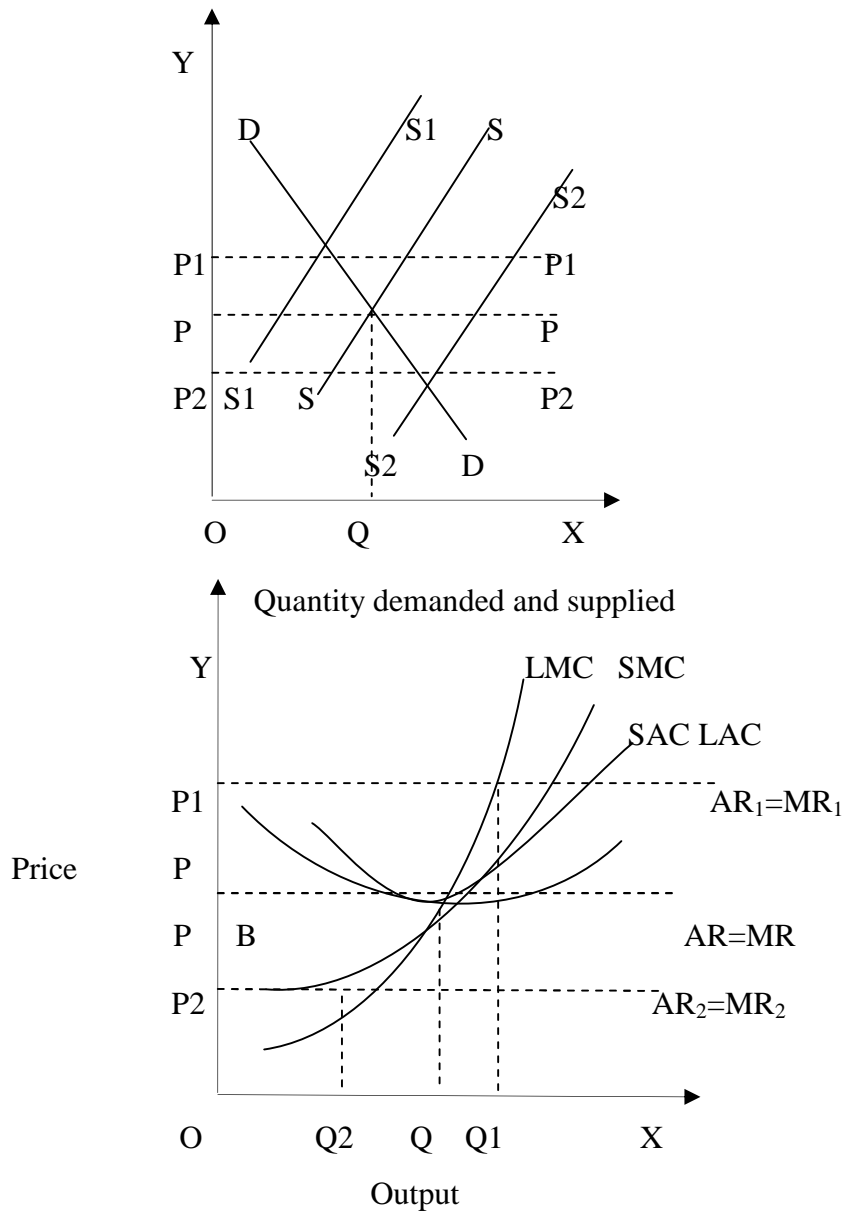
In the long run

In the long run , the firms in the industry are eager to get super normal profits . The price determination is explained through the diagram given below;

In output decision making in the long run .Long run Average Cost (LAC) and Long run Marginal Cost (LMC) are to be taken in to consideration . under this condition ,the firm is in equilibrium

When AR=MR=LAC=LMC

Figure 1

Y

D   S1   S

S2

P1

P

P2 S1   S'

\$2   D

O   Q   X

Quantity demanded and supplied

Y

LMC   SMC

SAC LAC

P1 $AR_1=MR_1$

Price   P

P   B   AR=MR

P2 $AR_2=MR_2$

O   Q2   Q   Q1   X

Output

     In the above diagram. (1) DD is the long run . Demand curve and S_1 S_1 short run supply curve .The price is determined at OP.In the figure 2,the equilibrium output is at point E. At this point .$AR_{1=}MR=LMC$

Monopoly

     Monopoly means `*single* `*selling* . In brief, monopoly is a market situation in which there is only one seller or producer of a product for which no close substitution is available .As there is only one firm under monopoly ,that single firm constitutes the whole industry .The monopolist can fix price of his product and can pursue an independent price policy .A

monopolist can take the decision about the price of his product .For ex:- electricity , water supply companies etc.

Features

The following are the important features of monopoly :-

1. One seller and a large number of buyers.

2. No close substitutes for the product .

3. Monopolist is not the price taker and the price maker.

4. Monopolist can control the supply.

5. No entry of new firm to the market .

6. Firm and industry are the same

   Causes of Monopoly

   1. Legal restrictions

   2. Exclusive ownership or control over the raw materials.

   3. Economies of large scale production

   4. Exclusive knowledge of a production technique.

Price Determination under Monopoly

 A monopoly firm has complete control over the entire supply .It can sell different quantities at different prices .It can sell more if it cuts down its price . Thus the monopoly firm faces a downward sloping demand curve or average revenue (AR)curve .As the single firm constitutes the industry the demand curve of the monopoly firm and the industry will be the same. But under perfect competition the firm`s demand curve is a horizontal straight line ,but the industry's demand curve slopes down wards. Since average revenue falls when more units of output are sold marginal revenue will be less than average revenue .MR curve thus declines at a greater rate than .AR curve and it falls below AR curve .

        Though the monopolist has the freedom to fix any price he will prefer a price output combination that gives him maximum profit.. He goes on producing so long as additional units add more to revenue than to cost He will stop at that point beyond which additional units of production add more to cost than to revenue. In other words he will be in equilibrium position at the output level at which MR equal MC and MC cuts MR from below.

Short Run Monopoly Equilibrium

 The monopolist will be in short run equilibrium where the output having MR equal MC
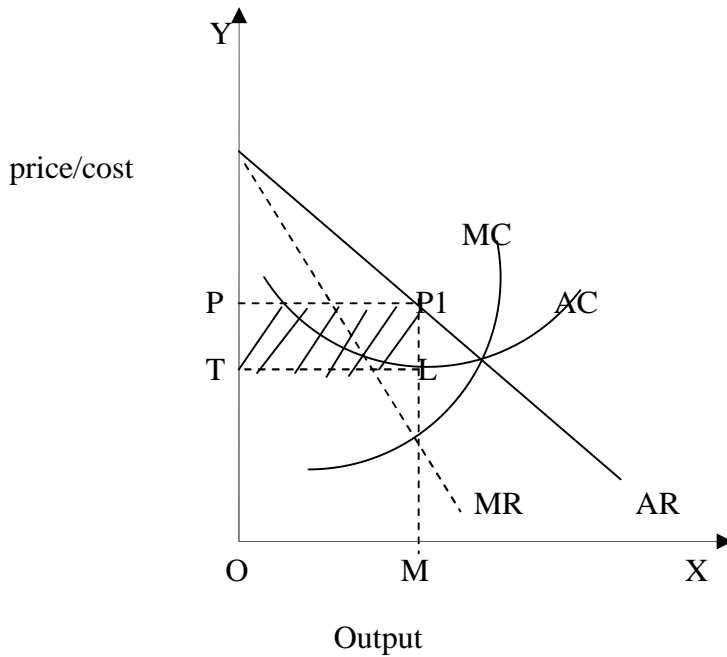
Output

In the following figure the monopolist will be in short run equilibrium at output OM where MR is equal to the short run marginal cost curve MC.

At an output OM ,MP` is the average revenue (price) and ML is the average cost of production Therefore P_1L is the monopoly profit per unit . The total profit is equal to product of profit per unit with total output .The following are the result of monopoly operation in the market

If AR greater than AC-results super normal profit

If AR equals AC results normal profit

If AR less than AC that results loss to the firm

Long run Monopoly Equilibrium

The monopolist is the single producer and the new firms cannot cuts the industry which enables the monopolist to continue to earn super profit in the long run. In the figure the long run equilibrium of the monopolist will be at the out put where the long run marginal cost curve MC Intersects the marginal revenue curve MR

Out put
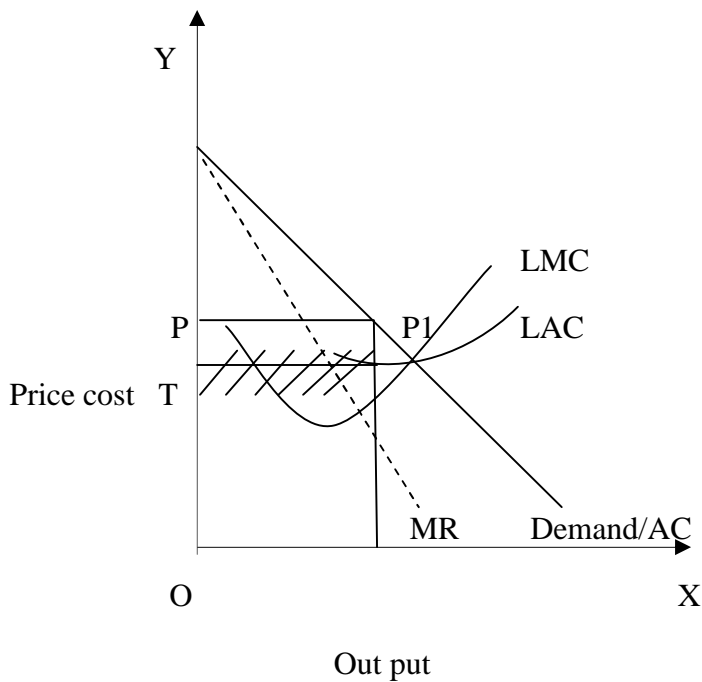
The shaded rectangle `PP`LI ` shows the long run monopolist profit . In the long run . If the cost is at an increasing trend .he will fix a high price and sell a large quantity .This will help him to make maximum profit .

Difference between perfect competition and Monopoly

1. Under perfect competition there are many sellers but in the case of monopoly , there is only one seller
2. Individual seller has no control over the market supply in the case of perfect competition. But in the case of Monopoly individual seller controls the supply.
3. Products are identical in the case of perfect competition, but there is only one product in the case of Monopoly.
4. Under perfect competition, there are free entry and exit of firms .But the Monopolist blocks the entry .
5. The Monopolist discriminates the price but there is uniform price in perfect competition.
6. Firm and Industry is different in the case of perfect competition, they are same in the case of Monopoly.

Monopolistic Competition

 In the present World market, it can be seen that there is no monopoly and there is no real competition. There is a mix up of the two. This situation is generally known as Monopolistic competition. According to Prof .E. H Chemberlin of America, Monopolistic Competition means a market   situation In   which competition is imperfect . The products of the firms under monopolist competition , are mainly close substitutes to each other .

<u>**Features /Assumptions of   Monopolistic   Competition.**</u>

The following are the important features of Monopolistic Competition.
1. There are large numbers of producers or sellers
2. It deals with differentiated products.
3. There are free entry and exit of firms to the markets.
4. The selling cost determines the demand for the products.
5. There is no association of firms
6. There is no price competition.
7. There is lack of knowledge of the market.

Price and Output decisions under Monopolistic Competition

Short run period
        In short run ,each existing firm is a monopolist having a downward sloping demand curve for its product . In order to maximize its profit the firm will produce that level of output at which MC=MR if price is more than MR, there will be abnormal profit.
Long –Run Period
        In the long period, normal profits will disappear .New firms will enter the industry and consequent expansion of output will decrease the price and only normal profit are made by the firms. Profit are normal only when Average Cost (AC) equals the Average Revenue (AR).Then the equilibrium output will be at AC and MC=MR.

Figure 9

Quantity demanded and supplied
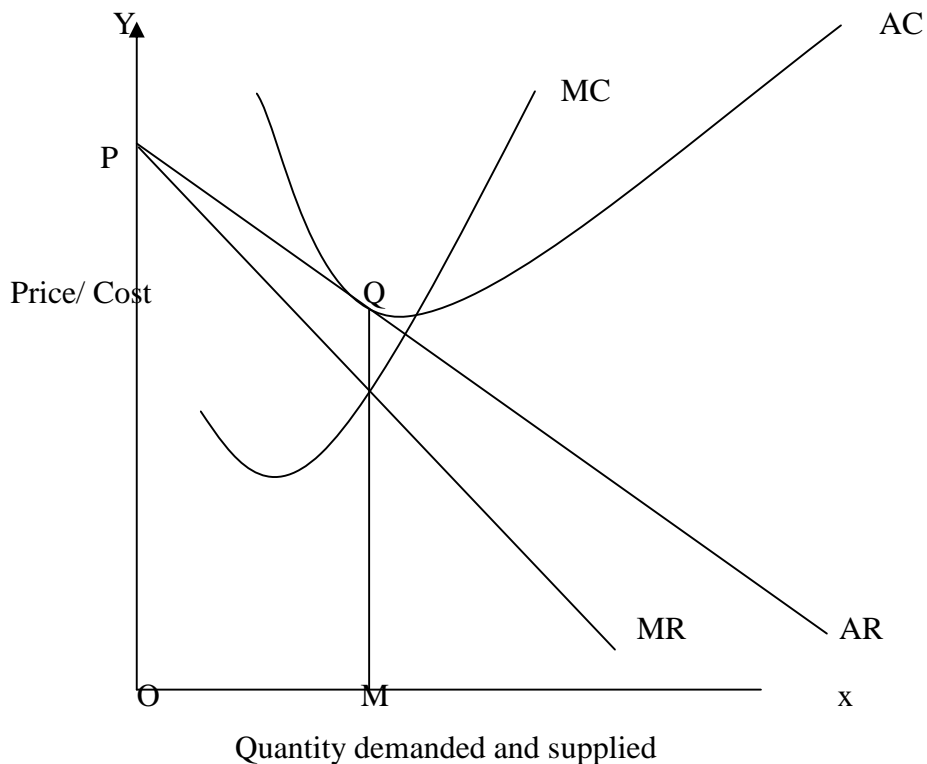
In the above diagram , the equilibrium output is OM where MC =MR and AC=AR Abnormal profit disappears because TC=TR.(Total cost=Total Revenue)

6.11 Difference between Perfect Competition and Monopolistic Competition

Perfect Competition	Monopolistic Competition
1) Products are identical .	1) Products are differentiated
2) It is not a real concept	2) It is real concept .
3) Large Number of buyers and sellers	3) Buyers and Sellers are not so large
4) Perfect knowledge of market Condition	4) Lack of perfect knowledge of market Condition
5) Selling Cost do not play any role .	5) Selling cost has an important role.
6)They are price takers	6) They are price markers .
7) Demand curve is horizontal	7) Demand curve is downward sloping
8) AR,.MR curves are parallel to x axis and price = demand = AR=MR	8) Price = demand =AR=But MR<AR.

6.12 Oligopoly

Oligopoly is a situation in which there are so few sellers that each of them is conscious of the results upon the price of the supply . Which he individually places upon the market . According to J .Stigler `Oligopoly is that situation in which a firm bases its market policy in part on the expected behavior of a few close revels`. Further ,they may produce homogeneous or differentiated products.

Characteristics

Oligopoly is a distinct market condition . It has the following features:

1. The firms are inter dependent in decision making .

2. Advertising should be effective.

3. Firms should have group behavior.

4. Indeterminateness of demand curve .

5. The number of firms or producers or sellers are very small .

6. Product are identical or close substitutes to each other

7. There is an element of Monopoly

### 6.13 Price Determination Under Oligopoly

Pricing many be in condition of independent pricing ,Pricing under price leadership and pricing under collusion.

Independent pricing (Kinked Demand Model or Price rigidity Model)

Kinked demand curve was first introduced by prof Paul M Sweezy to explain price rigidity under oligopoly. An oligopolist always guesses about his competitors reaction. They assume that if one decides to decrease the price , the others will also reduce the price . The assumption behind the kinked curve is that each oligopolist will act and react in a way that keep condition tolerable for all the members of the industry . If one firm reduces the price of the product ,the others will be compelled to reduce the price . But some times, If one increases the price, the other will not increase the price. The firms in Oligopoly do not increase the prices due to the possibility of losing the customers to rivals who do not raise their prices. Firms usually do not change their price in response to small changes in costs.

The kinked demand curve has two segments i.e(i) the relatively elastic portion of the demand curve and(ii)the relatively inelastic portion of the demand curve. The following diagram will give you the clear idea:

Figure 10
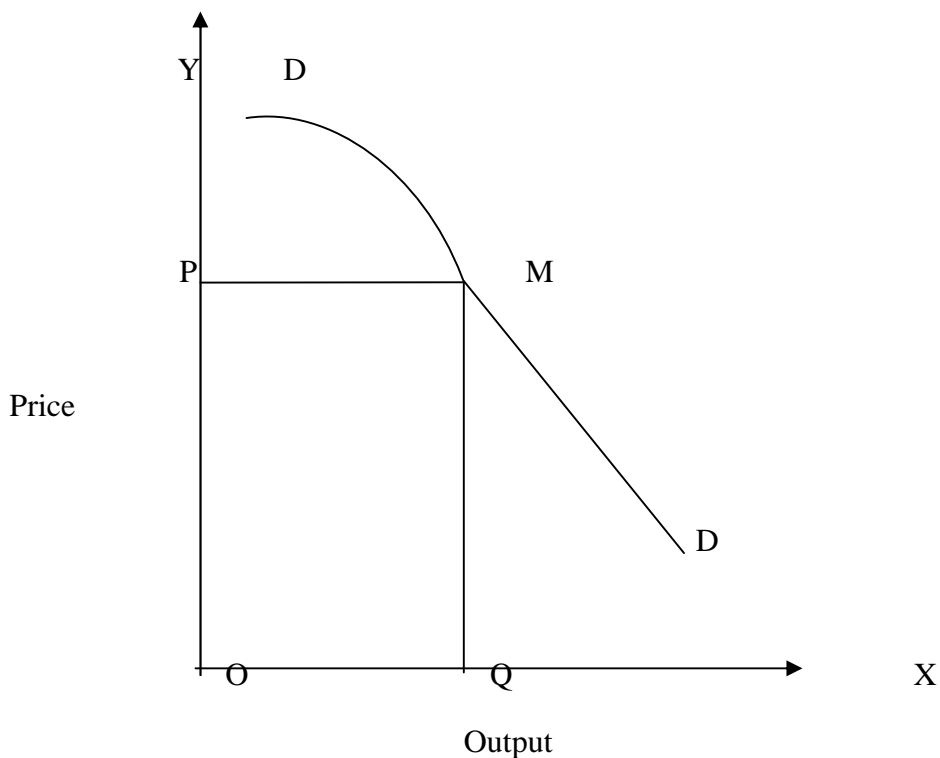
Kinked demand curve DD with a kink at point M. The price prevailing in the market is OP and the firm produces OQ output . Here .D, M is the relatively elastic of the demand curve and MD Is the relatively inelastic portion. This difference in the elasticities of demand due to the particular competitive reaction pattern assumed by the Kinked demand Curve hypothesis.

Pricing under Price Leadership

The price leadership means the leading firm determines the price and others follow it. All the firms in the industry adjusts , the price fixed by the price leader.

The large firm , who fixes the price , is known as the price maker and the firms, who follow it are known as price –takers. The price leadership may be four types .They are :

1. Dominant price leadership :-In this situation , there exists many small firms and one large firm and the large firm fixes the price and the small firms in the market accept that price .

2. Barometric Price Leadership :- Under this situation one reputed and experienced firm fixes the price and others may follow it.

3. Aggressive Price Leadership :–Under this market condition, one dominating firm fixes the price and they compel all others in the industry to follow the price.

4. Effective Price Leadership :- Under this condition , there are small number of firms in the industry .
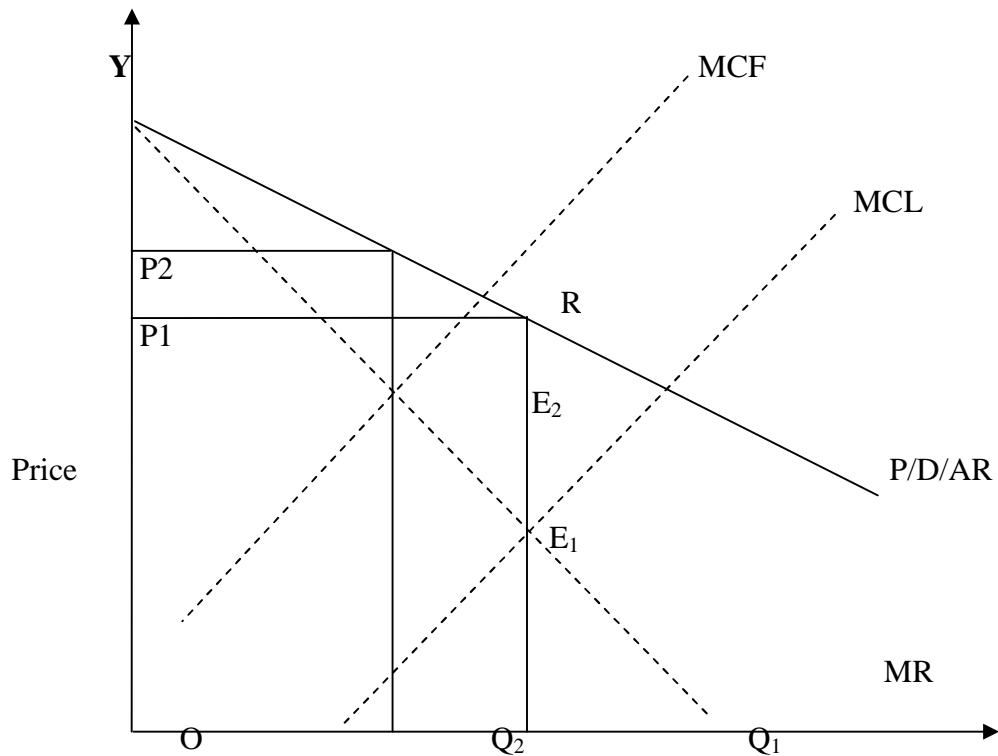
Price -Output determination Under Price Leadership

In order to determine the price and output under price leadership .we have to make two assumptions. They are,

1. There are two firms –L and F, in which the cost of production of L is less than that of F and

2. Product are identical

The following diagram will give the clear picture of price output determination.

Figure 11

In the above diagram , MC and MC₁ are the marginal cost curves of the firms F and L respectively. By analysing this diagram it can be known that the firm L will fix at point E2 , where MC=MR. The price of the firms F and L are OP_1 and OP_2 and the output are Oq_1 and OQ_2 respectively.

Pricing Under Collusive Oligopoly

The term Collusion means `to play together`. To avoid the competition among the firms, monopolistic firms arrive at a formal agreement called cartel . It is common sales agency formed to eliminate competition and fix such a price and output that will maximize profit of member firms. The firms output and price are determined by this cartel . The following diagram will give the idea more clear or to make an assumption that there are only two firms viz. firm S and firm T .
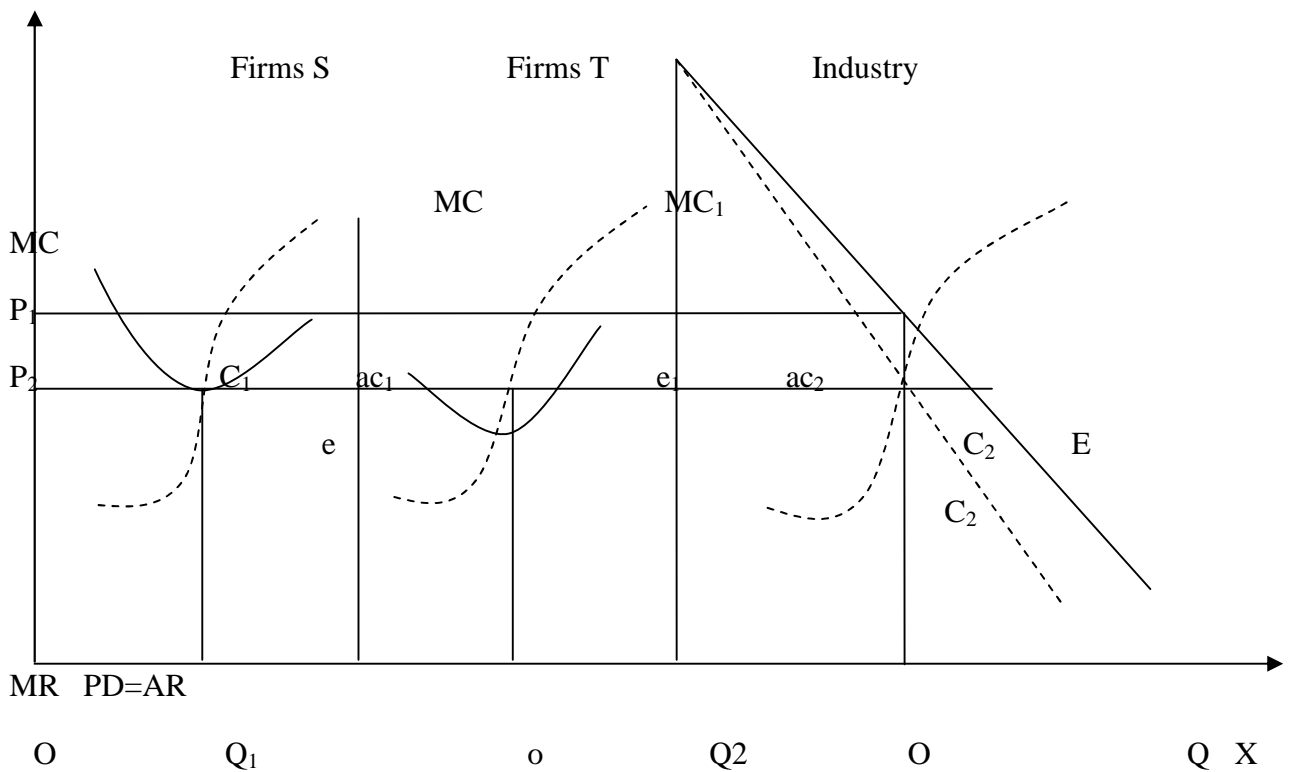
Figure 12   Figure13   Figure13

In the above diagram, MC denotes the marginal cost curve of industry and MC_1 and MC_2 are the MC for the firm S and T . MR is Marginal Revenue Curve .The industry is in equilibrium at point E and equilibrium output is OQ and the price is OP. The equilibrium output of two firms are determined based on this own MC curve. The share of output of each firm will be obtaining by drawing a parallel line through E to the X axis .

The points E1 and E2 determines the level of output for the firm S and the firm T respectively .OQ_1 and OQ_2 determine the market share of firms and Firm T respectively Here , we can say that , $OQ_1 + OQ_2 = OQ$, $OP_1 + OP_2 = OP$

6.14 Price Discrimination

A monopolist is in a position to fix the price of his product .He enjoys the control of supply of the product . A monopolist is able to charge different price for his products to the different customers. This is known as price discrimination . According to Mrs. John Robinson 'the act of selling the same article , produced under single control at different prices to different buyers is known as price discrimination. This is also known as differential pricing

Types of Price Discrimination

1. Price relatively elastic portion of the demand curve of the first degree –charging different price for different persons for the same product .

2. Price discrimination of the second degree –Under this, the buyers are classified into different divisions .

3. Price discrimination of the third degree –Here , the markets are divided according to elasticity of demand

Conditions of Price Discrimination

There are three conditions to be satisfied to apply the price discrimination They are :

1. There must be more than one separate market

2. The markets must have different elasticity of demand

3. The market should be such that no buyer of the market may enter the other market and vice versa

Dumping

When monopolist works in home market as well as foreign market, he is able to discriminate the price between these two markets . If he has monopoly in home market , and he faces competition in to foreign market , he will be able to charge higher prices for his products in home market. This practice is known as `Dumping` or `price dumping `

PRICING POLICY AND PRACTICES.

Formulating price policies and setting the price are the most important aspects of managerial decision making. Price in fact, is the source of revenue which the firm seeks to maximize. Again, it is the most important device a firm can use to expand the market. If the price is set too high, a seller may price himself out of the market. If it is too low, his income may not cover costs, or at best, fall short of what it could be. In other words, if the Company prices too much, it will make fewer sales. If it charges too little, it will sacrifice profits. So the price must be fixed judiciously.

Meaning of price.

Price is the money value of the goods and services. In other words, it is the exchange value of a product or service in terms of money. To the seller, price is a source of revenue. To the buyer, price is the sacrifice of purchasing power.

Factors governing prices and pricing decision.

Price is very important to both the buyer and the seller. In this connection, it may be noted that in economic theory, two parties should be generally emphasized ie. Buyers and sellers. In practice, however, as pointed out by Oxenfeldt, certain other parties are also involved in the pricing process, i.e. Rival seller, potential rivals, middlemen & government. All these parties also exercise their influence in price determination.

Factors governing prices may be divided into external factors and internal factors.

Internal Factors:

These are the factors which are within the control of the organization. Various internal factors are as follows.

1. **Cost:** The price must cover the cost of production including materials, labour, overhead, administrative and selling expenses and a reasonable profit.

2. **Objectives:** While fixing the price, the firm's objectives are to be taken into consideration. Objectives may be maximum sales, targeted rate of return, stability in prices, increase market share, meeting or preventing competition, projecting image etc.

3. **Organizational factors:** Internal arrangement of the organization. Organizational mechanism is to be taken into consideration while deciding the price.

4. **Marketing Mix:** Other element of marketing mix, product, place, promotion, pace and politics are influencing factors for pricing. Since these are interconnected, change in one element will influence the other.

5. **Product differentiation:** One of the objectives of product differentiation is to charge higher prices.

6. **Product life cycle:** At various stages in the Product Life Cycle, various strategic pricing decisions are to be adopted, eg. In the introduction stage. Usually firm charges lower price and in growth stage charges maximum price.

7. **Characteristics of product:** Nature of product, durability, availability of substitute etc. will also influence the pricing.

External Factors.

These factors are beyond the control of organization. The following are the main external factors.

1. **Demand:** If the demand for a product is Inelastic it is better to fix a higher price and if demand is elastic, lower price may be fixed.

2. **Competition:** Number of substitutes available in the market and the extent of competition and the price of competition etc. are to be considered while fixing a firm price.

3. **Distribution channels:** Conflicting interest of manufacturers and middleman is one of the of the important factor that affect the pricing decision. Manufacturer would desire that middleman should sell the product at a minimum mark up.

4. **General economic conditions**: During inflation a firm forced to fix a higher price and in deflation forced to reduce the price.

5. **Government Policy**: While taking pricing decision, a firm has to take into consideration the taxation policy, trade policies etc. of the Government.

6. **Reaction of consumers:** If a firm fixes the price of its product unreasonably high, the consumer may boycott the product.

Pricing Policies.

Price must not be too high or too low. Price setting is a complex problem. The pricing decision is critical not only in the beginning but it must be reviewed and reformulated from time to time. Price policies provide the guidelines within which pricing strategy is formulated and implemented. It represents the general frame work within which pricing decision are taken. Price policies are those management guidelines that control the day to day pricing decision as a means of meeting the objectives of the firm such as maximization of profit, maximization of sales, targeted rate of return, survival, stability of prices, meeting or preventing competition etc.

Steps in formulating pricing policies:

1. Selecting the target market or market segment on which marketer would concentrate more.

2. Studying the consumer behavior and collecting information relating to target market selected.

3. Studying the prices, promotion strategies etc.of the competitors and their impact on the market segment.

4. Assigning a role to price in the marketing mix.

5. Collecting the cost of manufacturing the product at different levels of demand.

6. Fixing suitable (strategic) price after determining the price objectives and according to a selected method of pricing.

Objectives of pricing policy.

Pricing decisions are usually considered a part of the general strategy for achieving a broadly defined goal. Before determining the price itself, the management should decide the objectives. While setting the price, the firm may aim at one or more of the following objectives.

1. **Profit maximization**: Since the primary motive of business is to earn maximum profit, pricing always aim at maximization of profit through maximization of sales.

2. **Market share:** For maximizing market share a firm may lower its price in relation to the competitors' product.

3. **Target return in investment**: The firm should fix the price for the product in such a way that it will satisfy expected returns for the investment.

4. **Meet or prevent competition:** In order to discourage competition a firm may adopt a low price policy.

5. **Price stabilization:** Another objective of pricing is to stabilize the product prices over a considerable period of time.

6. **Resource mobilization**: Company may fix their prices in such a way that sufficient resources are made available for the firms expansion, developmental investment etc.

7. **Speed up cash collection:** Some firms try to set a price which will enable rapid cash recovery as they may be financially tight or may regard future is too uncertain to justify patient cash recovery.

8. **Survival and growth:** An important objective of pricing is survival and achieving the expected rate of growth. Profit is less important than survival.

9. **Prestige and goodwill:** Pricing also aims at maintaining the prestige and enhancing the goodwill of the firm.

10. **Achieving product –quality leadership**: Some Companies aim at establishing product quality leader through premium price**.**

Methods of pricing.

1. Cost Plus pricing.

2. Target pricing.

3. Going rate pricing.

4. Customary pricing.

5. Follow up pricing.

6. Differential pricing.

7. Marginal cost pricing.

8. Barometric pricing.

1. **Cost plus pricing:** This is the most common method used for price. Under this method, the price is fixed to cover all costs and a predetermined percentage of profit.ie, the price is computed by adding a certain percentage to the cost of the product per unit. This method is also known as margin pricing or average cost pricing or full cost pricing or mark up pricing. The business firm under oligopoly and monopolistic market are following this pricing policy.

2. **Target pricing**: this is variant of full cost pricing. Under this method, the cost is added with the predetermined target rate of return on capital invested. In this case the company

estimates future sales, future cost and calculates a targeted rate of return on capital invested. This is also called as rate of return pricing.

3. Marginal cost pricing: under the marginal cost pricing, the price is determined on the basis of marginal cost or variable cost. In this method, fixed costs are totally excluded.

4. **Differential pricing:** Under this method, the same product is sold at different prices to different customers, in different places, and at different periods. This method is called discriminatory pricing or price discrimination. Examples, Cinema theater, telephone bills etc..

5. Going rate pricing: under this method, prices are maintained at par with the average level of prices in the industry. I.e., under this method a firm charges the prices according to what competitors are charging. Firm accepting the price prevailing in the industry in order to avoid price war. This method is also called acceptance pricing or parity pricing.

6. Customary pricing: in the case of some commodities the prices get fixed because they have prevailed over along period of time. Examples, the price of cup of tea or coffee. In short the prices are fixed by custom. The price will change only when the cost changes significantly. It is also called conventional pricing.

7. Follow up pricing: this is the most popular price policy. Under this, a firm determines the price policy according to the price policies of competitors. If the competitors reduce the price of the product, the firm also reduces the price of its product. If the competitors increase the price, the firma also follow the same.

8. Barometric pricing: this is the method of leadership pricing. In this type of price leadership, there is no leader firm. But one firm among the oligopolistic firms announces a price change first. This is followed by other firms in the industry. The barometric price leader need not be a dominant firm with the lowest cost or even the largest firm in the industry but they responds to changes in business environments rapidly. On the basis of a formal or informal tacit agreement, the firms in the industry accept a firm as price leader who may act firstly upon the environmental or market changes.

Pricing of a new product. (Methods and strategy)

In pricing a new product, generally two types of strategies are suggested. They are;

1.   **Skimming price strategy**

This is done with a basic idea of gaining a premium from those buyers who always ready to pay a much higher price than others. Accordingly a product is priced at a very high level due to incurring large promotional expenses in the early stages. Thus skimming price refers to the high initial price charged when a new product is introduced in the market. Reasons for charging this price are;

A. When the demand of new product is relatively inelastic.

B. When there is no close substitutes

   C. Elasticity of demand is not known.

   D. When the buyers are not able to compare the value and utility.

   E. To attract the high income customers.

   F. To recover early the R&D and promotional expenses.

   G. When the product has distinctive qualities, luxuries etc..

2. Penetration price strategy

This is the practice of charging a low price right from the beginning to stimulate the growth of the market and to capture large share of it. Since the price is lower, the product quickly penetrates the market, and consumers with low income are able to purchase it. Reasons for adopting this policy are:

   A. Product has high price elasticity in the initial stage.

   B. The product is accepted by large number of customers.

   C. Economies of large scale production available to firm.

   D. Potential market for the product is large.

   E. Cost of production is low.

   F. To introduce product into market.

   G. To discourage new competitors.

   H. Most of the prospective consumers are in low income class.

Kinds of pricing (pricing strategies)

Pricing policy means a policy determined for normal conditions of the market. Pricing strategy is a policy determined to face a specific situation and is of temporary nature. Simply pricing policies provide guidelines to carry out pricing strategy. Following are the important pricing strategies.

1. **Psychological pricing**: Here manufacturers fix their prices of a product in the manner that it may create an impression in the mind of consumers that the prices are low. E.g. Prices of Bata shoe as Rs.99.99. This is also called odd pricing.

2. **Mark up pricing.**   This method of pricing is followed by whole salers and retailers. When the goods are received, the retailers add a certain percentage of the whole saler's price.

3. **Administered pricing**: Here the pricing is done on the basis of managerial decisions and not on the basis of cost, demand, competition etc.

4. **Other pricing strategies**: Geographical pricing, base point pricing, zone pricing, dual pricing, product line pricing etc. are some other pricing strategies.

Role of Cost in Pricing

Most of the wholesale and retail organizations add some percentage of profit or mark up total cost per unit to arrive at selling price. According to Hall and Hitch, business firms under the conditions of oligopoly and monopolistic competitive market do not determine price and output with the help of the principle MC=MR. they determine price and output on the basis of full average cost of production. Cost of production consists of fixed and variable costs. In the short run the firm may not cover the fixed cost but it must cover at least variable cost. In long run all costs must be covered. if the entire cost is not recovered, the firm will incur losses, and the firm must stop their production. Thus costs provide the basis for pricing. If the cost increase price also increases. Cost represents a resistance point for lowering of price, i.e., below which pricing should not be done. Cost also determines the profit margin at various level of output.

Role of Demand factor in pricing

In the case of pricing of a product, demand plays a significant role. In some cases demand occupies a vital role than cost. The demand is the factor which determines the sales and profit. We know as per law of demand, demand and price have inverse relationship. To increase the demand, the firm has to reduce the price. Similarly to decrease the demand the firm has to increase the price. the elasticity of demand is to be considered in determining the price of the product. If the demand for the product is elastic, the firm can fix lower price. If the demand is inelastic, the firm can fix a higher price**.**

Consumer Psychology and Pricing

While fixing the price of product, the management should give importance to consumer psychology. Actually demand of the product is based upon the behavior of consumers. Some consumer may buy a product of high quality even though the products are highly priced. Consumers think that highly priced products are of high quality. If the price of product is less, consumer will think that such product is of low quality. If the price is too high, the consumer may boycott the product and they will go for substitute product of low price. If the price is too low the consumers think that the goods are of inferior quality. They will not buy it. The important elements that influence the consumer psychology are; price of the product, after sales service, advertisement and sales promotion, personal income, fashions. So consumer are many types, they follow different approaches to firms product. So in case of price determination, the consumer psychology must given due weightage.

Model questions:

Fill in the blanks. (Weightage-1/4)

1. In…………..pricing fixed cost are excluded.

2. Fixing high price during the introduction is called………………

3. The firm charges price in tune with the industry's price is called………

4. Method of charging low price initially called……………

5……………pricing is done on the basis of managerial decisions, not on the basis of cost, demand etc…….

Short answer type (Weightage -1)

1. What is pricing policy?

2. What is cost plus pricing?

3. What is target pricing?

4. What is marginal cost pricing?

5. What is price discrimination?

6. What you mean by skimming price?

7. What is penetration price strategy?

8. What is psychological pricing or charm pricing?

Short essay type (Weightage -2)

1. Mention various method of pricing?

2. What are the objectives of pricing policy?

3. What is the role of cost and demand factors in price determination?

4. Explain the pricing strategies of new products?

5. What is the role of consumer psychology in pricing?

Essay type (Weightage -4)

1. Define pricing policy? What are the factors to be considered while making pricing decision?

2. Explain important methods of pricing?

MODULE - V

INDIAN ECONOMY

India is a land of diversity. it is the second largest populous country in the world. It is blessed with plenty of natural resources. India is a vibrant democratic country. It is the largest democracy of the world. It carries the lamp of democracy in the developing world. India is a mixed economy. Both public sector and private sector exist. It is characterised by both market economy and planned economy. It has a long and glorious history to tell. However, from the economic point of view, India is lagging behind. Indian economy is not well-developed.

Characteristics of Indian Economy

India is a developing economy. One-fourth of its population are living in poverty and misery. Though India possesses plenty of natural and human resources they are not properly and fully utilised. Corruption is rampant all over India. Hongkong is one of the fastest developing economies in the world. But the growth of economy is slow in India. It is therefore, very important to understand the basic characteristics of the Indian economy. The basic characteristics if Indian economy are as follows:

1. **Low per capita income**: Even though India experienced a higher economic growth, the level of national income and per capita income are low GDP at factor cost and per capita income at constant prices (2004-05) in the year 2012-13 are at Rs 55,05,437 crores and Rs 39,168 respectively. Both the figures are very low compared to the developed world. In India, not only is the per capita income low but also the income is unequally distributed. It may be noted that during 1990-2014, India's economy has grown at a faster rate than the developed economies. Even then the difference in per capita income between India and the developed economies is quite large.

2. **Rapid growth of population**: Population in India is not only large but it is growing at a rapid rate. India's population in 2001 was 102.70 crores. It rose to around 130 crores now. Because of the high birth rate and a low death rate, the net increase in population is around 2.2 per cent per annum.

3. **Unemployment and under-employment**: In India labour is an abundant factor. This is due to the rapidly increasing population or population explosion. It is very difficult to provide employment to the entire working population. India is facing at present a big problem of unemployment.

4. **Excessive dependence on agriculture**: Agriculture is the main occupation of majority of the people in India. About 65% of people depend on agriculture for their livelihood. Unfortunately agriculture in India is overcrowded. Although agriculture including allied activities is accounted for less than 14% of GDP in 2012-13, 58.2% of the total employment is engaged in agriculture and allied activities.

5. **Low productivity**: Labour productivity both in agriculture and manufacturing is very low in India. Productivity means output per worker. One major reason for low productivity is lack of capital

6. **Deficiency of capital**: In India there is a great shortage of capital. The rate of capital formation is very low.

7. **Higher poverty:** India is the largest dwelling place of income poor of the world, despite the fall in absolute poverty from 45.3% in 1993-94 to 22% in 2011-12. However, the relative poverty has not declined. Rural poverty was significantly higher than Urban poverty. in short, the low level of living of the average Indian is an important characteristic of the Indian economy.

8. **Higher income inequality**: The inequality in income and wealth makes the problem of poverty more critical

9. **Technological backwardness**: In technical field also, Indian is backward. In India old and defective methods are used. Capital equipments are primitive. Due to technological backwardness, the cost of production is high and productivity is low.

10. **Under-utilisation of natural resources**: In India the natural resources are not fully and properly utilised. For example, large amount of forest wealth, water sources, mineral resources etc. remain unutilised or under-utilised. If they are fully utilised, the country can grow very fast.

11. **Inadequate infrastructure**: Heavy investment in the infrastructure sector is essential for sustainable growth. However, infrastructure in India is insufficient. There is a shortage of power in the country.

12. **Underdeveloped money market**: The Indian money market traditionally comprises scheduled commercial banks and the unorganised segment which comprises individual of family owned indigenous bankers or money lenders and non-banking financial companies.

Major Issues in Indian Economy

One of the major issues is that natural resources are not fully utillised. The resources or income are not equitably distributed among the people poverty is not only chronic but also acute. Bulk of the population lives in conditions of misery. Let us examine the major issues that Indian economy is facing.

1. **Low per capita income and low level of economic growth**: The per capita income of the Indian people is one of the lowest in the world. Even though per capita income has been continuously increasing since 1951, the increase is not so significant. The growth rate is around 6.5% per annum in GDP. This is low when compared to advanced countries.

2. **High proportion of the people below the poverty line**: In India a major development issue is the removal of poverty. Around 40% of the population are living below the poverty line. Many people do not have food to eat, shelter to stay and clothes to wear.

3. **Low level of productivity and efficiency**: Another problem of growth in India is lower productivity. It is estimated that 56% of the urban population and about 49% of the rural population suffer from inadequate nutrition.

4. **Problem of unemployment**: An important development issue in India is to reduce the unemployment and to provide employment to millions of people without jobs

5. **Population pressure**: The most important problem which affects development is the rapid growth of population

6. **Lack of heavy industries**: During the British rule, the Govt did not encourage the growth of heavy industry. They took away the raw materials from india and started industries in Britain. Hence industries flourished there. After independence, the Govt decided to give boost to heavy industry so as to build the industrial base of the economy. But even today the industrial growth is slow in India when compared to developed countries such as USA, Japan, and Germany etc.

7. **Low agricultural productivity**: As already discussed, India's economy is revolving around agriculture. Unfortunately, agricultural productivity is low in India.

8. **Parallel economy:** Parallel economy means the functioning of an unauthorised sector in the economy whose objective is to run parallel to its authorised part. Parallel economy in India is rapidly growing. This is big threat to the Indian economy.

9. **Unequal distribution of income and wealth**: There have been growing inequalities of income and wealth in India during the last 6 decades of planned economic development.

Problems of Growth in Indian Economy

India's growth performance improved significantly during the period under neoliberal reforms initiated in the mid 1980s and gathered momentum in the early 1990s. The recent growth of India's GDP has been led by sercice sector rather than manufacturing sector. The shift of production from agriculture to manufacturing has been slower, whereas the shift to service sector has been more rapid. As a result, the share of service sector in the total output increased significantly between 1990 and 2013, while the share of industrial sector remained almost stable at around 20 %

Govt. has been tking initiative to achive a higher rate of growth and to make the country a developed one. But the country fails to attain the targeted rate of growth. after demonetisation in November 2016, the growth rate has declined slightly. Anyway the Indian economy is not growing as is expected. This is because then are a number of problems in the growth of Indian economy. Here we discuss the major problems only. The major problems include poverty, unemployment, inequality of income, inflation, parallel economy etc.

POVERTY IN INDIA

Poverty is a great curse on humanity. It is both distressing and demoralising. A poor man is a disgrace to society and a cause of humiliation to himself. A poor man, being poor, has no enough to eat. Being underfed he remains inefficient and incapable. Being inefficient and incapable, he has low working capacity. Low working capacity means low earning. Low earning means poverty. Due to poverty, he has no enough to eat and so on. Thus, the vicious

circle is complete. Poverty leads ultimately to poverty. Therefore, a man is poor because he is poor.

Meaning of poverty

Poverty is a social phenomenon. It is a widespread social Problem in underdeveloped countries of the world, particularly in Asia and Africa. Poverty may be defined as a social phenomenon in which a section of the society is unable to fulfil even the basic necessities of life. It is the denial of opportunity to lead long, healthy, creative life and enjoy a decent standard of living, freedom, dignity and self respect and the respect for others. Poverty is estimated in terms of a threshold of the minimum needs, popularly known as the poverty line.

UNEMPLOYMENT IN INDIA

Unemployment is a common economic malady being faced by most of the less developed countries in the world. It is found in developed countries also. However, the nature of unemployment may differ form country to country.

Every sixth person in the world is an Indian and every third poor person in the world is also an Indian. The statistics speak about the gravity of the problems of unemployment and poverty.

Meaning of Uneployment

We can see in most of the societies that people are available and willing to work, but unable to find jobs. This is the situation of unemployment. Unemployment refers to a situation when people are willing and able to work are not gainfully employed in any productive activity. It is a situation in the labour market where the supply of labour is greater than its demand.

Types of Unemployment in India

The important forms of unemployment are as follows:

1. **Voluntary unemployment**: When a person is unemployed because he is not willing to work at the existing wage rate is known as voluntary unemployment

2. **Frictional unemployment**: Frictional unemployment is a temporary phenomenon. When a person is out of one job and is searching for another, a certain time is needed to get the next job. During this time, the person is frictionally unemployed

3. **Seasonal unemployment**: Seasonal unemployment arises due to a seasonal variation in the activities of particular industries

4. **Structural unemployment**: Structural unemployment arises due to structural changes in the economy of a country.

5. **Technological unemployment**: Some workers tend to be replaced by machines due to the technological development such as introduction of new machinery, improvement in methods of production, labour saving devices etc.

Causes of Unemployment in India

Some of the relevant causes of unemployment in India are as follows:

1. **High population pressure**: Population is increasing very fast. It is growing at 2.2% per annum. But jobs are failing to keep pace with the population. Since maximum population live in rural areas, their pressure is relatively more in rural areas. This excess supply of labour force is the main reason behind growing unemployment problem.

2. **Slow growth rate of economy**: As economy grows, usually employment also grows. But in India, most of the time, the economic growth is inadequate and adequate number of jobs could not be created.

3. **Inappropriate technology**: India is a labour surplus but capital scarce economy. Under such circumstances, labour intensive industries should have been given preference. But producers are increasingly substituting capital for labour in industry as well as in agriculture.

4. **Inappropriate education systems**: The education being provided in India is not much of practical utility. The educational system in India did not give proper emphasis on vocational and technical education. In short, India's educaitonal system does not develop human resources properly. This is also responsible for the growing unemployment problem.

5. **Rural-urban migration**: Inadequate employment opportunities in rural areas and relatively higher wage rates in urban areas have led to large scale migration of rural workers to urban areas. This is an important cause of urban unemployment in India.

6. **Decline in traditional industrial activities**: With the changing preference pattern and emergence of modern production technology, some traditional village and cottage industries in India (like handloom industry) have gradually lost their competitive strength. As a result, a large number of artisans have left their traditional jobs.

7. **Emergence of capital – intensive and labour – saving technologies:** Various industries, particularly large and medium scale industries, have adopted labour saving or capital intensive type of technology in the production process. In a labour-surplus economy like India, the use of automatic machines and sophisticated equipments is not justified. Definitely, this type of technology leads to growing unemployment problem.

INEQUALITY IN INCOME DISTRIBUTION IN INDIA

Perhaps the greatest defect of present economic order is inequalities of income. It is often seen that the incomes of different individuals differ. The differences in income are both small and great. Long back in the 19th century a famous play writer Barrie pointed out in his play called 'The admirable Crichton' that differences are bound to exist, whether we live in a civilised society or whether we return to nature. Of course, Barrie was talking in terms of socio-political equality and the controversy about 'equal rights of all'. The demand for equal incomes was raised by Utopian writers and revolutionary political leaders and was the basis of

the French Revolution. The attention on this was further focussed by the writing of Karl Max and Frederk Engels.

INFLATION IN INDIA

Inflation is a global phenomenon. It occurs at regular intervals. The situation of inflation can be seen both in the capitalist and socialist economies.

Meaning of inflation

Inflation simply refers to rise in prices. It is a general and continuous increase in prices. This does not mean that all prices are rising. Some prices may even be falling. But the average price level will rise because most prices are rising. For example, if the inflation rate is 8%, it does not mean that all prices are increasing by 8%. It is only the average increase.

According to Crowther, "Inflation is a state in which the value of money is falling, i.e., prices are rising". According to A.C.Pigou, "Inflation exist when money income is expanding more than proportional to increase in earning activity". In the words of Gardner Ackley, "Inflation is a persistent and appreciable rise in the general level or average of prices"

Causes of Inflation in India

Inflation in Idia stems from an imbalance between demand and supply. In addition, a change in controlled prices can lead to inflation. There are several other factors which affect the rate of inflation. Let us discuss the major causes of inflation (or factors leading to inflation). Important among them are as follows:

1. **Increase in public expenditure**: Increase in public expenditure causes an increase in the demand for goods and services in the economy. The excess of demand over supply leads to inflation.

2. **Increase in private expenditure**: Increase in private expenditure (both consumption expenditure and investment expenditure) causes an increase in demand. When business conditions are good, entrepreneurs start investing more funds in new business enterprises. This increases the demand for factors of production. This results in an increase in the prices of factors of production. When incomes on factors of production increase, expenditure on consumption goods increases. The ultimate effect of an increase in private expenditure is increase in demand for commodities as well as factors of production.

3. **Increase in exports:** An increase in the foreign demand for the country's exports reduces the stock of commodities available for home consumption.

4. **Reduction in taxation**: When the Government reduces the tax, the purchasing power of the people will increase. People are in a position to buy more and more goods and services (consumption expenditure increases). Hence demand for goods and services increases. Now the demand exceeds the supply. Prices increase. Inflation emerges.

5. **Repayment of past internal debt**: When the Government repays its past debts to the public, the income in the hands of the public increases. As a result, puchasing power of the people increases. People buy more and more for consumption purposes. This leads to increasing demand in the economy. Consequently, prices rise and inflation arises

6. **Increases in wages, salaries and pension**: When wages of workers, salaries of the employees and pension of the retired employees increase, generally the purchasing power of the people increases. People start buying more and more goods and services. Demand increases in the economy. Increase in demand causes inflation.

7. **Shortage of factors of production**: When there is a shortage of factors of production (such labour, raw materials etc.) in an economy, production will fall. As the supply falls, the prices tend to increase. This causes inflation

8. **Hoarding by traders**: At the time of shortage and rising prices, there is a tendency on the part of traders to hoard essential commodities. The objective is to make artificial scarcity and make undue profits. This causes further shortage of these goods and services. As a result, prices will rise.

9. **Agricultural price policy of the Government**: The Government has been pursuing the policy of price support to the farmers to promote agricultural productivity. This policy would benefit farmers in India. But this has been a major factor causing price rise and inflation

10. **Inadequate rise in industrial production**: The performance of industrial sector in India is inadequate. The industrial growth is very slow in India. This is also a factor causing inflation.

11. **Other Causes**: Apart from the above causes, there are other factors causing inflation in India. They are: (a) black money and parallel economy, (b) increasing reliance on indirect traders (e.g., higher rates of GST in case of certain goods and services like insurance), (c) high capital output ratio, (d) low surplus from public sector undertakings (e) natural calamities etc.

As per GST (which came in to effect on 1st July 2017) taxes on most of the goods and services have increased.

PARALLEL ECONOMY

In the Indian economy there is a dual existence of two economies. One economy is called the legitimate economy. The entire set of transactions of the legitimate economy is held by the central or state government or any other authorized body. In other words, there is complete record of the transactions undertaken in lieu of such legitimate economies. The other economy is called parallel economy.

Meaning and Definition of Parallel Economy

Parallel economy is a hidden economy of a country. People or business entities when do not show their exact income as per Government rules the income comes under parallel economy. The parallel economy includes unreported income from the production of legal goods and services, either from monetary or barter transactions.

By the term parallel economy we mean working of an unofficial or unsanctioned economy parallel to the parent economy of the country. This type of economy is known by various terms such as 'black economy', illegal economy, 'unaccounted economy', 'unreported economy', 'subterranean economy', 'unsanctioned economy', shadow economy etc.

Indian Economy under WTO Regime

Consequent upon India's signing of GATT agreement in 1954 and joining of WTO as a founder member in 1995, a number of issues have arisen. These issues have impact on India's interest. The government of India has adopted WTO regime in agriculture, trade and industry, intellectual property and services. Let us examine the study of those issues in the context of Indian economy

A. WTO and Indian Agriculture

There are four major provisions relating to agriculture in WTO accord. They are: (a) Reduction in domestic support, (b) Market Access, (c) Trade Related Intellectual Property Rigths (TRIPs), and (d) Disbanding public distribution system. These may be discussed in detail below:

1. **Reduction in Domestic Support**: According to the proposal, the maximum support to agriculture should not exceed 10% of the value of agricultural produce for India. In India it has been observed that government offers minimum support price to 20 agricultural products. The subsidy provided in each case is less than 10%. Moreover, this 10% norm is not applicable to poor farmers (those farmers having less than 2.5 hectors). In India around 40% of the farmers come under the category of poor farmers. Hence these provisions may not have significant impact on India's policy of announcing support to the farmers.

2. **Market Access**: WTO agreement on agriculture also provides for minimum access to market to the foreign supplies. The range of this access is 3 to 5% of the domestic consumption or the existing level of imports.

3. **TRIPs** : The agreement on Trade Related Intellectual Property Rights argues that as far as the plant varieties are concerned (including seeds), they must be protected either by a patent or by an effective *Sui generis system* or by combination of both.

4. **Disbanding Public Distribution**: The WTO accord requires the member countries to procure agricultural products at market price. However, in India, the Public Distribution is meant to help consumers and not the producers. Therefore, the question of disbanding Indian on PDS does not arise.

Agricultural exports from India would increase due to reduction in agricultural subsidies and barriers to export of agricultural products.

B. TRIMs and India

The agreement on Trade Related Investment Measures (TRIMs) under the WTO regime is another sensitive area in the context of the Indian economy. The very purpose of TRIMs is to monitor investment measures which may have the effect of restricting and distorting trade. Provisions regarding TRIMs are not different from those which we have already incorporated in our New Economic Policy (NEP) of 1991. Thus, there is not much problem with regard to TRIMs. This is so because we are already moving on the path of liberalization.

C. Social Clause and India

Social Clause stands for protecting labour standards, more specifically prohibition of employment of children in hazardous industries, providing adequate wages, healthy and hygienic working conditions etc.

The Issue relating to labour was not settled. WTO assigned this task to the International Labour Organization (ILO) to formulate the labour standards.

D. TRIPs and India

The TRIPs section of the WTO agreement covers the following types of intellectual property rights: copyright, trade marks, trade secrets, geographical indications, industrial designs, integrated circuits, and patents.

    a. Copyright

    b. Trade marks and service marks

    c. Industrial Designs and patents

E. WTO and Indian Industry

In the industrial sector, the WTO agreement makes it necessary for India to modify its patent law. Under the present Indian Patents Act, in certain products like food and pharmaceuticals, the patent is limited to method or process of manufacturing. This means that a medicine developed and patented by a firm in a foreign country may be manufactured and marketed by a firm in India if the manufacturing process used is different from the original one.

Model Questions:

A. Objective Type Questions

Fill in the blanks

1. .... is a social phenomenon in which a section of the society in India is unable to fulfil even the basic necessities of life
2. .... is a state in which the value of money is falling
3. Under .... inflation, prices rise slowly
4. Demonetisation of currency of higher denominaitons is to regulate................

Ans: 1- poverty; 2 –inflation, 3- creeping, 4-inflation/parallel economy

B. Short Answer Type

1. Define poverty?
2. Define inflation?
3. Define deflation?
4. Define parallel economy?
5. What is the main objective of WTO?

C. Sort Essay Type

1. What are the major characteristics of Indian economy?
2. What are the major issues in Indian economy?
3. What are the causes of poverty in India?
4. What are the different types unemployment?
5. Discuss the nature unemployment in India?
6. What are the causes of inflation in India?
7. How WTO provisions adversely affect the Indian economy?

D. Long Essay Type

1. Discuss the characteristics of Indian economy.
2. Discuss the major issues in Indian economy.
3. Discuss briefly the various causes of poverty in India.
4. What are the various measures taken by the government to remove poverty in India?
5. Define inflation. What are the causes of inflation in India?
6. Define parallel economy. What are the causes for the emergence of parallel economy in India?
7. Discuss the Indian economy under WTO

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