KARPAGAM ACADEMY OF HIGHER EDUCATION

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Coimbatore – 641 021
Department of Management

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Department: **Management**
Subject Code: **18BAU102** Semester: **I** Year: **2018 - 21 Batch**
Subject: **Managerial Economics - Lesson Plan**

UNIT 1			
S.No	**Lecture Hours**	**Contents**	**References**
1	1	Managerial Economics – Meaning, Nature and Scope	R2: Page No: 40-42 W 1:
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17	1	Elasticity of Supply	T : Page No: 53 – 58

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Total Number of hours planned for Unit 2			**19**

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Total Number of hours planned for Unit 3			**19**
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3	1	Gross and Net Concepts of Income	R3: Page No:401 – 404
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Total Number of hours planned for Unit 4			**19**
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6	1	Instruments of Fiscal Policy	R1: Page No: 608-609
7	1	Budget Preparation – Surplus / Deficit Budget	R1: Page No: 610-613
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10	1	Disequilibrium in BOP ; Meaning and Functions of Money	T : Page No: 211-214
11	1	Demand and Supply of Money	T : Page No: 211-214
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13	1	Commercial and Central Bank – Functions	R1: Page No: 614-615
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18	1	**Total no. of hours planned for unit - V**	**17**
19	1	Discussion of previous ESE question papers	-
20	1	Discussion of previous ESE question papers	-
Total Number of hours planned for Unit 5 and discussion of previous year ESE Question papers			**20**
Total Number of hours allotted for all five units			**96**

SUGGESTED READINGS:

TEXT BOOK : T: Maheswari. Y, (2016). *Managerial Economics*, PHI Learning Pvt., Ltd, New Delhi,

REFERENCES : R1 : Sankaran . S, (2017). *Business Economics*, Margham Publications.

R2 : H.L Ahuja, (2014). *Business Economics* , Sultan chand & sons, NewDelhi

R3 : M.L. Jhingan & J.K. Stephen, (2015). *Managerial Economics*, Vrinda Publications (p) Ltd., NewDelhi.

WEBSITES : W1: https://en.wikipedia.org/wiki/Demand

W2: https://www.investopedia.com/terms/d/demand.asp

W3: www.businessdictionary.com/definition/supply.html

W4: https://en.wikipedia.org/wiki/Production_function

W5: https://en.wikipedia.org/wiki/Isoquant

W6: https://www. academy.org/breakevenanalysis.com

W7: https://market.subwiki.org>price.

W8: https://en.wikipedia.org/wiki/Monopolistic

W 9: https://www.economicsdiscussion.net>difference

W10: www.investopedia.com

W11: https://www.quora.com>surplusand deficitbudget.com

W12: https:// www.investopedia.com>answers.

W13: https:// www.mbaknol.com

Unit – I : Introduction – Meaning, Nature and scope of Managerial Economics, Significance in decision Making. Consumer's Behaviour and Demand: Meaning of Consumer's Equilibrium – Utility approach – Law of Equi-Marginal utility – Consumers Surplus - Concept of Demand – Types of Demand – Determinants – Law of Demand – Exceptions to Law of Demand – Change in Demand – Elasticity of Demand – Types – Measurement of Price elasticity of demand. Concept of Supply – Determinants of supply – Law of Supply – Change in supply – Elasticity of Supply – Types.

Economics was formerly called political economy. The term Political economy means the management of the wealth of the state. "Adam Smith, the father of modem Economics, in his book entitled 'An Enquiry into the Nature and Causes of the Wealth of Nations' (Published in 1776) defined Economics as a study of wealth. Smith considered the acquisition of wealth as the main objective of human activity. According to him the subject matter of Economics is the study of how wealth is produced and consumed. Smith's definition is known as wealth definition.

This definition was too materialistic. It gave more importance to wealth than to man for whose use wealth is produced. The emphasis on wealth was severely criticized by many others. Cailyle, Ruskin and other philosophers called it the Gospel of Mammon. They even called it a dismal science as it was supposed to teach selfishness. Later economists held that apart from man the said study of wealth has no meaning Economics is concerned not only with the production and use of wealth but also with man. It deals with wealth as serving the purpose of man. Wealth is only a means to the end of human welfare. We cannot consider the desire to acquire wealth as the inspiring factor behind every human endeavor. Nor can it be expected to be the sole cause of human happiness. The emphasis has now shifted from wealth to man. Man occupies the primary place and wealth only a secondary place.

DEFINITIONS OF ECONOMICS

Several definitions of Economics have been given. For the sake of convenience let us classify the various definitions into four groups:

1. Science of wealth
2. Science of material well-being
3. Science of choice making and
4. Science of dynamic growth and development

We shall examine each one of these briefly.

1. Science of wealth. Some earlier economists defined Economics as follows:

"An inquiry into the nature and causes of the wealth of the nations" **by Adam Smith.** "Science which deals with wealth" by **J.B. Say.** In the above definition wealth becomes the main focus of the study of Economics. The definition of Economics, as science of wealth, had some merits. The important ones are:

- It highlighted an important problem faced by each and every nation of the world, namely creation of wealth.
- Since the problems of poverty, unemployment etc. can be solved to a greater extent when wealth is produced and is distributed equitably; it goes to the credit of Adam Smith and his followers to have addressed to the problems of economic growth and increase in the production of wealth.

The study of Economics as a 'Science of Wealth' has been criticized on several grounds. The main criticisms leveled against this definition are;

(i) Adam Smith and other classical economists concentrated only on material wealth. They totally ignored creation of immaterial wealth like services of doctors, chartered accountants etc.

(ii) The advocates of Economics as 'science of wealth' concentrated too much on the production of wealth and ignored social welfare. This makes their definition in -complete and inadequate.

2. Science of material well-being.

Under this group of definitions the emphasis is on welfare as compared with wealth in the earlier group. Two important definitions are as follows:

"Economics is a study of mankind in the ordinary business of life. It examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being. Thus, it is on the one side a study of wealth and on the other and more important side a part of the study of the man", **Alfred Marshall**

"The range of our inquiry becomes restricted to that part of social welfare that can be brought directly or indirectly into relation with the measuring rod of money"

A.C. Pigou.

In the first definition Economics has been indicated to be a study of mankind in the ordinary business of life. By ordinary business we mean those activities which occupy considerable part of human effort. The fulfillment of economic needs is a very important business which every man

ordinarily does. Professor Marshall has clearly pointed that Economics is the study of wealth but more important is the study of man.

Thus, man gets precedence over wealth. There is also emphasis on material requisites of well-being. Obviously, the material things like food, clothing and shelter, are very important economic objectives. The second definition by Pigou emphasizes social welfare but only that part of it which can be related with the measuring rod of money. Money is general measure of purchasing power by the use of which the science of Economics can be rendered more precise.

Marshall's and Pigou's definitions of Economics are wider and more comprehensive as they take into account the aspect of social welfare. But their definitions have their share of criticism. Their definitions are criticized on the following grounds.

Economics is concerned with not only material things but also with immaterial things like services of singers, teachers, actors etc. Marshall and Pigou chose to ignore them.

Robbins criticized the welfare definition on the ground that it is very difficult to state.

which things would lead to welfare and which will not. He is of the view that we would study in Economics all those goods and services which carry a price whether they promote welfare or not.

3. Science of choice making.

Robbins gave a more scientific definition of Economics. His definition is as follows:

"Economics is the science which studies human behavior as a relationship between ends and scarce means which have alternative uses".

The definition deals with the following four aspects:

(i) Economics is a science:

Economics studies economic human behaviour scientifically.

It studies how humans try to optimise (maximize or minimize) certain objective under given constraints. For example, it studies how consumers, with given income and prices of the commodities, try to maximize their satisfaction.

(ii) Unlimited ends:

Ends refer to wants. Human wants are unlimited. When one want is satisfied, other wants crop up. If man's wants were limited, then there would be no economic problem.

(iii) Scarce means:

Means refer to resources. Since resources (natural productive resources, man-made capital goods, consumer goods, money and time etc.) are limited economic problem arises. If the resources were unlimited, people would be able to satisfy all their wants and there would be no problem.

(iv)Alternative uses:

Not only resources are scarce, they have alternative uses. For example, coal can be used as a fuel for the production of industrial goods, it can be used for running trains, it can also be used for domestic cooking purposes and for so many purposes. Similarly, financial resources can be used for many purposes. The man or society has, therefore, to choose the uses for which resources would be used. If there was only a single use of the resource then the economic problem would not arise.

It follows from the definition of Robbins that Economics is a science of choice. An important thing about Robbin's definition is that it does not distinguish between material and non-material, between welfare and non-welfare. Anything which satisfies the wants of the people would be studied in Economics. Even if a good is harmful to a person it would be studied in Economics if it satisfies his wants. No doubt, Robbins has made Economics a scientific study and his definition has become popular among some economists. But his definition has also been criticised on several grounds. Important ones are:

(i) Robbins has made Economics quite impersonal and colourless. By making it a complete positive science and excluding normative aspects he has narrowed down
its scope.

(ii) Robbins' definition is totally silent about certain macro-economic aspects such as determination of national income and employment.

(iii) His definition does not cover the theory of economic growth and development.
While Robbins takes resources as given and talks about their allocation, it is totally silent about the measures to be taken to raise these resources i.e. national income and wealth.

3. Science of dynamic growth and development.

Although the fundamental economic problem of scarcity in relation to needs is undisputed it would not be proper to think that economic resources - physical, human, financial are fixed and cannot be increased by human ingenuity, exploration, exploitation and development. A modern and somewhat modified definition is as follows:

"Economics is the study of how men and society choose, with or without the use of

money, to employ scarce productive resources which could have alternative uses, to produce various commodities over time and distribute them for consumption now and in the future amongst various people and groups of society". **Paul A. Samuelson**

The above definition is very comprehensive because it does not restrict to material well-being or money measure as a limiting factor. But it considers economic growth over time.

NATURE OF ECONOMICS

Under this, we generally discuss whether Economics is science or art or both and if it is a science whether it is a positive science or a normative science or both.

Economics - As a science and as an art:

Often a question arises - whether Economics is a science or an art or both.

(a) Economics is a science: A subject is considered science if

- It is a systematized body of knowledge which studies the relationship between cause
- and effect.
- It is capable of measurement.
- It has its own methodological apparatus.
- It should have the ability to forecast.

If we analyse Economics, we find that it has all the features of science. Like science it studies cause and effect relationship between economic phenomena. To understand, let us take the law of demand. It explains the cause and effect relationship between price and demand for a commodity. It says, given other things constant, as price rises, the demand for a commodity falls and vice versa. Here the cause is price and the effect is fall in quantity demanded.

Similarly like science it is capable of being measured, the measurement is in terms of money. It has its own methodology of study (induction and deduction) and it forecasts the future market condition with the help of various statistical and non-statistical tools. But it is to be noted that Economics is not a perfect science. This is because Economists do not have uniform opinion about a particular event.

The subject matter of Economics is the economic behaviour of man which is highly unpredictable. Money which is used to measure outcomes in Economics is itself a dependent variable.

It is not possible to make correct predictions about the behaviour of economic variables.

(b) Economics is an art: Art is nothing but practice of knowledge. Whereas science teaches us to know art teaches us to do. Unlike science which is theoretical, art is practical. If we analyse Economics, we find that it has the features of an art also. Its various branches, consumption, production, public finance, etc. provide practical solutions to various economic problems. It helps in solving various economic problems which we face in our day-to-day life.

Thus, Economics is both a science and an art. It is science in its methodology and art in its application. Study of unemployment problem is science but framing suitable policies for reducing the extent of unemployment is an art.

Economics as Positive Science and Economics as Normative Science

(i) Positive Science:

As stated above, Economics is a science. But the question arises whether it is a positive science or a normative science. A positive or pure science analyses cause and effect relationship between variables but it does not pass value judgment. In other words, it states what is and not what ought to be. Professor Robbins emphasised the positive aspects of science but Marshall and Pigou have considered the ethical aspects of science which obviously are normative.

According to Robbins, Economics is concerned only with the study of the economic decisions of individuals and the society as positive facts but not with the ethics of these decisions. Economics should be neutral between ends. It is not for economists to pass value judgments and make pronouncements on the goodness or otherwise of human decisions. An individual with a limited amount of money may use it for buying liquor and decisions. An individual with a limited amount of money may use it for buying liquor and not milk, but that is entirely his business. A community may use its limited resources for making guns rather than butter, but it is no concern of the economists to condemn or appreciate this policy. Economics only studies facts and makes generalizations form them. It is a pure and positive science, which excludes from its scope the normative aspect of human behavior.

Complete neutrality between ends is, however, neither feasible nor desirable. It is because in many matters the economist has to suggest measures for achieving certain socially desirable ends. For example, when he suggests the adoption of certain policies for increasing employment and raising the rates of wages, he is making value judgments; or that the exploitation of

labour and the state of unemployment are bad and steps should be taken to remove them. Similarly, when he states that the limited resources of the economy should not be used in the way they are being used and should be used in a different way; that the choice between ends is wrong and should be altered, etc. he is making value judgments.

(ii) Normative Science:

As normative science, Economics involves value judgments. It is prescriptive in nature and described 'what should be the things'. For example, the questions like what should be the level of national income, what should be the wage rate, how the fruits of national product be distributed among people - all fall within the scope of normative science. Thus, normative economics is concerned with welfare propositions. Some economists are of the view that value judgments by different individuals will be different and thus for deriving laws or theories, it should not be used.

Economic analysis is concerned with how an economy works, the formulation of economic laws, the methods of economic enquiry and the different approaches to economics.

Economic laws, unlike the exact laws of physical sciences, are more exact than laws of other social sciences. The two methods of economic enquiry namely deduction and induction play a vital part in economic reasoning. The two branches of economic analysis, viz. 1) Micro-economics and 2) Macro-economic are two different approaches, the one analysing small individual units of the economy microscopically, whereas the other looks at the economy as a whole and its large aggregates respectively. Each has its advocates, but now every economics student recognizes the importance and complimentarily of both.

Desire for an object is called the demand function. This lesson examines demand and its determinants. Demand is the force that drives all business without a demand for its goods or services, a firm is doomed to failure.

MEANING OF DEMAND

In economic science, the term "demand" refers to the desire, backed by the necessary ability to pay. The demand for a good at a given price is the quantity of it that can be bought per unit of time at the price. There are three important things about the demand: 1. It is the quantity desired at a given price. 2. It is the demand at a price during

a given time. 3. It is the quantity demanded per unit of time.

DETERMINANTS OF DEMAND

The factors that determine the size and amount of demand are manifold. The term "function" is employed to show such "determined" and "determinant" relationship. For instance, we say that the quantity of a good demanded is a function of its price

i.e., Q = f(p)

Where Q represents quantity demanded

f means function, and

p represents price of the good.

There are many **important determinants** of the demand for a commodity:

1. Price of the goods:

The first and foremost determinant of the demand for good is price. Usually, higher the price of goods, lesser will be the quantity demanded of them.

2. Income of the buyer:

The size of income of the buyers also influences the demand for a commodity. Mostly it is true that "larger the income, more will be the quantity demanded".

3. Prices of Related Goods:

The prices of related goods also affect the demand for a good. In some cases, the demand for a good will go up as the price of related good rises. The goods so inter-related arc known as substitutes, e.g. radio and gramophone. In some other cases, demand for a good will comes down as the price of related good rises. The goods so inter-related are complements, e.g. car and petrol, pen and ink, cart and horse, etc.

4. Tastes of the buyer:

This is a subjective factor. A commodity may not be purchased by the consumer even though it is very cheap and useful, if the commodity is not up to his taste or liking. Contrarily, a good may be purchased by the buyer, even though it is very costly, if it is very much liked by him.

5. Seasons prevailing at the time of purchase;

In winter, the demand for woolen clothes will rise; in summer, the demand for cool drinks rises substantially; in the rainy season, the demand for umbrellas goes up.

6. Fashion:

When a new film becomes a success, the type of garments worn by the hero or the heroine or both becomes an article of fashion and the demand goes up for such garments.

7. Advertisement and Sales promotion:

Advertisement in newspapers and magazines, on outdoor hoardings on buses and trains and in radio and television broadcasts, etc. have a substantial effect on the demand for the good and thereby improves sales. The need to have clarity in demand analysis makes us adopt a 'ceteris paribus' assumption, i.e. all other things remain the same except one. This enables us to consider the relation between demand and each of the variable factors considered in isolation.

Law Of Demand

For a long period of time economists are much interested to study the relationship of price and sales. An indepth knowledge of such relationship is necessary for the management.

Among the many causal factors affecting demand, price is the most significant and the price-quantity relationship called as the Law of Demand is stated as follows: "The greater the amount to be sold, the smaller must be the price at which it is offered in order that it may find purchasers, or in other words, the amount demanded increases with a fall in price and diminishes with a rise in price" (Alfred Marshall). In simple words the things being equal, quantity demanded will be more at a lower price than at higher price.

The law assumes that income, taste, fashion, prices of related goods, etc. remain the same in a given period. The law indicates the inverse relation between the price of a commodity and its quantity demanded in the market. However, it should be remembered that the law is only an indicative and not a quantitative statement. This means that it is not necessary that such variation in demand be proportionate to the change in price.

Demand Schedule

It is a list of alternative hypothetical prices and the quantities demanded of a good corresponding to these prices. It refers to the series of quantities an individual is ready to buy at different prices. An imaginary demand schedule of an individual for apples is
given below:

Price of Apple per unit (in	Quantity demanded of Apples (in

Demand of a Consumer

apple	**rupees)**	**Dozens)**
	4	2
	3	3
	2	4
	1	5

Assuming the individual to be rational in his purchasing behaviour, the above schedule illustrates the law of demand. At Rs.5/- per apple, the consumer demands 1 dozen of apples; at Rs.4/- per unit 2

dozens, at Rs.3/- per unit 3 dozens and at Rs.2/~ per unit 4 dozens. Thus the inverse relationship between price and demand is shown in the demand schedule.

Demand Curve

When the data presented in the demand schedule can be plotted on a graph with quantities demanded on the horizontal or X- axis and hypothetical prices on the vertical or Y- axis, and a smooth curve is hypothetical prices on the vertical or Y- axis, and a smooth curve is drawn Joining all the points so plotted, it gives a demand curve. Thus, the demand schedule is translated into a diagram known as the demand curve.

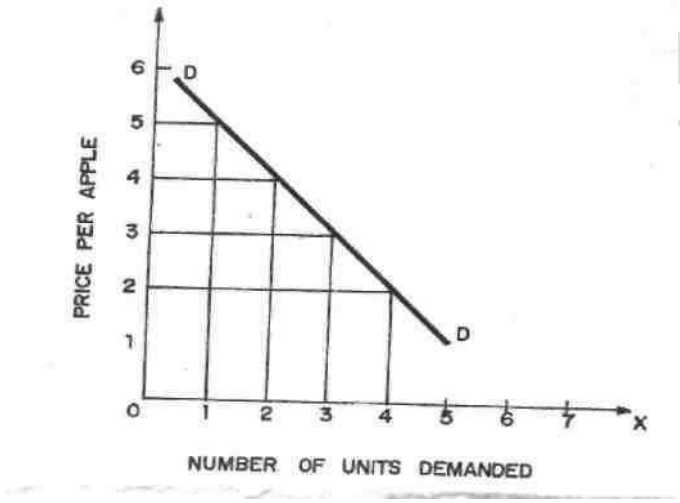


Fig -1

The demand curve slopes downwards from left to right, showing the inverse relationship between price and quantity as in Figure 1.

Market Demand

The market demand reflects the total quantity purchased by all consumers at alternative hypothetical prices. It is the sum-total of all individual demands. It is derived by adding the quantities demanded by each consumer for the product in the market at a particular price. The table presenting the series of quantities demanded of all consumers for a product in the market at alternative hypothetical prices is known as the Market Demand Schedule. If the data are represented on a two dimensional graph, the resulting curve will be the Market Demand Curve. From the point of view of the seller of the product, the market demand curve shows the various quantities that he can sell at different prices. Since the demand curve of an individual is downward sloping, the lateral addition of such curves to get market demand curve will also result in downward sloping curve.

Shifts in Demand Curve

The price-quantity relationship represented by the law of demand is important but it is more important for the manager of the firm to know about the shifts in the demand function (or curve). For many products, change in price has little effect in the quantity demanded in relevant price ranges. Many other determinants like incomes, tastes, fashion, and business activity have larger effect on demand for such product. Thus, changes or shifts in demand curve rather than movement along the demand curve is of greater significance to the decision-maker in the firm.

Let us clearly know the difference between movement along one and the same demand curve and shift in demand curve due to changes

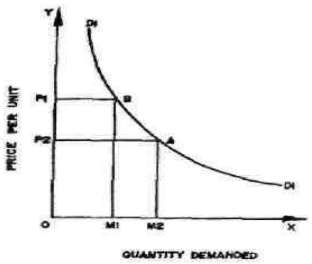
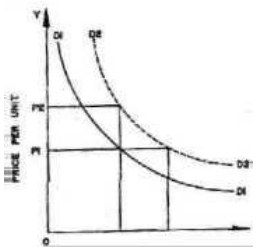


Fig- 2a

in demand. When price of a good alone varies, ceteris paribus, the quantity demanded of the good changes. These changes due to price variations alone are called as extension or contraction of demand represented by movement along the same demand curve. Such movement along the same

demand curve is shown in Figure 2(a). Price declines from OP1 to OP2 and demand goes up from OM1 to OM2. Here the demand for the good is said to have extended or expanded. This is represented by movement from point A to point B along the demand curve. On the contrary, if price rises from OP2 to OP1 demand falls from OM2 to OM1. Here the demand for the good is said to have contracted. This is represented by movement from point B to point A along the demand curve D1D1.



Quantity Demanded

Fig. 2b

Shifts in demand curve take place on account of determinants other than price such as changes in income, fashion, tastes, etc. The ceteris paribus assumption is relaxed; other factors than price influence demand and the impact of these factors on demand is described as changes in demand or shifts in demand, showing increase or decrease in demand. This kind of change is shown in Figure 2(b). The quantity demanded at OP1 is OM1. If, as a result of increase in income, more of the product is demanded, say OM2 at

the same price OP1. Note that OM2 is due to the new demand curve D2D2. This is a case

of shift in demand. Due to fall in income, less of the good may be demanded at the same price and this will be a case of decrease in demand. Thus increase or decrease in demand with shifts in demand curves upward or downward are different from extension or

contraction of demand.

Causes of changes in demand may be due to:

1. Changes in the consumer's income.
2. Changes in the tastes of the consumer.
3. Changes in the prices of related goods (substitutes and complements).
4. Changes in exogenous factors like fashion, social structure, etc.

Why The Demand Curve Slopes Downward Or Reasons For The Law Of Demand

Truly, the demand curve slopes left downward to right, throughout its length although the

slope may be much steeper in some parts. It means, demand increases with the fall in price and contracts with an increase in price. There are several reasons responsible for the inverse price demand relationship which has been explained as under:

1. **Law of Diminishing Marginal Utility.**

The law of demand is based on the law of diminishing marginal utility which states that as the consumer purchases more and more units of a commodity, the utility derived from each successive unit goes on decreasing. It means as the price of the commodity falls, consumer purchases more of the commodity so that his marginal utility from the commodity falls to be equal to the reduced price and vice-versa.

2. **Substitution Effect**.

Substitution effect also leads the demand curve to slope from left downward to right. As the price of a commodity falls, prices of its substitute goods remain the same, the consumer will buy more of that commodity. For instance, tea and coffee are the substitute goods. If the price of tea goes down, the consumers may substitute tea for coffee, although price of coffee remains the same. Therefore, with a fall in price, the demand will increase due to favourable substitution effect. On the other hand with the rise in price, the demand falls due to unfavourable substitution effect. This is nothing but the application of Law of Demand.

3. **Income Effect.**

Another reason for the downward slope of demand curve is the income effect. As the price of the commodity falls, the real income of the consumer goes up. Real income is that income which is measured in terms of goods and services. For example, a consumer has Rs.20, he wants to buy oranges whose price is Rs.20 per dozen. It means the consumer can buy one dozen of oranges with his fixed income. Now, suppose, the price of the oranges falls to Rs.15 per dozen which leads to an increase in his real income by Rs.5. In this case, either the consumer will buy more quantity of oranges than before or he will buy some other commodity with his increased income.

4. **New Consumers**.

When the price of commodity falls, many other consumers who were not consuming that commodity previously will start consuming the commodity. As a result, total market demand goes up. For example, if the price of radio set falls, even the poor man can buy the radio set. Consequently, the total

demand for radios goes up.

5. **Several Uses.**

Some commodities can be put to several uses which lead to downward slope of the demand curve. When the price of such commodities goes up they will be used for important purposes, so their demand will be limited. On the other hand, when the price falls, the commodity in question will extend its demand. For instance, when the price of coal increases, it will be used for important purposes but as the price falls its demand will increase and it will be used for many other uses.

6. **Psychological Effects.**

When the price of a commodity falls, people favour to buy more which is natural and psychological. Therefore, the demand increases with the fall in prices. For example, when the price of silk falls, it is purchased for all the members of the family.

EXCEPTIONS TO THE LAW OF DEMAND

The Law of Demand will not hold good in certain peculiar cases in which more will be demanded at a higher price and less at a lower price. In these cases the demand curves will be exceptionally different, differing from the usual downward sloping shape of the demand curve. The exceptions are as follows:

(i) Conspicuous goods: Some consumers measure the utility of a commodity by its price i.e., if the commodity is expensive they think that it has got more utility. As such, they buy less of this commodity at low price and more of it at high price. Diamonds are often given as example of this case. Higher the price of diamonds, higher is the prestige value attached to them and hence higher is the demand for them.

ii) Giffen goods: Sir Robert Giffen, an economist, was surprised to find out that as the price of bread increased, the British workers purchased more bread and not less of it. This was something against the law of demand. Why did this happen? The reason given for this is that when the price of bread went up, it caused such a large decline in the purchasing power of the poor people that they were forced to cut down the consumption of meat and other more expensive foods.

Since bread even when its price was higher than before was still the cheapest food article, people

consumed more of it and not less when its price went up. Such goods which exhibit direct price-demand relationship are called 'Giffen goods'. Generally those goods which are considered inferior by the consumers and which occupy a substantial place in consumer's budget are called 'Giffen goods'. Examples of such goods are coarse grains like bajra, low quality of rice and wheat etc.

(iii) Future expectations about prices: It has been observed that when the prices are rising, households expecting that the prices in the future will be still higher tend to buy larger quantities of the commodities. For example, when there is wide-spread drought, people expect that prices of food grains would rise in future. They demand greater quantities of food grains as their price rise. But it is to be noted that here it is not the law of demand which is invalidated but there is a change in one of the factors which was held constant while deriving the law of demand, namely change in the price expectations of the people.

(iv) The law has been derived assuming consumers to be rational and knowledgeable about market-conditions. However, at times consumers tend to be irrational and make impulsive purchases without any cool calculations about price and usefulness of the product and in such contexts the law of demand fails.

(v) Similarly, in practice, a household may demand larger quantity of a commodity even at a higher price because it may be ignorant of the ruling price of the commodity. Under such circumstances, the law will not remain valid. The law of demand will also fail if there is any significant change in other factors on which demand of a commodity depends. If there is a change in income of the household, or in prices of the related commodities or in tastes and fashion etc. the inverse demand and price relation may not hold good.

TYPES OF DEMAND

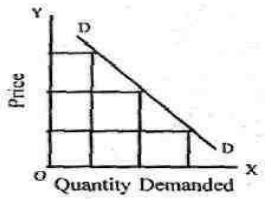
There are three types of demand. They are

1. Price Demand
2. Income Demand and
3. Cross Demand which are explained below:

1. Price Demand

It refers to the various quantities of the good which consumers will purchase at a given time and at certain hypothetical prices assuming that other conditions remain the same. We are generally concerned with price demand only. In the explanation of the law of demand given above, we dealt in

detail with price demand only.



Income demand: Income demand refers to the various quantities of a commodity that a consumer would buy at a given time at various levels of income. Generally, when the income increases, demand increases and vice versa.

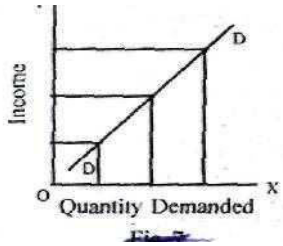


Fig - 4

Cross Demand: When the demand of one commodity is related with the price of other commodity is called cross demand. The commodity may be substitute or complementary. Substitute goods are those goods which can be used in case of each other. For example, tea and coffee, Coca-cola and Pepsi. In such case demand and price are positively related. This means if the price of one increased then the demand for other also increases and vise versa. Complementary goods are those goods which are jointly used to satisfy a want. In other words, complementary goods are those which are incomplete without each other. These are things that go together, often used simultaneously. For example, pen and ink.

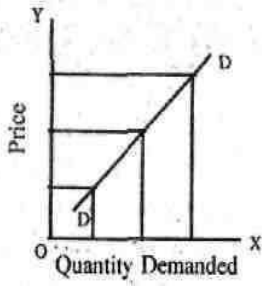


Fig – 5a

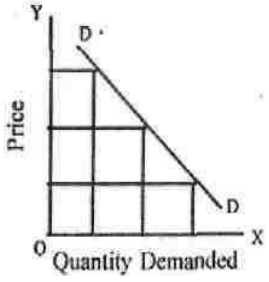


Fig – 5b

Tennis rackets and tennis balls, cameras and film, etc. In such goods the price and demand are negatively

related. This means when the price of one commodity increases the demand for the other falls.

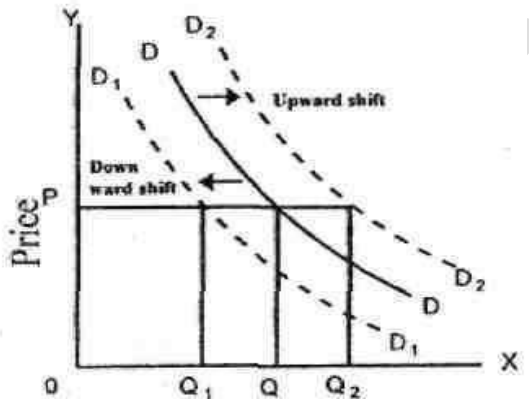
Extension and Contraction of Demand

The change in demand due to change in price only (when other factors remain constant) is called extension and contraction of demand. Increase in demand due to fall in price is called extension of demand. Decrease in demand due to rise in price is called contraction of demand. Extension and Contraction of demand results in movement on the same demand curve. It is shown in the following diagram.

When price is OP Suppose the price falls from OP_2 to $0P_2$ demand will be increased to OQ_2. This is a downward movement along the demand curve DD from a to c. This indicates extension of demand. When the price rises to OP_1, the demand will be decreased to OQ_2 this is an upward movement along the demand curve from a to b. This indicates contraction of demand.

Shift in Demand

We have seen that the demand depends not only on price but also on other factors like income, population, taste and preference of consumers etc. The change in demand due to change in any of the factors other than the price is called shift in demand. Change in any one of the factors shifts the entire demand curve. A change in demand will shift the demand curve either upwards or downwards. An upward shift in demand curve is called increase in demand. Downward shift in demand curve is called decrease in demand. Shift in demand is shown in the following diagram.



Quantity Demand

In the given figure DD is the original demand curve. When the demand increases, (e.g., due to increase in income) the curve will shift upwards to D2D2 without any increase in price. It is

constant at OP. Similarly when the demand decreases, (e.g., due to decrease in income) the curve will shift downwards to D1D1. The price remains constant. Thus extension of demand is different from increase in demand. Likewise, contraction of demand doesn't mean decrease in demand. It should be noted that exclusion and contraction of demand is called "change in quantity demanded" and shift in demand is called "change in demand".

Other Types of Demand

Joint demand: When several commodities are demanded for a joint purpose or to satisfy a particular want. It is a case of a joint demand. Milk , sugar and tea dust are jointly demanded to make tea. Similarly, we may demand paper, pen and ink for writing. Demand for such commodities in bunch is known as joint demand. Demand for land, labour, capital and organisation for producing commodity is also a case of joint demand.

Composite demand: The demand for a commodity which can be put to several uses is a composite demand. In this case a single product is wanted for a number of uses. For example, electricity is used for lighting, heating, for running the engine, for the fans etc. Similarly coal is used in industries, for cooking etc.

Direct and Derived demand: The demand for a commodity which is for direct consumption, i.e.. Demand for ultimate object, is called direct demand, e.g food, cloth, etc. Direct demand is called autonomous demand. Here the demand is not linked with the purchase of some main products. When the commodity is demanded as a result of the demand for another commodity or service, it is known as the derived demand or induced demand. For example, demand for cement is derived from the demand for building construction; demand for tires is derived from the demand for cars or scooters, etc.

Importance of the Law of Demand

The law of demand plays a crucial role in decision-making and forward planning of a business unit. The production planning in a firm mainly rests on accurate demand analysis. The law of demand has theoretical as well as practical advantages. These are as follows:

1. Price determination: With the help of law of demand a monopolist fixes the price of his product. He is able to decide the most profitable quantity of output for him.

2. Useful to government: The finance minister takes the help of this law to know the effects of his tax reforms and policies. Only those commodities which have relatively inelastic demand should be taxed.

3. Useful to farmers: From the law of demand, the farmer knows how far a good or bad crop will affect the economic condition of the fanner. If there is a good crop and demand for it remains the same, price will definitely go down. The farmer will not have much benefit from a good crop, but the rest of the society will be benefited.

4. In the field of planning: The demand schedule has great importance in planning for individual commodities and industries. In such cases it is necessary to know whether a given change in the price of the commodity will have the desired effect on the demand for commodity within the country or abroad. This is known from a study of the nature of demand schedule for the commodity.

INDIFFERENCE CURVE ANALYSIS

In the last section we discussed marginal utility analysis of demand. A very popular alternative and more realistic method of explaining consumer's demand is the Indifference Curve Analysis. This approach to consumer behaviour is based on consumer preferences. It believes that human satisfaction being a psychological phenomenon cannot be measured quantitatively in monetary terms as was attempted in Marshall's utility analysis. In this approach it is felt that it is much easier and scientifically more sound to order preferences than to measure them in terms of money. The consumer preference approach, is, therefore an ordinal concept based on ordering of preferences compared with Marshall's approach of cardinality.

Assumptions Underlying Indifference Curve Approach

1. The consumer is rational and possesses full information about all the relevant aspects of economic environment in which he lives.
2. The consumer is capable of ranking all conceivable combinations of goods according to the satisfaction they yield. Thus if he is given various combinations say A, B, C, D, E he can rank them as first preference, second preference and so on.
3. If a consumer happens to prefer A to B, he can not tell quantitatively how much he prefers A to B.
4. If the consumer prefers combination A to B, and B to C, then he must prefer combination A to C. In other words, he has consistent consumption pattern behaviour.
5. If combination A has more commodities than combination B, then A must be preferred to B.

What are Indifference Curves?

Ordinal analysis of demand (here we will discuss the one given by Hicks and Allen) is based on indifference curves. An indifference curve is a curve which represents all those combinations of goods which give same satisfaction to the consumer. Since all the combinations on an indifference curve give equal satisfaction to the consumer, the consumer is indifferent among them. In other words, since all the combinations provide same level of satisfaction the consumer prefers them equally and does not mind which combination he gets.

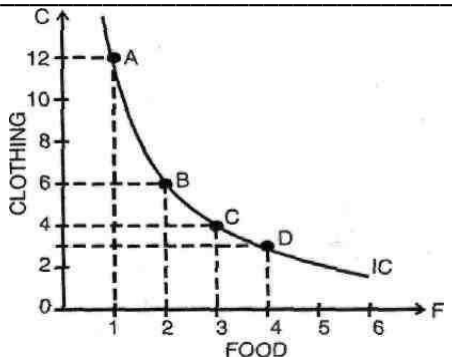
To understand indifference curves let us consider the example of a consumer who has one unit of food and 12 units of clothing. Now we ask the consumer how many units of clothing he is prepared to give up to get an additional unit of food, so that his level of satisfaction does not change. Suppose the consumer says that he is ready to give up 6 units of clothing to get an additional unit of food. We will have then two combinations of food and clothing giving equal satisfaction to consumer: Combination A has 1 unit of food and 12 units of clothing, combination B has 2 units of food and 6 units of clothing.

Similarly, by asking the consumer further how much of clothing he will be prepared to forgo for successive increments in his stock of food so that his level of satisfaction remains unaltered, we get various combinations as given below:

Table Indifference Schedule

Combination	Food	Clothing	MRS
A	1	12	
B	2	6	6
C	3	4	2
D	4	3	1

Now if we draw the above schedule we will get the following figure. In Figure 8, an indifference curve IC is drawn by plotting the various combinations of the indifference schedule. The quantity of food is measured on the X axis and the quantity of clothing on the Y axis. As in indifference schedule, combinations lying on an indifference curve will give the consumer same level of satisfaction.



A Consumer's Indifference Curve

Indifference Map:

A set of indifference curves is called indifference map. An indifference map depicts complete picture of consumer's tastes and preferences. An indifference map of a consumer is shown which consists of three indifference curves.

We have taken good X on X-axis and good Y on Y-axis. It should be noted that while the consumer is indifferent among the combinations lying on the same indifference curve, he certainly prefers the combinations on the higher indifference curve to the combinations lying on a lower indifference curve because a higher indifference curve signifies a higher level of .satisfaction. Thus while all combinations of IC, give same satisfaction, all combinations lying on IC2 give greater satisfaction than those lying on IC1

Marginal Rate of Substitution: Marginal Rate of Substitution (MRS) is the rate at which the consumer is prepared to exchange goods X and Y Consider Table-2. In the beginning the consumer is consuming 1 unit of food and 12 units of clothing. Subsequently, he gives up 6 units of clothing to get an extra unit of food, his level of satisfaction remaining the same. The MRS here is 6. Like wise which he moves from B to and from C to D in his indifference schedule, the MRS are 2 and 1 respectively. Thus, we can define MRS of X for Y as the amount of Y whose loss can just be compensated by a unit gain of X in such a manner that the level of satisfaction remains the same. We notice that MRS is falling i.e., as the consumer has more and more units of food, he is prepared to give up less and less units of cloths. There are two reasons for this.

1. The want for a particular good is satiable so that when a consumer has its more quantity, his intensity of want for it decreases. Thus, when consumer in our example, has more units of food, his intensity of desire for additional units

of food decreases.

2. Most of the goods are imperfect substitutes of one another. If, they could substitute one another perfectly. MRS would remain constant.

Properties of Indifference Curves:

The following are the main characteristics or properties of indifference curves :

(i) Indifference curves slope downward to the right:

This property implies that when the amount of one good in combination is increased, the amount of the other good is reduced. This is essential if the level of satisfaction is to remain the same on an indifference curve.

(ii) Indifference curves are always convex to the origin:

It has been observed that as more and more of one commodity (X) is substituted for another (Y), the consumer is willing to part with less and less of the commodity being substituted (i.e. Y). This is called diminishing marginal rate of substitution. Thus in our example of food and clothing, as a consumer has more and more units of food, he is prepared to forego less and less units of clothing. This happens mainly because want for a particular good is satiable and as a person has more and more of a good, his intensity of want for that good goes on diminishing.

This diminishing marginal rate of substitution gives convex shape to the indifference curves. However, there are two extreme situations. When two goods are perfect substitutes of each other, the indifference curve is a straight line on which MRS is constant. And when two goods are perfect complementary goods (e.g. gasoline and water in a car), the indifference curve will consist of two straight line with a right angle bent which is convex to the origin or in other words, it will be L shaped.

(iii) Indifference curves can never intersect each other:

No two indifference curves will intersect each other although it is not necessary that they are parallel to each other. In case of intersection the relationship becomes logically absurd because it would show that higher and lower levels are equal which is not possible. This property will be clear from the following Figure

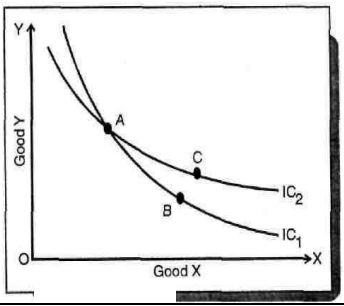


Fig Indifference Curves

In the above figure IC_1, and IC_2 intersect at A. Since A and B lie on IC_1, they give same satisfaction to the consumer. Similarly since A and C lie on IC_2, they give same satisfaction to the consumer. This implies that combination B and C are equal in terms of satisfaction. But a glance will show that this is an absurd conclusion because certainly combination C is better than combination B because it contains more units of commodities X and Y. Thus we see that no two indifference curves can touch or cut each other.

(iii) A higher indifference curve represents a higher level of satisfaction than the lower indifference curve:

This is because combinations lying on a higher indifference curve contain mere of either one or both goods and more goods are preferred to less of them.

Budget line :

A higher indifference curve shows a higher level of satisfaction than a lower one. Therefore, a consumer in his attempt to maximise satisfaction will try to reach the highest possible indifference curve. But in his pursuit of buying more and more goods and thus obtaining more and more satisfaction he has to work under two constraints : firstly, he has to pay the prices for the goods and, secondly, he has a limited money income with which to purchase the goods. These constraints are explained by budget line or price line.

In simple words a budget line shows all those combinations of two goods which the consumer can buy spending his given money income on the two goods at their given prices. All those combinations which are within the reach of the consumer (assuming that he spends all his money income) will lie on the budget line.

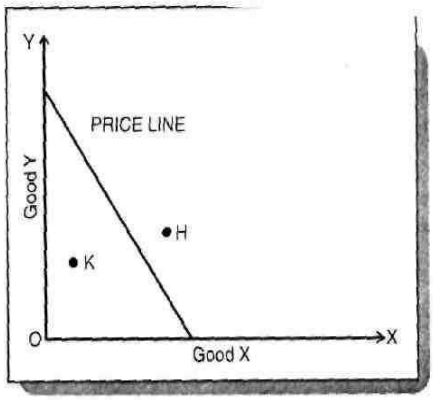


Fig. 14 : Price Line

It should be noted that any point outside the given price line, like H, will be beyond the reach of the consumer and any combination lying within the line, like K, shows under spending by the consumer.

2.6 Consumer's Equilibrium:

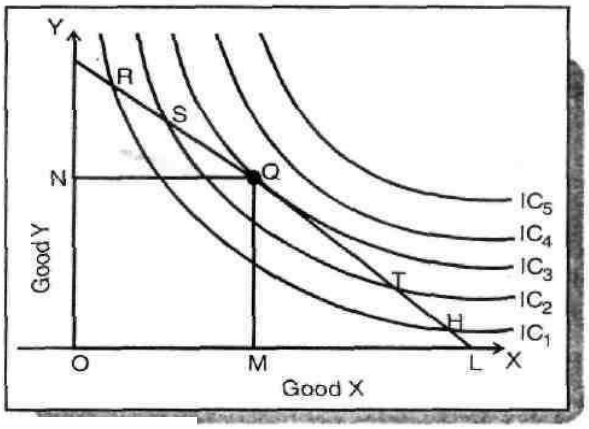
Having explained indifference curves and budget line, we are in a position to explain how a consumer reaches equilibrium position. A consumer is in equilibrium when he is deriving maximum possible satisfaction from the goods and is in no position to rearrange his purchases of goods. We assume that :

(i) the consumer has a given indifference map which shows his scale of preferences for various combinations of two goods X and Y.

(ii) he has a fixed money income which he has to spend wholly on goods X and Y.

(iii)prices of goods X and Y are given and are fixed for him.

To show which combination of two goods X and Y the consumer will buy to be in equilibrium we bring his indifference map and budget line together. We know by now, that the indifference map depicts the consumer's preference scale between various combinations of two goods and the budget line shows various



Consumer's Equilibrium

combinations which he can afford to buy with his given money income and prices of the two goods. Consider Figure 12, in which IC_1, IC_2, IC_3, IC_4 and IC_5 are shown together with budget line PL for good X and good Y. Every combination on budget line PL costs the same. Thus combinations R, S, Q, T and H cost the same to the consumer. The consumer's aim is to Maximize his satisfaction and for this he will try to reach highest indifference curve.

But since there is a budget constraint he will be forced to remain on the given budget line, that is he will have to choose any combinations from among only those which lie on the given price line. Which combination will he choose? Suppose he chooses R, but we see that R lies

on a lower indifference curve IC_1, when he can very well afford S, Q or T lying on higher indifference curve. Similar is the case for other combinations on IC_1, like H. Again, suppose he chooses combination S (or T) lying on IC_2. But here again we see that the consumer can still reach a higher level of satisfaction remaining within his budget constraints i.e., he can afford to have combination Q lying on IC_3 because it lies on his budget line. Now what if he chooses combination Q? We find that this is the best choice because this combination lies not only on his budget line but also puts him on highest possible indifference curve i.e., IC_3 The consumer can very well wish to reach IC_4 or IC_5, but these indifference curves are beyond his reach given his money income. Thus the consumer will be at equilibrium at point Q on IC_3. What do we notice at point Q? We notice that at this point, his budget line PL is tangent to the indifference curve IC_3. In this equilibrium position (at Q), the consumer will buy OM of X and ON of Y.

Thus, we can say that the consumer is in equilibrium position when price line is tangent to the indifference curve or when the marginal rate of substitution of goods X and Y is equal to the ratio between the prices of the two goods.

Elasticity of Demand

In this lesson a detailed discussion regarding elasticity's as a measure of the responsiveness of one item to changes in another item is made. Elasticity is a common concept that economists, Business people and others rely upon for the measurement between two variables say for example the ratio of percentage change in quantity demanded to percentage change in some other factor like Price or Income.

The concept of price-elasticity of demand was first of all introduced in economics by Dr. Marshall. In simple words, price elasticity of demand is the ratio of percentage change in quantity demanded to the percentage change in price. In other words, price elasticity of demand is a measure of the relative change in quantity purchased of a good in response to a relative change in its price. It is, thus a rate at which the demand changes to the given change in prices. So, it means the rate or the degree of response in demand to the change in price. Thus, the co-efficient of price-elasticity of demand can be expressed as under:

$$E_p = \frac{\text{Proportionate change in Quantity Demanded}}{\text{Proportionate change in price}}$$

Definitions of Price Elasticity of Demand

The concept of price elasticity of demand has been defined by different economists as under :

According to **Alfred Marshall**: "Elasticity of demand may be defined as the percentage change in quantity demanded to the percentage change in price."

According to **A.K. Cairncross** : "The elasticity of demand for a commodity is the rate at which quantity bought changes as the price changes."

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

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

Degrees of Price Elasticity

Different commodities have different price elasticities. Some commodities have more elastic

demand while others have relative elastic demand. Basically, the price elasticity of demand ranges from zero to infinity. It can be equal to zero, less than one, greater than one and equal to unity.

According to **Dr. Marshall** : "The elasticity or reponsiveness of demand in a market is great or small according as the amount demanded increases much or little for a given fall in price and diminishes much or little for a given rise in price." However, some particular values of elasticity of demand have been explained as under ;

Perfectly Elastic Demand.

Perfectly elastic demand is said to h appen when a little change in price leads to an infinite change in quantity demanded. A small rise in price on the part of the seller reduces the demand to zero. In such a case the shape of the demand curve will be horizontal straight line as shown in figure 13

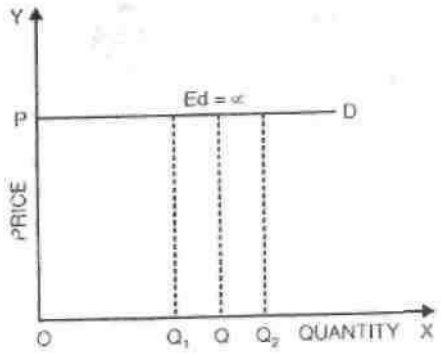
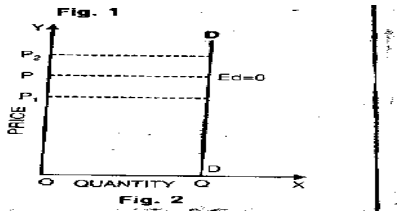


Fig - 13

The figure 13 shows that at the ruling price OP, the demand is infinite. A slight rise in price will contract the demand to zero. A slight fall in price will attract more consumers but the elasticiy of demand will remain infinite. But in real world, the cases of perfectly elastic demand are exceedingly rare and are not of any practical interest.

2. Perfectly inelastic Demand



Perfectly inelastic demand is opposite to perfectly elastic demand. Under the perfectly inelastic demand, irrespective of any rise or fall in price of a commodity, the quantity demanded remains the same. The elasticity of demand in this case will be equal to zero.In diagram 14, DD shows the perfectly inelastic demand. At price OP, the quantity demanded is OQ. Now, the price falls to OP, from OP_1, demand remains the same. Similarly, if the price rises to OP_2 the demand still remains the same. But just as we do not see the example of perfectly elastic demand in the real world, in the same fashion it is difficult to come across the cases of perfectly inelastic demand because even the demand for bare essentials of life does show some degree of responsiveness to change in price.

3. Unitary Elastic Demand.

The demand is said to be unitary elastic when a given proportionate change in the price level brings about an equal proportionate change in quantity demanded. The numerical value of unitary elastic demand is exactly one i.e., ed = 1. Marshall calls it unit elastic. In figure 15, DD demand curve represents unitary elastic demand. This demand curve is called rectangular hyperbola. When price is OP, the quantity demanded is OQ_1. Now price falls to OP_1, the quantity demanded increases to OQ_1. The shaded area in the fig. equal in terms of price and quantity demanded denotes that in all cases price elasticity of demand is equal to one.

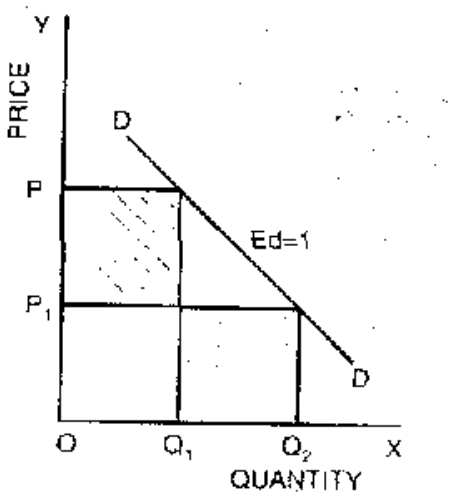


Fig – 15

4. Relatively Elastic Demand

Relatively elastic demand refers to a situation in which a small change in price leads to a big change in quantity demanded. In such a case elasticity of demand is said to be more than one. This has been

shown in figure 16.

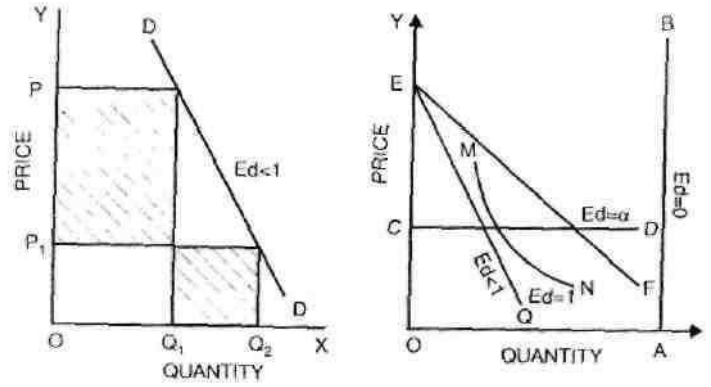
In fig.16, DD is the demand curve which indicates that when price is OP the quantity demanded is OQ_1, Now the price falls from OP to OP_1, the quantity demanded increases from OQ_1 to OQ_2 i.e. quantity demanded changes more than the change in price.

5. Relatively Inelastic Demand.

Under the relatively inelastic demand a given percentage change in price produces a relatively less percentage change in quantity demanded. In such a case elasticity of demand is said to be less than one as shown in figure 17.

All the five degrees of elasticity of demand have been shown in figure 18. On OX axis, quantity demanded and on OY axis price is given. It shows:

1. AB — Perfectly Inelastic Demand
2. CD — Perfectly Elastic Demand
3. EQ — Less Than Unitary Elastic Demand
4. EF — Greater Than Unitary Elastic Demand
5. MN — Unitary Elastic Demand.



FACTORS DETERMINING PRICE ELASTICITY OF DEMAND

The factors that determine elasticity of demand are numberless. But the most important among them are the nature, uses and prices of related goods and the level of income. They are stated below:

I. Nature of the commodity: Generally, all commodities can be dividend into three categories i.e.

(i) Necessaries of Life. For necessaries of life the demand is inelastic because people buy the required amount of goods whatever their price. For example, necessaries such as rice, salt, cloth are purchased whether they are dear or cheap.

(ii) Conventional Necessaries. The demand for conventional necessaries is less elastic or inelastic. People are accustomed to the use of goods like intoxicants which they purchase at any price. For example, drunkards consider opium and wine almost as a necessity as food and water. Therefore, they buy the same amount even when their prices are higher and highest.

(iii) Luxury Commodities. The demand for luxury is usually elastic as people buy more of them at a lower price and less at a higher price. For example, the demand of luxuries like silk, perfumes and ornaments increases at a lower price and diminishes at a higher price. Here, we must keep in mind that luxury is a relative term, which varies from person to person, place to place and from time to time. For example, what is a luxury to a poor man is a necessity to the rich. The luxury of the past may become a necessity of today. Similarly a commodity which is a necessity to one class may be a luxury to another. Hence, the elasticity of demand in such cases should have to be carefully expressed.

2. Substitutes. Demand is elastic for those goods which have substitutes and inelastic for those goods which have no substitutes. The availability of substitutes, thus, determines the elasticity of demand. For instance, tea and coffee are substitutes. The change in the price of tea affects the demand for coffee. Hence, the demand for coffee and tea is elastic.

3. Number of Uses. Elasticity of demand for any commodity depends on its number of uses. Demand is elastic; if a commodity has more uses and inelastic if it has only one use. As coal has multiple uses, if its price falls it will be demanded more for cooking, heating, industrial purposes etc. But if its price rises, minimum will be demanded for every purpose.

4. Postponement. Demand is more elastic for goods the use of which can be postponed. For example, if the price of silk rises, its consumption can be postponed. The demand for silk is, therefore, elastic. Demand is inelastic for those goods the use of which is urgent and, therefore, cannot be postponed. The use of medicines cannot be put off. Hence, the demand for medicines is inelastic.

5. Raw Materials and Finished Goods. The demand for raw materials is inelastic but the demand for finished goods is elastic. For instance, raw cotton has inelastic demand but cloth has elastic demand. In the same way, petrol has inelastic demand but car itself has only elastic demand.

6. Price Level. The demand is elastic for moderate prices but inelastic for lower and higher prices. The

rich and the poor do not bother about the prices of the goods that they buy. For example, rich buy Benaras silk and diamonds etc. at any price. But the poor buy coarse rice, cloth etc. whatever their prices are.

7. Income Level. The demand is inelastic for higher and lower income groups and elastic for middle income groups. The rich people with their higher income do not bother about the price. They may continue to buy the same amount whatever the price. The poor people with lower incomes buy always only the minimum requirements and, therefore, they are induced neither to buy more at a lower price nor less at a higher price. The middle income group is sensitive to the change in price. Thus, they buy more at a lower

price and less at higher price.

8. Habits. If consumers are habituated of some commodities, the demand for such commodities will be usually inelastic. It is because that the consumer will use them even their prices go up. For example, a smoker does not smoke less when the price of cigarette goes up.

9. Nature of Expenditure. The elasticity of demand for a commodity also depends as to how much part of the income is spent on that particular commodity. The demand for such commodities where a small part of income is spent is generally highly inelastic i.e. newspaper, boot-polish etc. On the other hand, the demand of such commodities where a significant part of income is spent, elasticity of demand is very elastic.

10. Distribution of Income. If the income is uniformly distributed in the society, a small change in price will affect the demand of the whole society and the demand will be elastic. In case of unequal distribution of income and wealth, a change in price will hardly influence the poor section of the society and the demand will be relatively inelastic.

11. Influence of Diminishing Marginal Utility. We know that utility falls when we consume more and more units but not in a uniform way. In case utility falls rapidly, it means that the consumer has no other near substitutes. As a result, demand is inelastic. Conversely, if the utility falls slowly, demand for such commodity would be elastic and raises much for a fall in price.

MEASUREMENT OF PRICE ELASTICITY OF DEMAND

There are five methods to measure the price elasticity of demand.

1. Total Expenditure Method.
2. Proportionate Method.
3. Point Elasticity of Demand.

4. Arc Elasticity of Demand.

5. Revenue Method.

Total Expenditure Method

Dr. Marshall has evolved the total expenditure method to measure the price elasticity of demand. According to this method, elasticity of demand can be measured by considering the change in price and the subsequent change in the total quantity of goods purchased and the total amount of money spend on it.

Total Outlay = Price x Quantity Demanded.

There are three possibilities:

- If with a fall in price (demand increases) the total expenditure increases or with a rise in price (demand falls) the total expenditure falls, in that case the elasticity of demand is greater than one i.e. (Ed >1.)
- If with a rise or fall in the price (demand falls or rises respectively), the total expenditure remains the same, the demand will be unitary elastic i.e. (Ed = 1).
- with a fall in price (Demand rises), the total expenditure also falls, and with a rise in price (Demand falls) the total expenditure also rises, the demand is said to be less elastic or elasticity of demand is less than one i.e. (Ed <1).

1. More Elastic Demand.

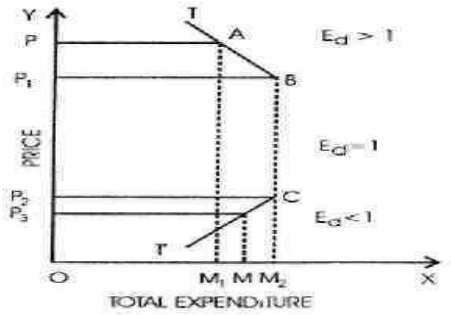
When price is Rs. 10 the quantity demanded is 1 unit and total expenditure is 10. Now price falls from Rs. 10 to Rs. 6, the quantity demanded increases from 1 to 5 units and correspondingly the total expenditure increases from Rs. 10 to Rs. 30. Thus it is clear that with the fall in price, the total expenditure increases and vice-versa. So elasticity of demand is greater than one or Ed > 1.

2.Unitary Elastic Demand.

If price is Rs. 6, demand is 5 units so the total outlay is Rs. 30. Now price falls to Rs. 5, the demand increases to 6 units but the total expenditure remains the same i.e., Rs. 30. Thus it is clear that with the rise or fall in price, the total expenditure remains the same. The elasticity of demand in this case is equal to one or Ed = 1.

3.Less Elastic Demand.

If price is Rs. 5, demand is 6 and total outlay is Rs. 30. Now price falls from Rs. 5 to Re. 1. The demand increases from 6 units to 10 units and hence the total expenditure falls from Rs. 30 to Rs. 10. Thus it is clear that with the fall in price the total expenditure also falls and vice-versa. In this case, the elasticity of demand is less than one or Ed<l.



iagrammatic Representation:

Measurement of price elasticity through total expenditure method can be shown with the help of fig. 19. In the figure 19 total expenditure has been shown on X-axis and price on Y-axis. Line TT' is the total expenditure line. When price of the commodity falls from OP to OP1 total expenditure increases from OM1 to OM2. The elasticity of demand is greater than one as is shown in TB portion of the figure. Now, suppose that the price of the commodity decreases from OP^1 to OP^3 the total expenditure falls from OM2 to OM. This is shown in T'C part of the figure which represents the less than unity elasticity of demand. In the same way, BC part of the figure represents the unit elasticity of demand. Thus it is clear that the changes in total expenditure due to changes in price also affect the elasticity of demand.

Proportionate Method

This method is also associated with the name of Dr. Marshall. According to this method, "price elasticity of demand is the ratio of percentage change in the amount demanded to the percentage change in price of the commodity." It is also known as the

Percentage Method, Flux Method, Ratio Method, and Arithmetic Method.

$$E_{\#} = \frac{\text{Proportionate change in Quantity Demanded}}{\text{Proportionate change in price}}$$

Arc Elasticity of Demand

According to **Prof. Baumol:** "Arc elasticity is a measure of the average responsiveness to price change exhibited by a demand curve over some finite stretch of the curve".

According to **Watson:** "Arc elasticity is the elasticity at the mid-point of an are of a demand curve."

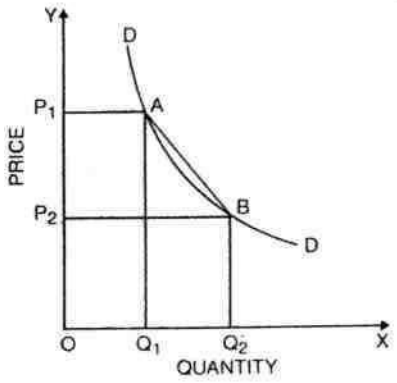
According to **Leftwitch :** "When elasticity is computed between two separate points on a

demand curve, the concept is called Are elasticity." This method of measuring elasticity of demand is also known as "Average Elasticity".

Are elasticity of demand in notational farm can be express with the help of a diagram 20.

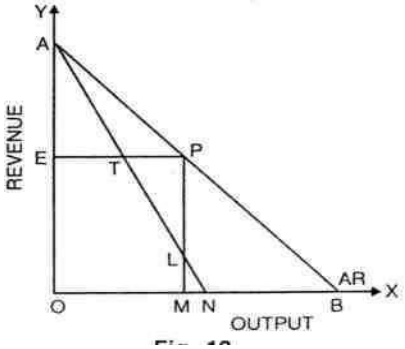
In figure 20 quantity is measured on X-axis while price on Y- axis. DD is the demand curve. Now if we want to measure the arc elasticity between A and B on the demand curve DD, we will have to take the average of prices OPl and OP2 as well as of quantities; Q1 and Q2.

$$E_A = \left[F + (F + \overline{AF})\right] \quad [Q + (Q + \overline{AQ})]\, AF$$



Revenue Method

Mrs.; Joan Robinson has given this method. She says that elasticity of demand can be measured with the help of average revenue and marginal revenue. Therefore, a sale proceeds that a firm obtains by selling its products is called its revenue. However, when total revenue is divided by the number of units sold, we get average revenue. On the contrary, when addition is made to the total revenue by the sale of one more unit of the commodity is called marginal revenue.



where Ed represents elasticity of demand, A = average revenue and M = marginal revenue. This method can be explained with the help of diagram 21.

In this diagram 21 revenue has been shown on OY-axis while quantity of goods on OX- axis. AB is the average revenue or demand curve and AN is the marginal revenue curve.

At point P on demand curve, elasticity of demand is calculated with the formula,

$$E_p = \frac{LowerFortion}{UpperFortion} \text{ or } \frac{FB}{FA}$$

We can see in the figure that AAEP and APMB are similar, thus ratio of their sides is also equal. $E_p = \frac{FB}{FA} = \frac{FM}{AE}$ and; AAET and ATPL are congruent triangles, therefore PL = AE.

Putting PL in place of AE in the above equation, we shall get

$$E = \frac{FM}{FL}$$

In this way, if value of Ep is one it means that price elasticity of demand is unitary. Similarly, if it is more than one, price elasticity of demand is greater than one and if it is less than one, price elasticity of demand is less than unity.

INCOME ELASTICITY OF DEMAND

According to **Stonier and Hague**: "Income elasticity of demand shows the way in which a consumer's purchase of any good changes as a result of change in his income."

It shows the responsiveness of a consumer's purchase of a particular commodity to a change in his income. Income elasticity of demand means the ratio of percentage

change in the quantity demanded to the percentage change in income. In brief income elasticity.

$$I_e = \frac{\text{proportionate change in quantity purchased}}{\text{proportionate change in income}}$$

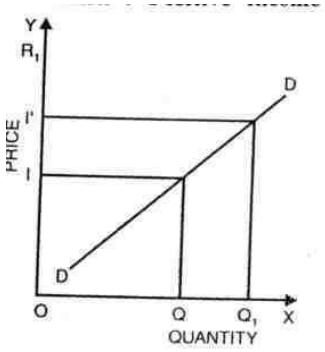
I_e = percentage ~~change in demand/ percentage~~ change in income

Degrees of Income Elasticity of Demand

Positive income elasticity of Demand :

Positive income elasticity of demand is said to occur when with the increase in the income of the consumer, his demand for goods and services also increases and vice-versa. Income elasticity of demand is positive in case of normal goods.

In fig. 22, quantity of commodity T has been measured on X-axis and income of the consumer on Y-axis. DD is the positive income elasticity of demand curve. It slopes upward from left to right indicating that increase in income is accompanied by increase in demand of goods and services and vice-versa.



1.Income Elasticity is Unity. The change in demand is proportionate to the change in income. For example

Income Elasticity = 1 when 25% *change in demand* / 25% *change in income*

2. Income Elasticity Greater than One. When the change in demand is more than proportionate change in income, income elasticity of demand is greater than one or unity. For example,

Income Elasticity >1 when

15% *change in demand* / 10% *change in income* = 1.5

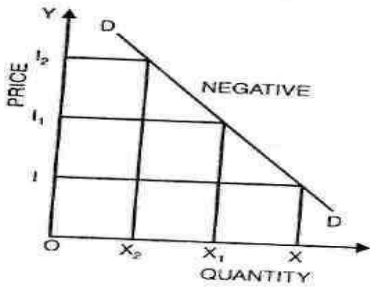
3. Income Elasticity Less than One. If change in demand is less than proportionate change in income, income elasticity of demand is less than one or unity. For example.

Income Elasticity <1 when

20% *change in demand* / 40% *change in income = 0.5*

ii) Negative Income Elasticity of Demand: Negative income elasticity of demand is said to occur when increase in the income of the consumers is accompanied by fall in demand of goods and services and vice-versa. It is the case of giffen goods.

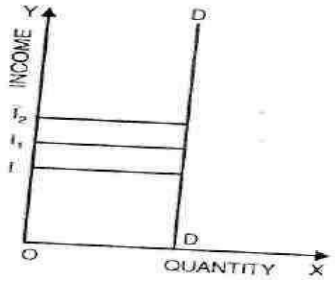
In fig. 23 when income of the consumer is 01, demand for goods and services is OX. Now as the income I1 increases to I1 quantity demanded falls o to OX1. Again as the income increases to 12, quantity demanded falls to OX2. DD is the negative income elasticity of demand curve.



(iii) Zero Income Elasticity of Demand:

Zero income elasticity of demand is said to exist when increase or decrease in income has no impact on the demand of goods and services. In fig. 24 initially when income is OI, quantity demanded is OD. Now, income increases to OI2 demand Remains constant i.e. OD. Even when income reduces to 01 , quantity demanded remains OD.

Generally, as income increases demand for goods increases. But in some cases, demand may not change to change in income or demand may diminish for an increase in income. The former case represents zero income elasticity. Income elasticity is zero if a change in income fails to produce any change in demand. Income elasticity is negative, if an increase in income leads to a reduction of demand. This happens only in the case of inferior goods. But in all other cases it is positive.



In short income elasticity is greater than one for luxuries but less than one for necessaries.

CROSS ELASTICITY OF DEMAND

It is the ratio of proportionate change in the quantity demanded of Y to a given proportionate change in the price of the related commodity X. It is a measure of relative change in the quantity demanded of a commodity due to a change in the price of its substitute complement. It can be expressed as

$$\text{Ɛ} = \frac{\text{proportionate change in the quantity demanded of } Y}{\text{proportionate change in the price of } X}$$

Cross elasticity is zero, if a change in the price of one commodity will not affect the quantity demanded of the other. In the case of goods which are not related to each other, cross elasticity of demand is zero.

Types of Cross Elasticity of Demand

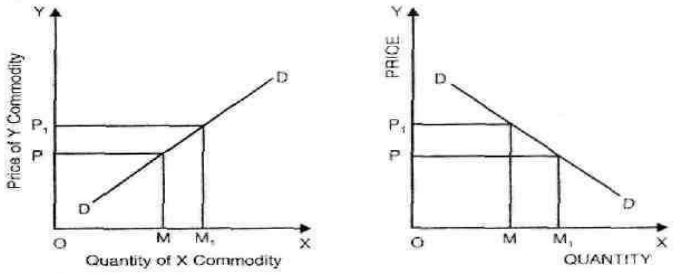
1.Positive :

When goods are substitute of each other than cross elasticity of demanded is positive. In other words, when an increase in the price of Y leads to an increase in the demand of X. For instance with the increase in price of a tea, demand of coffee will increase. In fig 25 Quantity has been measured on OX axis and price on OY axis. At price OP of Y commodity, demand of X – commodity is OM. Now as price Of Y commodity increase to OP1 demand of X-commodity increases to OM1. Thus, cross, elasticity of demand is positive.

2. Negative:

In case of complementary goods, cross elasticity of demand is negative. A proportionate increase in price of one commodity leads to a proportionate fall in the demand, of .another commodity because

both are demanded jointly. In fig. 26 quantity has been measured on OX-axis while price has been measured on OY-axis. When the price of commodity increases from OP to OP_1 quantity demanded falls from OM to OM_1 Thus, cross elasticity of demand is negative.



3. Zero:

Cross elasticity of demand is zero when two goods are related to each other. For instance, increase in price of car does not affect the demand of cloth. Thus, cross elasticity of demand is zero. Therefore, it can be concluded that cross elasticity depends upon Substitutability is perfect, cross elasticity is infinite; if on the other hand, substitutability does not exist, cross elasticity is zero. In the case of complementary goods like jointly demanded goods cross elasticity is negative. A rise in the price of one commodity X will mean not only decrease in the quantity of X but also decrease in the quantity demanded of Y because both are demanded together.

Limitations of Cross Elasticity of Demand

The cross elasticity of demand is a useful measure of price-demand relationships between commodities. But this concept has following two limitations.

1. Negative Cross Elasticity does not always mean complementarily.
2. Cross Elasticity of Demand is only a one-way Relationship.

IMPORTANCE OF ELASTICITY OF DEMAND

The concept of elasticity of demand is of great importance in practical life. Its main points are given as under:

1. Useful for Business: It enables the business in general and the monopolists in particular to fix the price. Studying the nature of demand the monopolist fixes higher prices for those goods which have inelastic demand and lower prices for goods which have elastic demand. In this way, this helps him to maximise his profit.

2. Fixation of Prices: It is very useful to fix the price of jointly supplied goods. In the case of joint

products like paddy and straw, the cost of production of each is not known. The price of each is then fixed by its elastic and inelastic demand.

3. Helpful to Finance Minister: It helps the Finance Minister to levy tax on goods. After levying taxes more and more on goods which have inelastic demand, the Government collects more revenue from the people without causing them inconvenience. Moreover, it is also useful for the planning.

4. Fixation of Wages: It guides the producers to fix wages for labourers. They fix high or low wages according to the elastic or inelastic demand for the labour.

5. In the Sphere of International Trade: It is of greater significance in the sphere of international trade. It helps to calculate the terms of trade and the consequent gain from foreign trade. If the demand for home product is inelastic, the terms of trade will be profitable to the home country.

6. Paradox of Poverty. It explains the paradox of poverty in the midst of plenty. A bumper crop instead of bringing prosperity may result in disaster, if the demand for it is inelastic. This is specially so, if the products are perishable and not storable.

7. Significant for Government Economic Policies. The knowledge of elasticity of demand is very important for the government in such matters as controlling of business cycles, removing inflationary and deflationary gaps in the economy. Similarly, for price stabilization and the purchase and sale of stocks, information about elasticity of demand is most useful.

8. Determination of Price of Public Utilities. This concept is significant in the determination of the prices of public utility services. Economic welfare of the society largely depends upon the cheap available

Meaning of Demand Forecasting

Future is uncertain. There is great deal of uncertainty with regard to demand. Since the demand is uncertain, production, cost, revenue, profit etc. are also uncertain. Through forecasting it is possible to minimise the uncertainties. Forecasting simply refers to estimating or anticipating future events. It is an attempt to foresee the future by examining the past. Thus demand forecasting means estimating or anticipating future demand on the basis of past data.

Objectives of Demand Forecasting

A. Short Term Objectives

1. To help in preparing suitable sales and production policies.
2. To help in ensuring a regular supply of raw materials.
3. To reduce the cost of purchase and avoid unnecessary purchase.
4. To ensure best utilization of machines.
5. To make arrangements for skilled and unskilled workers so that suitable labour force may be maintained.
6. To help in the determination of a suitable price policy.
7. To determine financial requirements.
8. To determine separate sales targets for all the sales territories.
9. To eliminate the problem of under or over production.

B. Long term Objectives

1. To plan long term production.
2. To plan plant capacity.
3. To estimate the requirements of workers for long period and make arrangements.
4. To determine an appropriate dividend policy.
5. To help the proper capital budgeting.
6. To plan long term financial requirements.
7. To forecast the future problems of material supplies and energy crisis.

Factors Affecting Demand Forecasting

For making a good forecast, it is essential to consider the various factors governing demand forecasting. These factors are summarized as follows.

1. Prevailing business conditions: While preparing demand forecast it becomes necessary to study the general economic conditions very carefully. These include the price level changes, change in national income, percapita income, consumption pattern, savings and investment habits, employment etc.

2. Conditions within the industry: Every business enterprise is only a unit of a particular industry. Sales of that business enterprise are only a part of the total sales of that industry. Therefore, while preparing demand forecasts for a particular business enterprise, it becomes necessary to study the changes in the demand of the whole industry, number of units within the industry, design and

quality of product, price policy, competition within the industry etc.

3. Conditions within the firm: Internal factors of the firm also affect the demand forecast. These factors include plant capacity of the firm, quality of the product, price of the product, advertising and distribution policies, production policies, financial policies etc.

4. Factors affecting export trade: If a firm is engaged in export trade also it should consider the factors affecting the export trade. These factors include import and export control, terms and conditions of export, exim policy, export conditions, export finance etc.

5. Market behaviour : While preparing demand forecast, it is required to consider the market behavior which brings about changes in demand.

6. Sociological conditions: Sociological factors have their own impact on demand forecast of the company. These conditions relate to size of population, density, change in age groups, size of family, family life cycle, level of education, family income, social awareness etc.

7. Psychological conditions: While estimating the demand for the product, it becomes necessary to take into consideration such factors as changes in consumer tastes, habits, fashions, likes and dislikes, attitudes, perception, life styles, cultural and religious bents etc.

8. Competitive conditions: The competitive conditions within the industry may change. Competitors may enter into market or go out of market. A demand forecast prepared without considering the activities of competitors may not be correct.

Process of Demand Forecasting/ Steps in Demand Forecasting

Demand forecasting involves the following steps:

1. Determine the purpose for which forecasts are used.
2. Subdivide the demand forecasting programme into small I parts on the basis of product or sales territories or markets.
3. Determine the factors affecting the sale of each product and their relative importance.
4. Select the forecasting methods.
5. Study the activities of competitors.
6. Prepare preliminary sales estimates after, collecting necessary data.
7. Analyse advertisement policies, sales promotion plans, personal sales arrangements etc. and

ascertain how far these programmes have been successful in promoting the sales.

8. Evaluate the demand forecasts monthly, quarterly, half yearly or yearly and necessary adjustments should be done.
9. Prepare the final demand forecast on the basis of preliminary forecasts and the results of evaluation.

Methods Of Demand Forecasting (For Established Products)

There are several methods to predict the future demand. All methods can be broadly classified into two. (A) Survey methods, (B) Statistical methods

(A) Survey methods

Under this method surveys are conducted to collect information about the future purchase plans of potential consumers. Survey methods help in obtaining information about the desires, likes and dislikes of consumers through collecting the opinion of experts or by interviewing the consumers. Survey methods are used for short term forecasting. Important survey methods are (a) consumers interview method, (b) collective opinion or sales force opinion methodic) experts opinion method, (d) consumers clinic and (f) end use method.

(a) Consumers' interview method

(Consumers survey): Under this method, consumers are interviewed directly and asked the quantity they would like to buy. After collecting the data, the total demand for the product is calculated. This is done by adding up all individual demands. Under the consumer interview method, either all consumers or selected few are interviewed. When all the consumers are interviewed, the method is known as complete enumeration method. When only a selected group of consumers are interviewed, it is known as sample survey method

Advantages

1. It is a simple method because it is not based on past record.
2. It suitable for industrial products.
3. The results are likely to be more accurate.
4. This method can be used for forecasting the demand of a new product.

Disadvantages

1. It is expensive and time consuming.

2. Consumers may not give their secrets or buying plans.
3. This method is not suitable for long term forecasting.
4. It is not suitable when the number of consumer is large.

(b)Collective opinion method: Under this method the salesmen estimate the expected sales in their respective territories on the basis of previous experience. Then demand is estimated after combining the individual forecasts (sales estimates) of the salesmen.

This method is also known as sales force opinion method.

Advantages

This method is simple.

1. It is based on the first hand knowledge of Salesmen.
2. This method is particularly useful for estimating demand of new products.
3. It utilises the specialised knowledge of salesmen who are in close touch with the prevailing market conditions.

Disadvantages

1. The forecasts may not be reliable if the salespeople are not trained.
2. It is not suitable for long period estimation.
3. It is not flexible.
4. Salesmen may give lower estimates that make possible easy achievement of sales quotas fixed for each salesman.

(c)Experts' opinion method:

This method was originally developed at Rand Corporation in 1950 by Olaf Helmer, Dalkey and Gordon. Under this method, demand is estimated on the basis of opinions of experts and distributors other than salesmen and ordinary consumers. This method is also known as Delphi method. Delphi is the ancient Greek temple where people come and prey for information about their future.

Advantages

1. Forecast can be made quickly and economically
2. This is a reliable method because estimates are made on the basis of knowledge and experience of sales experts.
3. The firm need not spare its time on preparing estimates of demand.

4. This method is suitable for new products.

Disadvantages

1. This method is expensive.
2. This method sometimes lacks reliability

(d)Consumer clinics:

In this method some selected buyers are given certain amounts of money and asked to buy the products. Then the prices are changed and the consumers are asked to make fresh purchases with the given money. In this way the consumers" responses to price changes are observed. Thus the behaviour of the consumers is studied. On this basis demand is estimated. This method is an improvement over consumer's interview method.

Merits

1. It provides an opportunity to study the behaviour of consumers directly.
2. It provides reliable and realistic picture about future demand.
3. It gives useful information to aid in the decision making process.

Demerits

1. It is a time consuming method.
2. Selecting the participants is very difficult.
3. It is expensive.
4. Consumers may take it as a game. They may not reveal their preferences.

(e) End use method:

This method is based on the fact that a product generally has different uses. In the end use method, first a list of end users (final consumers, individual industries, exporters etc.) is prepared. Then the future demand for the product is found either directly from the end users or indirectly by estimating their future growth. Then the demand of all end users of the product is added to get the total demand for the product.

Statistical Methods

Statistical methods use the past data as a guide for knowing the level of future demand. Statistical methods are generally used for long run forecasting. These methods are used for established products. Statistical methods include: (i) Trend projection method, (ii) Regression and Correlation,

(iii) Extrapolation method, (iv) Simultaneous equation method, and (v) Barometric method.

(i)Trend projection method:

Future sales are based on the past sales, because future is the grand-child of the past and child of the present. Under the trend projection 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). We try to ascertain the trend in the time series. The trend in the time series can be estimated by using any one of the following four methods: (a) Least-square method, (b) Free- hand method, (c) Moving average method and (d) semi-average method.

(ii) Regression and Correlation:

These methods combine economic theory and statistical technique of estimation. Under these methods the relationship between the sales (dependent variable) and other variables (independent variables such as price of related goods, income, advertisement etc.) is ascertained. Such relationship established on the basis of past data may be used to analyse the future trend. The regression and correlation analysis is also called the econometric model building.

(iii) Extrapolation:

Under this statistical method, the future demand can be extrapolated by applying Binomial expansion method. This method is used on the assumption that the rate of charge in demand in the past has been uniform.

(iv) Simultaneous equation method.-

This involves the development of a complete econometric model which can explain the behaviour of all the variables which the company can control. This method is not very popular.

(v) Barometric technique:

This is an improvement over the trend projection method. According to this technique the events of the present can be used to predict the directions of change m the future. Here certain economic and statistical indicators from the selected time series are used to predict variables. Personal income, non-agricultural placements, gross national income, prices of industrial materials, wholesale commodity prices, industrial production, bank deposits etc. are some of the most commonly used indicators.

Advantages of Statistical Methods

1 The method of estimation is scientific

2 Estimation is based on the theoretical relationship between sales (dependent variable) and price, advertising, income etc. (independent variables)

3 These are less expensive.

4 Results are relatively more reliable.

Disadvantages of Statistical Methods

1 These methods involve complicated calculations.

2 These do not rely much on personal skill and experience.

3 These methods require considerable technical skill and experience in order to be effective.

9.6 Methods of Demand Forecasting for New Products

Demand forecasting of new product is more difficult than forecasting for existing product. The reason is that the product is not available. Hence, no historical data are available. In these conditions the forecasting is to be done by taking into consideration the inclination and wishes of the customers to purchase. For this a research is to be conducted. But there is one problem that it is difficult for a customer to say anything without seeing and using the product before. Thus it is very difficult to forecast the demand for new products. Any way Prof. Joel Dean has suggested the following methods for forecasting demand of new products:

1. Evolutionary approach:

This method is based on the assumption that the new product is the improvement and evolution of the old product. The demand is forecasted on the basis of the demand of the old product. For example, the demand for black and white TV should be taken in to consideration while forecasting the demand for colour TV sets because the latter is an improvement of the former.

2. Substitute approach:

Here the new product is treated as a substitute of an existing product, e.g. polythene bags for cloth bags. Thus the demand for a new product is analysed as a substitute for some existing goods or service.

3. Growth curve approach:

Under this method the growth rate of demand of a new product is estimated on the basis of the growth rate of demand of an existing product. Suppose Pears soap is in use and a new cosmetic is to be

introduced in the market. In this case the average sale of Pears soap will give an idea as to how the new cosmetic will be accepted by the consumers.

4. Opinion poll approach:

Under this method the demand for a new product is estimated on the basis of information collected from the direct interviews (survey) with consumers.

5. Sales Experience approach:

Under this method, the new product is offered for sale in a sample market, i.e. by direct mail or through multiple shop or departmental shop. From this the total demand is estimated for the whole market.

6. Vicarious approach:

This method consists of surveying consumers' reactions through the specialised dealers who are in touch with consumers. The dealers are able to know as to how the customers will accept the new product. On the basis of their reports demand can be estimated. The above methods are not mutually exclusive. It is de desirable to use a combination of two or more methods in order to get better results.

Supply Function

Responsiveness of producers to changes in the price of their goods or services. As a general rule, if prices rise so does the supply. Elasticity of supply is measured as the ratio of proportionate change in the quantity supplied to the proportionate change in price. High elasticity indicates the supply is sensitive to changes in prices, low elasticity indicates little sensitivity to price changes, and no elasticity means no relationship with price. Also called price elasticity of supply. Price elasticity of supply (PES) measures the responsiveness of quantity supplied to a change in price. It is necessary for a firm to know how quickly, and effectively, it can respond to changing market conditions, especially to price changes. The following equation can be used to calculate PES.

$$\frac{\%\text{ change in quanity supplied}}{\%\text{ change in price}}$$

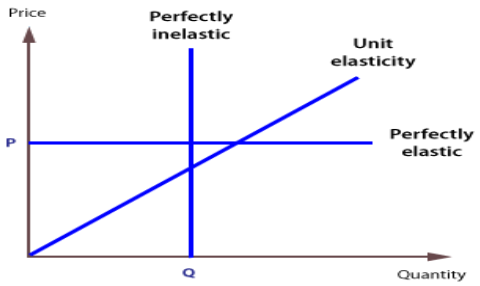
While the coefficient for PES is *positive* in value, it may range from 0,*perfectly inelastic*, to infinite, *perfectly elastic*. The following example explains the elasticity of supply by

A firm's market price increases from £1 to £1.10, and its supply increases from 10m to 12.5m. PES is: +25 +10 = (+) 2.5

The positive sign reflects the fact that higher prices will act an incentive to supply more. Because the coefficient is greater than one, PES is elastic and the firm is responsive to changes in price. This will give it a *competitive advantage* over its rivals. Extreme cases

There are three *extreme cases* of PES.

1. Perfectly elastic, where supply is infinite at any one price.
2. Perfectly inelastic, where only one quantity can be supplied.
3. Unit elasticity, which graphically is shown as a linear supply curve coming from the origin.



Factors affecting supply

Innumerable factors and circumstances could affect a seller's willingness or ability to produce and sell a good. Some of the more common factors are:

Good's own price:

The basic supply relationship is between the price of a good and the quantity supplied. Although there is no "Law of Supply", generally, the relationship is positive, meaning that an increase in price will induce an increase in the quantity supplied.

Prices of related goods:

For purposes of supply analysis related goods refer to goods from which inputs are derived to be used in the production of the primary good. For example, Spam is made from pork shoulders and ham. Both are derived from pigs. Therefore pigs would be considered a related good to Spam. In this case the relationship would be negative or inverse. If the price of pigs goes up the supply of Spam would decrease (supply curve shifts left) because the cost of production would have increased. A related good may also be a good that can be produced with the firm's existing factors of production.

For example, suppose that a firm produces leather belts, and that the firm's managers learn that leather pouches for smartphones are more profitable than belts. The firm might reduce its production of belts and begin production of cell phone pouches based on this information. Finally, a change in the price of a joint product will affect supply. For example beef products and anani sikim leather are joint products. If a company runs both a beef processing operation and a tannery an increase in the price of steaks would mean that more cattle are processed which would increase the supply of leather.

Conditions of production:

The most significant factor here is the state of technology. If there is a technological advancement in one good's production, the supply increases. Other variables may also affect production conditions. For instance, for agricultural goods, weather is crucial for it may affect the production outputs.

Expectations:

Sellers' are concerning future market conditions can directly affect supply. If the seller believes that the demand for his product will sharply increase in the foreseeable future the firm owner may immediately increase production in anticipation of future price increases. The supply curve would shift out.

Price of inputs: Inputs include land, labor, energy and raw materials. If the price of inputs increases the supply curve will shift left as sellers are less willing or able to sell goods at any given price. For example, if the price of electricity increased a seller may reduce his supply of his product because of the increased costs of production.

Number of suppliers:

The market supply curve is the horizontal summation of the individual supply curves. As more firms enter the industry the market supply curve will shift out driving down prices.

Government policies and regulations:

Government intervention can have a significant effect on supply. Government intervention can take many forms including environmental and health regulations, hour and wage laws, taxes, electrical and natural gas rates and zoning and land use regulations. This list is not exhaustive. All facts and circumstances that are relevant to a seller's willingness or ability to produce and sell goods can affect supply. For example, if the forecast is for snow retail sellers will respond by increasing their stocks of snow sleds or skis or winter clothing or bread and milk.

Determinants of PES

How firms respond to changes in market conditions, especially price, is an important consideration for the firm itself, and to an understanding of how markets work.

The key considerations are:

- Are resource inputs readily *available*?
- Are factors *mobile* - are workers prepared to move to where they are needed?
- Can finished products be easily *stored*, and are there existing stocks?
- Is production running at *full capacity*?
- How long and complex is the *production cycle* or production process?

What is the most desirable PES for a firm?

It is desirable for a firm to be highly responsive to changes in price and other market conditions. This is because a high PES makes the firm more *competitive* than its rivals and it allows the firm to generate more revenue and profits.

Improving PES

Because a high PES is desirable, it may be necessary for firms to undertake actions that improve their speed of response to changes in market conditions. Examples of these actions include:

- Creating spare capacity
- Using the latest technology
- Keeping sufficient stocks
- Developing better storage systems
- Prolonging the shelf life of products
- Developing better distribution systems
- Providing training for workers
- Having flexible workers who can do a range of jobs
- Locating production near to the market
- Allowing inward migration of labour if there is a labour shortage

Supply elasticity is defined as the percentage change in quantity supplied divided by the percentage change in price. It is calculated as per the following formula:

Price Elasticity of Supply

This measures the responsiveness of quantity supplied to a change in price.

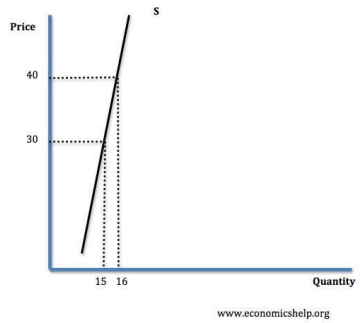
$$PES = \frac{\%\ \text{change in Q.S}}{\%\ \text{change in P}}$$

The price elasticity of supply (PES) is measured by % change in Q.S / % change in price.

- If price of a cappuccino increases 10%, and the supply increases 20%. We say the PES is 2.0
- If the price of bananas falls 12% and the quantity supplied falls 2%. We say the PES = 2/12 = 0.16

Inelastic supply

This means that an increase in price leads to a smaller % change in demand. Therefore PES <1

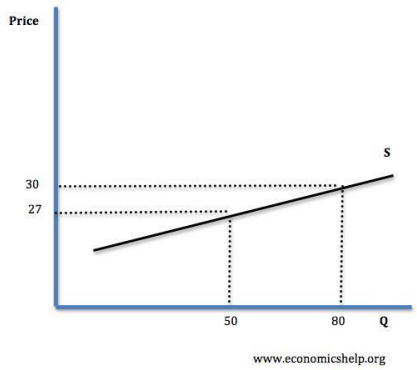


Supply could be inelastic for the following reasons

- Firms operating close to full capacity.
- Firms have low levels of stocks, therefore there are no surplus goods to sell
- In the short term, capital is fixed in the short run e.g. firms do not have time to build a bigger factory.
- If it is difficult to employ factors of production, e.g. if highly skilled labour is needed
- With agricultural products supply is inelastic in the short run, because it takes at least six months to grow crops, in September the farmer cannot suddenly produce more potatoes if the price goes up.

Elastic supply

This occurs when an increase in price leads to a bigger % increase in supply, therefore PES >1



- In this case, PES = 60% / 11% = 5.45

Supply could be elastic for the following reasons

- If there is spare capacity in the factory.
- If there are stocks available.
- In the long run supply will be more elastic because capital can be varied.
- If it is easy to employ more factors of production.

POSSIBLE QUESTIONS - PART – B

1.Define the term Demand?
2.What do you mean by the Law of Demand?
3.Explain the term market equilibrium?
4.Define the term Law of Supply?
5.What are the three types of Demand?
6.Give the meaning for producer goods and consumer goods?
7.Give the meaning for Short-Run Demand and Long-Run Demand?
8.What do you mean by Elasticity of Supply?
9.Give the meaning for producer goods and consumer goods?
10. Give the meaning for Autonomous Demand and Derived Demand?
11.What do you mean by Elasticity of Supply?
12. Point out the factors influencing the demand?
13.List out the various factors affecting the demand?
14. List out the Factors affecting elasticity of supply?
15. When a firm is said to be an equilibrium level?

***CIA – 3 X 2 = 6 Marks**
****ESE – 5 X 2 = 10 Marks**

PART - C

1. Discuss about Demand Distinctions with suitable examples.
2. Determine the significance of price elasticity of demand?
3. Define the term Supply and enumerate the factors influencing supply?
4. Analyze the significance of Income elasticity of demand?
5. Describe the generalized supply functions?
6. Enumerate the factors involved in price elasticity of Supply?
7. Analyze the significance of Price elasticity of demand?
8. Explain the three types of demand?
9. Explain the Price Elasticity of Demand with suitable diagramme?
10. Analyze the significance of changes in market equilibrium?

***CIA – 3 X 8 = 24 Marks (EITHER OR TYPE)**
****ESE – 5 X 6 = 30 Marks (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Sec 3 of UGC Act, 1956)
DEPARTMENT OF MANAGEMENT
UNIT I - MANAGERIAL ECONOMICS - Multiple Choice Questions- Each Question carries ONE Mark

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	Law of demand establishes qualitative or directional relationship between _____	demand and price	demand and supply	cost and price	cost and income	demand and price
2	If the demand curve is rectangular hyperbola, the elasticity is _____	Relatively elastic	Perfectively Inelastic	Relatively Inelastic	unity	unity
3	In a typical demand schedule, quantity demanded varies _____	directly with price	proportion with price	inversely with price	independent of price	inversely with price
4	Which one is not a type of demand?	Price demand	Derived demand	Joint Demand	Supply demand	Supply demand
5	A table indicating various levels of demand at various prices is termed as _____	demand chart	demand schedule	demand table	price table	demand schedule
6	Who introduced the concept of elasticity of demand?	Adam Smith	Robinson	Marshall	Joel Dean	Marshall
7	The law of demandis a _____ statement	indicative	qualitative	illustrative	selective	qualitative
8	Which is not the type of elasticity o demand?	Price elasticity	Income elasticity	supply elasticity	cross elasticity	supply elasticity
9	The Cross elasticity of demand may be Substitute or _____	Positive	Negative	Normative	Complementary	Positive
10	Price elasticity of demand for luxury goods will be _____ elastic	infinitively	relatively	perfectly	zero	relatively

11	_____refers to the interaction between sellers and buyers of a good or service at a	Economy	Market	Society	City	Market
12	_____is an	Economy	Market	Supply	Demand	Demand
13	A commodity demanded for its own	Consumer	Producer	Industrial	Shopping	Consumer
14	A final _____ is one who derives satisfaction from a good without any	Customers	Traders	Consumers	Producers	Consumers
15	Goods which create joint demand are _____ goods.	Consumer	Producer	Industrial	Complementary	Complementary
16	Goods that compete with each other to satisfy any particular want are called_____	Substitutes	Producer	Industrial	Complementary	Substitutes
17	Demand for an individual consumer is called _____ demand.	Social	Individual	Industrial	General	Individual
18	Normally, Price has a	Normative	Aggressive	Positive	Negative	Negative
19	Normally, Income bears a _____ relationship with demand.	Normative	Aggressive	Positive	Negative	Positive
20	Complements are demanded _____	Jointly	Aggressively	Positively	Negatively	Jointly
21	Consumer's surplus is also known as_____	indifference surplus	elasticity of supply	buyer's surplus	indifference surplus	buyer's surplus
22	Which utility measuring approach, is utility ranked in order of preference, but not measured?	Cardinal	Ordinal	Cardinal and Ordinal	Modern approach	Ordinal
23	Which shows various combinations of two products that give same amount of satisfaction?	Iso-cost curve	Marginal utility curve	Iso-quant	Indifference curve	Indifference curve
24	Indifference curve slopes,	Downward to the right.	upward to the right	Downward to the left	Upward to the left	Downward to the right

25	The process of capital formation includes,	capital of savings	Mobilization of savings	Investment of savings	capital of savings,Mobilization of savings and Investment of savings	capital of savings,Mobilization of savings and Investment of savings
26	Internal economies is related to _____	Marketing economies	Financial economies	Labour economies	Financial and Labour Economics	Marketing, Financial and Labour Economics
27	When the output produced is maximum for the given level of input the firms achieve_____	Maximum profit	Technical efficiency	Economic efficiency	minimum profit	Technical efficiency
28	Which of the following cost curve is U shaped?	Average cost curve	Marginal cost curve	Average fixed cost curve	Average variable cost curve.	Average variable cost curve.
29	The point where TR curve cuts TC curve is called_____	equilibrium point	split off point	point of inflexion	Break even point	Break even point
30	The shape of TFC curve is_____	Horizontal line	Downward sloping	U shaped	Upward sloping	Horizontal line
31	Indicate which of the following is a variable cost?	Cost of raw materials	Cost of machine	Interest on capital	rent payment for buildings	Cost of raw materials
32	Few sellers is the feature of _____	monopoly	oligopoly	perfect competition	monopolistic competition	oligopoly
33	Market which have two firms are known as_____	Oligopoly	monopoly	Duopoly	perfect competition	Duopoly
34	which item is not included in public utilities?	Water supply	Accessories	Gas supply	Electricity	Accessories
35	supply curve of a perfectly competitive firm is	Vertical	Upward sloping	horizontal	Downward sloping	Upward sloping
36	In perfect competition a fiem increases profit when _____ exceeds _____	TC, TR.	MC, MR.	AR, AC	TR, TFC	AR, AC

37	The discriminating monopoly can be categorized as _____	Personal	place	use	Personal, place and use	Personal, place and use
38	which is not a phase of business cycle?	Depression	Accumulation	Recession.	recovery	Accumulation
39	which is not an instrument of fiscal policy in controlling business cycle?	Taxation	investment	borrowing	spending	investment
40	The fluctuations or movement in economic activity are commonly classified as _____	secular trends	cyclical fluctuations	random fluctuations	secular trends only	secular trends, cyclical fluctuations and random fluctuations
41	which is the most preferred methods of measuring inflation?	WPI	CPI	NID	WPI, CPI and NID	WPI
42	Who gains in inflation?	Savers.	Creditors.	Pensioners	debtors	debtors
43	Economics deals with what is and normative economics deals with - _____	Positive, what ought to be	negative, what ought to be	Positive and negative	Narrow sense	Positive, what ought to be
44	_____ deals with the behavior of individual decision makings units such as consumers, resource owners and so on.	Macro Economics	Micro Economics	Mini Economics	Minimum profit	Micro Economics
45	There are two methods of constructing an economics theory, they are _____ and _____methods.	Inductive	Deductive	Inductive and Deductive	Active and Passive	Inductive and Deductive
46	In a _____eco nomy, public and private sectors exist by side	Macro Economy	Micro Economy	Mini Economy	Mixed Economy	Mixed Economy

47	Capitalism is the system that advocates _____to solve the basic economic problems.	Price Mechnanism	Profit Mechanism	Loss Mechnaism	profit only	Price Mechnanism
48	Business economics is a science which deals with the application of _____ in business practices	Economic theory	commerce theory	macro theory	mini theory	Economic theory
49	_____ means the process of choosing one action from two or more alternatives available	choice	Decision Making	option making	All the above	Decision Making
50	A Firm's profitability depends much on its _____---- of production	price	Income	cost	Demand	cost
51	Generally, _____ are the primary measure of the success of any business	loss	profit	profit and loss	deficit	profit and loss
52	The guiding principle of business economics is not _____ but avoiding loss	Profit maximizatio n	Loss maximization	Profit minimizatio n	Loss minimization	Profit maximization
53	The law of demand states that there is an _____ relationship between price and quantity demanded	converse	Inverse	discuss	verse	Inverse
54	A _____along the demand curve is caused by a change in the price of the good only	Movement	Progress	growth	inoperation	Movement

55	Assuming that bread and jam are complements. If the price of jam increase, the equilibrium quantity for bread will_____	Increase	neutral	Decrease	constant	Decrease
56	_____ goods are those which can replace each other in use.	fact	No replace	substitute	place	substitute
57	There is a direct relationship between _____ of the consumer and his demand	Expenses	Gain	loss	Inocome	Income
58	Elasticity of demand tells the _____ of change in demand to the change in price.	Rate/quantum	charge	low rate	high rate	Rate/quantum
59	_____ elasticity of demand measures changes in the quality demanded of good x due to change in the price of good.	straight	right	left	cross	cross
60	Low price of a good generally keeps its price elasticity of demand as _____	high	medium	normal	low	low

Unit – II : Producer's Behaviour and Supply : Basic Concepts in Production – Firm – Fixed & Variable Factors – Short & Long run – Total product – Marginal Product – Average Product – Production Function – Law of Returns – Law of Returns to Scale – Economies and Diseconomies of Scale – Producer's Equilibrium. Cost and Revenue Function : Cost of production – Opportunity Cost – Fixed and Variable costs – Total Cost Curves – Average Cost Curves – Marginal Cost – Long run and Short run Cost Curves – Total Revenue – Average Revenue – Marginal Revenue – Break Even Point Analysis.

The word 'cost' has different meanings in different situations. The accounting cost concept or the historical cost concept is not useful as such for business decision- making. The accounting records end up with the balance sheet and income statements which are meant for legal, financial and tax needs of the enterprise. The financial recordings reveal what has been happening. It is a historical recording which is not of very much help to the managerial economist in his business decision- making.

The actual cost is not the relevant cost concept for business decision-making because it only reveals what has been happening. The decision-making concepts of cost aim at projecting what will happen in the alternative courses of action. Business decisions involve plans for the future and require choices among different plans. These decisions necessitate profitability calculations for which a comparison of future revenues and future expenses of each alternative plan is needed.

Various Concepts of Costs

A managerial economist must have a proper understanding of the different cost concepts which are essential for clear business thinking. The several alternative bases of classifying cost and the relevance of each for different kinds of problems are to be studied. The various relevant concepts of costs used in business decisions are given below.

Total, Average and Marginal Costs

Total cost is the total cash payment made for the input needed for production. It may be explicit or implicit is the sum total of the fixed and variable costs. Average cost is the cost per unit of output. It is obtained by dividing the total cost (TC) by the total quantity produced (Q)

Marginal cost is the additional cost incurred to produce an additional unit of output.

Here the additional cost incurred to produce the 1001^{th} typewriter is Rs.300 (400300 - 400000). Therefore, the marginal cost per typewriter is Rs.300

Fixed and Variable Costs

This classification is made on the basis of the degree to which they vary with the changes in volume. Fixed cost is that cost which remains constant up to a certain level of output. It is not affected by the changes in the volume of production. Then fixed cost per unit aries with output rate. When the production increases, fixed cost per unit decreases. Fixed cost includes salary paid to administrative staff, depreciation of fixed assets, rent of factory etc. These costs are fixed in the sense that they do not change in short-run.

Variable cost varies directly with the variation in output. An increase in total output results in an increase in total variable costs and decrease in total output results in a proportionate decline in the total variable costs. The variable cost per unit will be constant. Variable costs include the costs of all inputs that vary with output like raw materials, running costs of fixed assets such as fuel, ordinary repairs, routine maintenance expenditure, direct labour charges etc.

The distinction of cost is important in forecasting the effect of short-run changes in volume upon costs and profits.

Short-Run and Long-Run Costs

This cost distinction is based on the time element. Short-Run is a period during which the physical capacity of the firm remains fixed. Any increase in output during this period is possible only by using the existing physical capacity more intensively. Long- Run is a period during which it is possible to change the firm's physical capacity. All the inputs become variable in the long-term. Short-Run cost is that which varies with output when the physical I capacity remains constant. Long-Run costs are those which vary with output when all the inputs are variable. Short-Run costs are otherwise called variable costs. A firm wishing to change output quickly can do it only by increasing the variable factors. Short- Run cost concept helps the manager to take decision when a firm has to decide whether or not to produce more or less with a given plant. Long-Run cost analysis helps to take investment decisions. Long-Run increase in output may necessitate installation of more capital equipment.

Opportunity Costs and Outlay Costs

This distinction is made on the basis of the nature of the sacrifice made. Outlay costs are those expenses which are actually incurred by the firm. These are the actual payments made for labour, material, plant, building, machinery, traveling, transporting etc. These are the expense items that appear in the books of accounts. Outlay cost is an accounting cost concept. It is also called absolute cost or actual cost. Whenever the inputs are to be bought for cash the outlay concept is to be applied.

A businessman chooses and investment proposal from different investment opportunities. Before taking the decision he has to compare all the opportunities and choose the best. When he chooses the best he sacrifices the possibility of making profit from other investment opportunities. The cost of his choice is the return that he could have earned from other investment opportunities he has given up or sacrificed. A businessman decides to use his own money to buy a machine for the business. The cost of that money is the probable return on the money from the next most acceptable alternative investment. If he invested the money at 12 percent interest, the opportunity cost of investing in his own business would be the 12 percent interest he has forgone.

The outlay concept is applied when the inputs are to be bought from the market. When a firm decides to make the inputs rather than buying it from the market the opportunity cost concept is to be applied. For example, in a cloth mill, instead' of buying the yarn from the market they spin it themselves. The cost of this yam is really the price at which the yarn could be sold if it were not used by them for weaving cloth.

The opportunity cost concept is made use of for long-run decisions. For example, the cost of higher education of a student should not only be the tuition fees and book costs but it also includes the earnings foregone by not working. This concept is very important in capital expenditure budgeting. The cost of acquiring a petrol pump in Trivandrum City by spending Rs. 6 lakhs is not usually the interest for that borrowed money but it is the profit that would have been made if that Rs. 6 lakhs had been invested in an offset printing press, which is the next best investment opportunity.

Opportunity cost concept is useful for taking short-rum decisions also. In boom periods the scarce lathe capacity used for making a product involves the opportunity cost of not

using it to make some other product that can also produce profit. Opportunity cost is the cost concept to use when the supply of inputs is strictly limited. Estimates of cost of capital are essentially founded on an opportunity cost concept of investment return. Investment decision involves opportunity costs measurable in terms of sacrificed income from alternative investments. The opportunity cost of any action is therefore measured by the value of the most favorable alternative course which has to be foregone if that action is taken.

Opportunity cost arises only when there is an alternative. If there is no alternative, opportunity cost is the estimated earnings of the next best use. Thus it represents only the sacrificed alternative. Hence it does not appear in financial accounts. But this concept is of very great use in managerial decision- making.

Out-of-pocket and Book Costs

Out-of-pocket costs are those costs that involve current cash payment. Wages, rent, interest etc., are examples of this. The out-of-pocket costs are also called explicit costs. Book costs do not require current cash expenditure. Unpaid salary of the owner manager, depreciation, and unpaid interest cost of owner's own fund are examples of book costs. Book costs may be called implicit costs. But the book costs are taken into account in determining the legal dividend payable during a period. Both book costs and out-of-pocket costs are considered for all decisions. Book cost is the cost of self owned factors of production. The book cost can be converted into out-of-pocket cost. If a self- owned machinery is sold out and the service of the same is hired, the hiring charges form the out-of-pocket cost The distinction is very helpful in taking liquidity decisions.

Incremental and Sunk costs

Incremental cost is the additional cost due to a change in the level or nature of business activity. The change may be caused by adding a new product, adding new machinery, replacing machinery by a better one etc. Incremental or differential cost is not marginal cost. Marginal cost is the cost of an added (marginal) unit of output.

Sunk costs are those which are not altered by any change. They are the costs incurred in the past. This cost is the result of past decision, and cannot be changed by future decisions. Once an asset has been bought or an investment made, the funds locked up represent sunk costs. As these costs do not alter when any change in activity is made they are

sunk and are irrelevant to a decision being taken now. Investments in fixed assets are examples of sunk costs. As soon as fixed assets have been installed, their cost is sunk. The amount of cost cannot be changed.

Incremental cost helps management to evaluate the alternatives. Incremental cost will be different in the case of different alternatives. Sunk cost, on the other hand, will remain the same irrespective of the alternative selected. Cost estimates of an incremental nature only influence business decisions.

Explicit and Implicit or Imputed costs

Explicit costs are those expenses that involve cash payments. These are the actual or business costs that appear in the books of accounts. Explicit cost is the payment made by the employer for those factors of production hired by him from outside. These costs include wages and salaries paid payments for raw materials, interest on borrowed capital funds, rent on hired land, taxes paid to the government etc. Implicit costs are the costs of the factor units that are owned by the employer himself. It does not involve dash payment and hence does not appear in the books of accounts. These costs did not actually incur but would have incurred in the absence of employment of self-owned factors of production. The two normal implicit costs are depreciation and return on capital contributed by shareholders. In small scale business unit the entrepreneur himself acts as the manager of the business. If he were employed in another firm he would be given salary. The salary he has thus forgone is the opportunity cost of his services utilised in his own firm. This is an implicit cost of his business. Thus implicit wages, implicit rent and implicit interest are the highest interest, rent and wages which self-owned capital, building and labour respectively can earn from their next best use. Implicit costs are not considered for finding out the loss or gains of the business, but help a lot in business decisions.

Replacement and Historical costs

These are the two methods of valuing assets for balance sheet purpose and to find out the cost figures from which profit can be arrived at; Historical cost is the original cost of an asset. Historical cost valuation shows the cost of an asset as the original price paid for the asset acquired in the past. Historical valuation is the basis for financial accounts. Replacement cost is the price that would have to be paid currently to replace the same asset. For example, the price of a machine at the time of purchase was Rs. 17,000 and the present price of the machine is Rs.

20,000. The original price Rs. 17,000 is the historical cost while Rs. 20,000 is the replacement cost. During periods of substantial change in the price level, historical valuation gives a poor projection of the future cost intended for managerial decision. Replacement cost is a relevant cost concept when financial statements have to be adjusted for inflation.

Controllable and Non-controllable costs

Controllable costs are the ones which can be regulated by the executive who is in charge of it. The concept of controllability of cost varies with levels of management. If a cost is uncontrollable at one level of management it may be controllable at some other level. Similarly the controllability of certain costs may be shared by two or more executives. For example, material cost, the price of which comes under the responsibility of the purchase executive whereas its usage comes under the responsibility of the production executive. Direct expenses like material, labour etc. are controllable costs.

Some costs are not directly identifiable with a process or product. They are apportioned to various processes or products in some proportion. This cost varies with the variation in the basis of allocation and is independent of the actions of the executive of that department. These apportioned costs are called uncontrollable costs.

Business and Full costs

A firm's business cost is the total money expenses recorded in the books of accounts. This includes the depreciation provided on plant and equipment. It is similar to the actual or real cost. Full cost of a firm includes not only the business costs but also opportunity costs of the firm and normal profits. The firm's opportunity cost includes interest on self-owned capital, the salary forgone by the entrepreneur if he were, working in his firm. Normal profit is the minimum returns which induces the entrepreneur to produce the same product.

Economic and Accounting Cost

Accounting costs are recorded with the intention of preparing the balance sheet and profit and loss statements which are intended for the legal, financial and tax purposes of the company. The accounting concept is a historical concept. It records what has happened. The past cost data revealed by the books of accounts does not help very much in decision- making. Decision- making needs future costs. Economic concept considers future costs and future revenues which help future planning and choice. When the accountant describes what has

happened, the economist aims at projecting what will happen. Accounting data ignores implicit. or imputed cost. The economist considers decision- making costs. For this, different cost classifications relevant to different kinds of problems are considered. The cost distinctions such as opportunity and outlay cost, short- run and long-run cost and replacement and historical cost are made from the economic viewpoint.

Cost-Output Relations

The cost-output relationship plays an important role in determining the optimum level of production. Knowledge of the cost-output relation helps the manager in cost control, profit prediction, pricing, promotion etc. The relation between cost and output is technically described as the cost function.

TC = ϕ(Q)

Where

TC = Total cost

Q =Quantity produced

F = function

The production function combined with the prices of inputs determines the cost function of the firm. Considering the period the cost function can be classified as (a) short-run cost function and (b) long run-cost function.

In economic theory, the short-run is defined as that period during which the physical capacity of the firm is fixed, and during which output can be increased only by using the existing capacity more intensively. The long-run is a period during which it is possible to increase the firm's capacity or to reduce it in size, if trade is very bad.

Short-run Cost-Output Relation

The cost concepts made use of in the cost behavior are total cost, average cost and marginal cost. Total cost if the actual money spent to produce a particular quantity of output. It is the summation of fixed and variable costs.

$$TC = TFC + TVC$$

Upto a certain level of production total fixed cost, i.e. the cost of plant, building, equipment etc. remains fixed. But the total variable costs i.e., the cost of labour, raw materials etc. vary with the variation in output

$$AC = {}^{TC}/_{Q}$$

Or it is the total of average fixed cost (TFC / Q) and average variable cost (TVC/Q) Marginal cost is the addition to the total cost due to the production of an additional unit of product. Or it is the cost of the marginal unit produced. It can be arrived at by dividing the change in total cost by the change in total output.

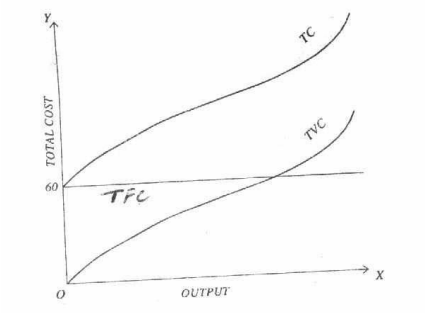
$$MC = {}^{TC}/_{Q}$$

In the short-run there will not be any change in total fixed cost. Hence change in total cost implies change in total variable cost only.

Short-run Cost-Output Relations

Table represents the cost-output relation. The table is prepared on the basis of the Law of Diminishing Marginal Returns. The fixed cost Rs.60 may include rent of factory building, interest on capital, salaries of permanently employed staff, insurance etc. These fixed costs are independent of output, whose amount cannot be altered in the short- run. But the average fixed cost, i.e. the fixed cost per unit, falls continuously as the out put increase.

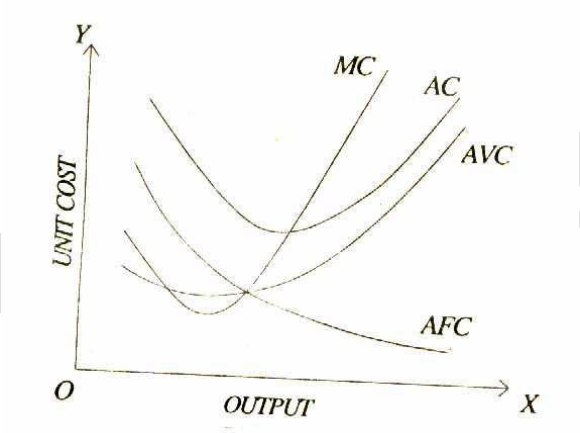
The greater the out put, lower the fixed cost per unit. The total variable cost (TVC) increases but not at the same rate. If more and more units are produced with a given physical capacity AVC will fall initially. AVC declines upto 3rd unit, it is constant upto 4th unit and then rises. This is because the efficiency first increases and then decreases. The variable factors seem to produce somewhat more efficiently near a firm's optimum capacity output level than at very low levels of output. But once the optimum capacity is reached, any further increase in output will increase AVC.



The average total cost (AC) declines first and then rises. The rise in AC is felt

only after the AVC starts rising. In the table AVC starts rising from the 5th unit onwards whereas the AC starts rising from the 6th unit only. AFC continues to fall with increase in output. But AVC initially declines and then rises. Thus there will be a stage where the AVC may have started rising, yet AC is still declining because the rise in AVC is less than the drop in AFC, the net effect being a decline in AC. Thus the table A shows an increasing returns or diminishing cost in the first instance and eventually diminishing returns or increasing cost.

The short-run cost-output relationship can be shown graphically also. Fig.1 shows the relationship between output and total fixed cost, total variable cost and total cost. TFC curve is a horizontal straight line representing Rs.60, whatever be the output TVC curve slopes upward starting from zero, first gradually but later at a fast rate. TC = TFC+TVC. As TFC remains constant, increase in TC means increase in TVC only. As TFC remains constant the gap between TVC and TC will always be the same. Hence TC curve has the same pattern of behaviour as TVC curve.



The above diagram shows the law of production more clearly. AFC curve continues to fall as output rises from lower levels to higher levels. This is because the total fixed cost is spread over more and more units as output increases. TVC increases with the increase in production since more raw materials, labour, power etc. would be required for increasing output. But AVC curve (i.e. variable cost per unit) first falls and then rises. This is due to the operation of the law of variable proportions.

The behaviour of AC curve depends upon the behaviour of AVC curve and AFC

curve. In the initial stage of production both AFC and AVC are declining. Hence AC also declines. AFC continues to fall with an increase in output while AVC first declines and then rises. So long as AFC and AVC decline AC will also decline. But after a certain point AVC starts rising. If the rise in AVC is less than the decline in AFC, AC will still continue to decline. When the rise in AVC is more than the drop in AFC, AC begins to rise. In the table we can see that when the production is increased to 5 units AVC increases but AC still declines. Here the increase in AVC is less than the decline in AFC, the net effect being a decline in AC. AC curve, thus declines first and then rises.

At first AC is high due to large fixed cost. As output increases the total fixed cost is shared by more and more units and hence AC falls. After a certain point, owing to the operation of the law of diminishing marginal returns, the variable cost and, therefore, AC starts increasing. The lower end of AC curve thus turns up. and gives it a U-shape.

That is why AC curves are U-shaped. The least-cost combination of inputs is indicated by the lowest point in Ac curve i.e. where where the total average cost is the minimum. It is the short-run stage of optimum output. It may not be the maximum output level. It is the point where the per unit cost of production will be at its lowest. A downward trend in MC curve shows increasing marginal productivity (i.e. decreasing marginal cost) of the variable input. Similarly, an upward trend in MC curve shows the rate of increase in TVC, on the one hand and the decreasing marginal productivity (i.e. increasing marginal cost) of the variable input on the other. MC curve intersects both AVC and AC curves at their lowest points.

The relationship between AVC, ATC and AFC can be summed up as follows:

1. If both AFC and AVC fall, AC will also fall because AC=AFC+AVC
2. When AFC falls and AVC rises(a) AC will fall where the drop in AFC is more than the rise in AVC (b) AC remains constant if the drop in AFC=rise in AVC (c) AC will rise where the drop in AFC is less than the rise in AVC.

Long-Run Cost-Output Relations

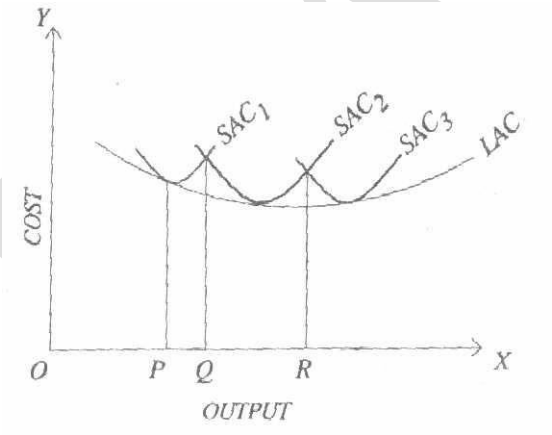
Long-run is a period long enough to make all inputs variable. In the long-run a firm can increase or decrease its output according to its demand, by having more or less of all the factors of production. The firms are able to expand the scale of their operation in the long-run

by purchasing larger quantities of all the inputs. Thus in the long-run all factors become variable. The long-run cost-output relations therefore imply the relationship between total costs and total output. As the change in production in the long- run is possible by changing the scale of production, the long-run cost-output relationship is influenced by the law of returns to scale.

In the long-run a firm has a number of alternatives in regard to the scale of operations. For each scale of production or plant size, the firm has a separate short-run average cost curve. Hence the long-run average cost curve is composed of a series of short-run average cost curves.

A short-run average cost (SAC) curve applies to only one plant whereas the long- run average cost (LAC) curve takes into consideration many plants. At any one time the firm has

only one size of plant. That plant remains fixed during that period. Any increase in production in that period is possible only with that plant capacity. That plant has a corresponding average cost (SAC) curve. But in a long period the firm can move from one plant size to another. Each plant has its corresponding SAC curve.



The long-run cost-output relationship is shown graphically by the LAC curve. To draw an LAC curve we have to start with a number of SAC curves. In the fig. 5.3 we have assumed that there are only three sizes of plants-small, medium and large, S ACj refers to the average cost curve for the small plant, S AC, for the medium size plant and SAC3 for the large size plant. If the firm wants to produce OP units or less, it will choose the small plant.
For an output beyond OQ the firm will opt for medium size plant.

Even if an increased production is possible with small plant production beyond OQ

will increase cost of production per unit. For an output OR the firm will choose the large plant. Thus in the long-run the firm has a series of SAC curves. The LAC curve drawn will be tangential to the three SAC curves i.e. the LAC curve touches each SAC curve at one point. The LAC curve is also known as Envelope Curve as it envelopes all the SAC curves. No point on any of the LAC curve can ever be below the LAC curve. It is also known as Planning Curve as it serves as a guide to the entrepreneur

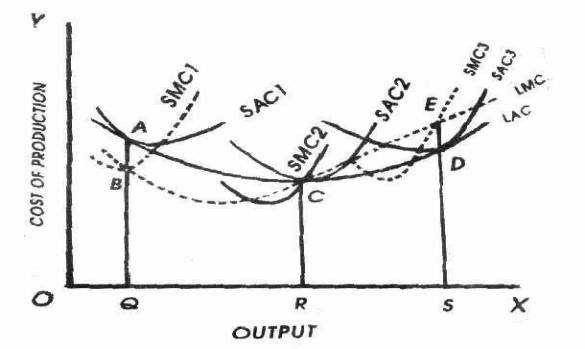
In his planning the size of plant for future expansion. The plant which yields the lowest average cost of production will be selected. LAC can, therefore, be defined as the lowest possible average cost of producing any output, when the management has adequate I time to make all desirable changes and adjustments.

In the long-run the demand curve of the firm depends on the law of returns to scale. The law of returns to scale states that if a firm increases the quantity of all inputs

simultaneously and proportionately, the total output initially increases more than proportionately but eventually increases less than proportionately. It implies that when production increases, per unit cost first' decreases but ultimately increases. This means LAC curve falls initially and rises subsequently. Like SAC curve LAC curve also is U-shaped, but it will be always flatter then SAC curves. The U-shape implies lower and lower average cost in the beginning until the optimum scale of the firm is reached and successively higher average cost thereafter.

The increasing return is experienced on account of the economies of scale or advantages of large-scale production Increase in scale makes possible increased division and _pecialization of labour and more efficient use of machines. After a certain point increase in production makes management more difficult and less efficient resulting in less than proportionate increase in output.

Long-run Marginal Cost Curve



The long-run marginal cost curve represents the cost of an additional unit of output when all the inputs vary. The long-run marginal cost curve (LMC) is derived from the short-run marginal cost (SMC) curves. LMC curve intersects LAC curve at its minimum point C. There is only one plant size whose minimum SAC coincides with the minimum LAC and LMC.

$$SAC_2 = SMC_2 = LAC = LMC$$

The point C indicates also the optimum scale of production of the firm in the long-run or optimum output. Optimum output level is the level of production at which the cost of production per unit, i.e. AC, is the lowest. The optimum level is not the maximum profit level. The optimum point is where AC=MC. Here C is the optimum point.

PRODUCTION ANALYSIS

Production is an important economic activity. It directly or indirectly satisfies the wants and needs of the people. Satisfaction of human wants is the objective of production. In this lesson a general discussion of the concept of production and its functions are carried out.

Production is the conversion of input into output. The factors of production and all other things which the producer buys to carry out production are called input. The goods and services produced are known as output. Thus production is the activity that creates or adds utility and value. In the words of Fraser, "If consuming means extracting utility from matter, producing means creating utility into matter". According to Edwood Buffa, “Production is a process by which goods and services are created"

Factors of Production

As already stated, production is a process of transformation of factors of production (input) into goods and services (output). The factors of production may be defined as resources which help the firms to produce goods or services. In other words, the resources required to produce a given product

are called factors of production. Production is done by combining the various factors of production. Land, labour, capital and organisation (or entrepreneurship) are the factors of production (according to Marshall). We can use the word CELL to help us remember the four factors of production: C. capital; Entrepreneurship; L land: and L labour.

Characteristics of Factors of Production

1. The ownership of the factors of production is vested in the households.
2. There is a basic distinction between factors of production and factor services. It is these factor services, which are combined in the process of production.
3. The different units of a factor of production are not homogeneous. For example, different plots of land have different level of fertility. Similarly labourers differ in efficiency.
4. Factors of production are complementary. This means their co-operation or combination is necessary for production.
5. There is some degree of substitutability between factors of production. For example, labour can be substituted for capital to a certain extent.

Basic Concepts in Production Theory

The firm is an organisation that combines and organises labour, capital and land or raw materials for the purpose of producing goods and services for sale. The aim of the firm is to maximise total profits or achieve some other related aim, such as maximising sales or growth. The basic production decision facing the firm is how much of the commodity or services to produce and how much labour, capital and other resources or inputs to use to produce that output most efficiently. To answer these questions, the firm requires engineering or technological data on production possibilities (the so called production function) as well as economic data on input and output prices.

Production refers to the transformation of inputs or resources into outputs of goods and services. For example: IBM hires workers to use machinery, parts and raw materials in factories to produce personal computers. The output of a firm can either be a final commodity (such as personal computer) or an intermediate product such as semiconductors (which are used in the production of computers and other goods). The output can also be a service rather than a good. Examples of services are education, medicine, banking, communication, transportation and many others. To be noted is, that production refers to all of the activities involved in the production of goods and services, from borrowing to set up or expand production facilities, to hiring workers, purchasing raw materials, running quality control, cost accounting and so on, rather than referring merely to the physical transformation of inputs into outputs of goods and services.

Inputs are the resources used in the production of goods and services. As a convenient way to organise the discussion, inputs are classified into labour. (Including entrepreneurial talent), capital and land or natural resources. Each of these broad categories however includes a great variety of the basic input. For example, labour includes bus drivers, assembly line workers, accountants, lawyers, doctors scientists and many others. Inputs are also classified as fixed or variable. Fixed inputs are those that can not be readily changed during the time period under consideration, except at very great expense. Examples of fixed inputs are the firm's plant and specialised equipment. On the other land, variable inputs are those that can be varied easily and on the very short notice. Examples of variable inputs are most raw materials and unskilled labour.

The time period during which at least one input is fixed is called the short run, while the time period when all inputs are variable is called the long run. The length of the long run depends on the industry. For some, such as the setting up or expansion of a dry cleaning business, the long run may be only few months or weeks.

For others, much as the construction of new electricity, generating plant, it may be many years. In the short run, a firm can increase output only by using more of the variable inputs together with the fixed inputs. In the long run, the same increase in output could very likely be obtained more efficiently by also expanding the firm's production facilities. Thus we say that the firm operates in the short run and plans increases or reductions in its scale of operation in the long run. In the long run, technology usually improves, so that more output

can be obtained from a given quantity of inputs or the same output from less input.

Production Function

Production is the process by which inputs are transformed in to outputs. Thus there is relation between input and output. The functional relationship between input and output is known as production function. The production function states the maximum quantity of output which can be produced from any selected combination of inputs. In other words, it states the minimum quantities of input that are necessary to produce a given quantity of output.

The production function is largely determined by the level of technology. The production function varies with the changes in technology. Whenever technology improves, a new production function comes into existence. Therefore, in the modern times the output depends not only on traditional factors of production but also on the level of technology. The production function can be expressed in an equation in which the output is the dependent variable and inputs are the independent variables. The equation is expressed as follows:

Q= f (L, K, T…….n)

Where, Q = output

L = labour

K = capital

T = level of technology

n = other inputs employed in production.

There are two types of production function - short run production function and long run production function. In the short run production function the quantity of only one input varies while all other inputs remain constant. In the long run production function all inputs are variable.

Assumptions of Production Function

The production function is based on the following assumptions.

1. The level of technology remains constant.
2. The firm uses its inputs at maximum level of efficiency.
3. It relates to a particular unit of time.

4. A change in any of the variable factors produces a corresponding change in the output.
5. The inputs are divisible into most viable units.

Managerial Use of Production Function

The production function is of great help to a manager or business economist. The managerial uses of production function are outlined as below:

1. It helps to determine least cost factor combination:

The production function is a guide to the entrepreneur to determine the least cost factor combination. Profit can be maximized only by minimizing the cost of production. In order to minimize the cost of production, inputs are to be substituted. The production function helps in substituting the inputs.

2. It helps to determine optimum level of output:

The production function helps to determine the optimum level of output from a given quantity of input. In other words, it helps to arrive at the producer's equilibrium.

3. It enables to plan the production:

The production function helps the entrepreneur (or management) to plan the production.

4. It helps in decision-making :

Production function is very useful to the management to take decisions regarding cost and output. It also helps in cost control and cost reduction. In short, production function helps both in the short run and long run decision-making process.

Cobb Douglas Production Function

Paul H. Douglas and C.W Cobb of the U.S.A have studied the production of the American manufacturing industries and they formulated a statistical production function. It is popularly known as Cobb-Douglas Production Function. It is stated as follows.

Q = KLaC,,a) where, Q = output

L = quantity of labour

C = quantity of capital

K and a = positive constants

In this production function the output (Q) is a function of two inputs L and C. According to Cobb Douglas production function, about 3/4 of the increase in output is due to labour and the remaining 1/4 is due to capital. An important point in Cobb Douglas

production function is that it indicates constant returns to scale. This means that if each input factor is increased by one percent, output will exactly increase by one percent. In other words, there will be no economies or diseconomies of scale.

Although the Cobb Douglas production function is nonlinear, it can be transformed into a linear function by converting all variables into logarithms. That is why this function is known as a log linear function. In 1937, David Duerentt suggested that it will be better to present Cobb-Douglas production function in the form of following equation :

$$Q = KL^a C^j$$

In the above equation, 'a' and 'j' stand for elasticity of production of labour and capital respectively.

Importance of Cobb-Douglas Production Function

Cobb-Douglas production function is most commonly used function in the field of economics. It graduates data on output and input well. Many economists used it independently. Hence, there are a number of varieties of the Cobb-Douglas form which yield variable elasticity's of production and substitution. It is useful in international or inter- industry comparisons. Cobb-Dougla's research has been a test of the marginal productivity theory of wages (or theory of distribution) as well as descriptions of production technology.

LAWS OF PRODUCTION

Production function shows the relationship between input and output. The law of production shows the relationship between additional input and additional output. The laws of production consists of - **(1) Law of Diminishing Returns** (to analyse production in the short period), and **(2) Laws of Returns to Scale** (to analyse production in the long period).

Law of Diminishing Returns or Law of Variable Proportion

The law of variable proportion is the modern approach to the 'Law of Diminishing Returns (or The Laws of Returns). This law was first explained by Sir. Edward West (French economist). Adam Smith, Ricardo and Malthus (Classical economists) associated this law with agriculture. This law was the foundation of Recardian Theory of Rent and Malthusian theory of population.

The law of variable proportion shows the production function with one input

factor variable while keeping the other input factors constant. The law of variable proportion states that, if one factor is used more and more (variable), keeping the other factors constant, the total output will increase at an increasing rate in the beginning and then at a diminishing rate and eventually decreases absolutely.

According to K. E. Boulding, "As we increase the quantity of any one input which is combined with a fixed quantity of the other inputs, the marginal physical productivity of the variable input must eventually decline". In this law we study the effect of variations in factor proportion on output. When one factor varies, the others fixed, the proportion between the fixed factor and the variable factor will vary, (e.g., land and capital will be fixed in the short run, while labour will be variable).That is why the law is called the law of variable proportion.

The law of variable proportion is also known as the law of proportionality, the law of diminishing returns, law of non-proportional outputs etc.

The following table illustrates the operations of Law of Variable Proportion.

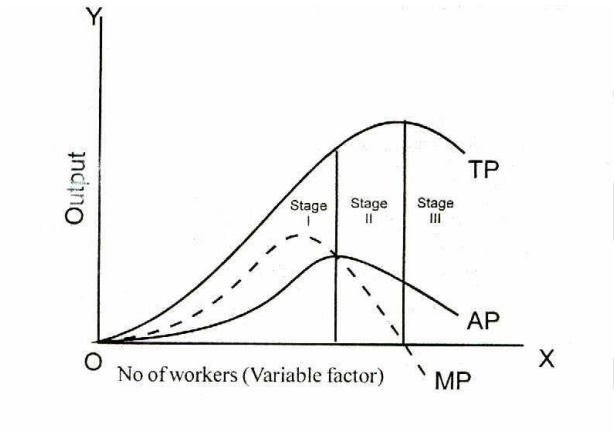
Table - 2

No. Of workers (Variable Input factor)	Total Product (TP)	Average Product (AP)	Marginal Product (MP)	Remarks
1	10	10	10	I Stage
2	24	12	14	
3	39	13	15	
4	56	14	17	
5	70	14	14	II Stage
6	78	13	8	
7	84	12	6	
8	84	10.5	0	
9	81	9	-3	III Stage

In the above table we can see that both the average and marginal products increase at first and then decline. Average product is the product for one unit of labour. It is calculated by dividing the total product by the number of workers. Marginal product is the additional product resulting from additional labour. The total product increases at an increasing rate till the employment of the 4th worker. Beyond the 4th worker, the marginal product is diminishing. The marginal product declines faster than the average product.

When 7 workers are employed, the total product is maximum. For 8 workers marginal product is zero and the marginal product of 9 workers is negative. Thus when more and more units labour are combined with other fixed factors, the total product increases first at an increasing rate, then at a diminishing rate and finally it becomes negative.

The above idea can be more clearly illustrated with the help of a diagram (Fig.5).



When one input is variable and others are held constant, the relations between the input and the output are divided into three stages. The law of variable proportion may be explained under the following three stages as shown in the graph:

Stage 1: Total product increases at an increasing rate and this continues till the end of this stage. Average product also increases and reaches its highest point at the end of this stage. Marginal product increases at an increasing rate. Thus TP, AP and MP - all are increasing. Hence this stage is known as stage of increasing return.

Stage II: Total product continues to increase at a diminishing rate until it reaches its maximum point at the end of this stage. Both AP and MP diminish, but are positive. At the end of the second stage, MP becomes zero. MP is zero when the TP is at the maximum. AP shows a steady decline throughout this stage. As both AP and MP decline, this stage is known as stage of diminishing return.

Stage III: In this stage the TP declines. AP shows a steady decline, but never becomes zero. MP becomes negative. It goes below the X axis. Hence the 3rd stage is known as stage of negative return.

According to classical economists there were three laws of returns: (i) Law of increasing returns, (ii) Law of constant returns, and (iii) Law of diminishing returns. But the

modern economists do not accept this. According to them there are not three laws of production but there is only one law of production i.e. law of variable proportion. It has three stages. It is necessary to understand the following terms:

Total Product or Total Physical Product (TPP): This is the quantity of output a firm obtains in total from a given quantity of input.

Average Product or Average Physical Product (APP): This is the total physical product (TPP) divided by the quantity of input.

Marginal Product or Marginal Physical Product (MPP): It is the increase in total output that results from a one unit increase in the input, keeping all other inputs constant.

Assumptions of the Law

The law of variable proportion is valid when the following conditions are fulfilled:

1. The technology remains constant. If there is an improvement in the technology, due to inventions, the average and marginal product will increase instead of decreasing.
2. Only one input factor is variable and other factor are kept constant.
3. All the units of the variable factors are identical. They are of the same size and quality.
4. A particular product can be produced under varying proportions of the input combinations.
5. The law operates in the short run.

Why does the Law of Variable Proportions operate?

The law of variable proportion operates on account of the following reasons:

1.**Imperfect substitutes:** There is a limit to the extent to which one factor can be substituted for another. In other words, two factors are not perfect substitutes. For example, in the construction of building, capital cannot substitute labour fully.

2.**Scarcity of the factors of production:** Output can be increased only by increasing the variable factors. In the short run certain input factors like land and capital are scarce. This leads to diminishing marginal productivity of the variable factors.

3.**Economies and diseconomies of scale:** The internal and external economies of large scale production are available as production is expanded. Therefore average cost goes on diminishing. But this continues only up to a certain stage. When the production is expanded beyond a level the diseconomies will start entering into production. Hence the output will

come down (or cost will go up).

4.**Specialisation :** The stage of diminishing returns comes into operation when the limit to maximum degree of specialisation reaches. This stage emerges when the fixed factor becomes more and more scarce in relation to the variable factor thereby giving less and less support to the latter. As a result of this, the efficiency and productivity of the variable factor diminish.

Importance of the Law of Variable Proportion

The law of variable proportion is one of the most fundamental laws of Economics. The law of variable proportion is applicable not only to agriculture but also to other constructive industries like mining, fishing etc. It is applied to secondary or tertiary sectors too. This law helps the management in the process of decision making. The law is a law of life and can be applicable anywhere and everywhere. The applications of this law are as follows:

Basis of Malthusian theory of population: Malthus based his theory of population on the law of variable proportion.

1.**Basis of the Ricardian theory of rent**: Ricardo's theory of rent is based on this law.

2.**Basis of the marginal productivity theory of distribution:** The marginal productivity theory of distribution is also based on this law.

3.**Optimum production**: This law can be used to estimate the optimum proportion of the factors for the producer.

4.**Price determination:** This law is also important in the price determination.

5.**Explanation of disguised unemployment**: Less developed countries like India have good deal of disguised unemployment. Many farm workers are in fact surplus. This is called disguised unemployment. The law helps us in explaining the presence of disguised unemployment. In short, the law of variable proportion is a universal law.

LAWS OF RETURNS TO SCALE

The law of variable proportion analyses the behaviour of output when one input factor is variable and the other factors are held constant. Thus it is a short run analysis. But in the long run all factors are variable. When all factors are changed in same proportion, the behaviour of output is analysed with laws of returns to scale. Thus law of returns to scale is a long run analysis.

In the long period, output can be increased by varying all the input Factors this law is concerned, not with the proportions between the factors of production, but with the scale of production. The scale of production of the firm is determined by those input factors which cannot be changed in the short period. The term return to scale means the changes in output as all factors change in the same proportion. The law of returns to scale seeks to analyse the effects of scale on the level of output. If the firm increases the units of both factors labour and capital, its scale of production increases. The return to scale may be increasing, constant or diminishing. We shall now examine these three kinds of returns to scale.

Increasing Returns to Scale

When inputs are increased in a given proportion and output increases in a greater proportion, the returns to scale are said to be increasing. In other words, proportionate increase in all factors of production results in a more than proportionate increase in output It is a case of increasing returns to scale. For example, if the inputs are increased by 40% and output increased by 50%, return to scale are increasing (= >1). It is the first stage of production.

If the industry is enjoying increasing returns, then its marginal product increases. As the output expands, marginal costs come down. The price of the product also comes down.

Constant Return to Scale

When inputs are increased in a given proportion and output increases in the same proportion, constant return to scale is said to prevail. For example, if inputs are increased by 40% and output also increases by 40%, the return to scale are said to be constant (= 1). This may be called homogeneous production function of the first degree. In case of constant returns to scale the average output remains constant. Constant returns to scale operate when the economies of the large scale production balance with the diseconomies.

Decreasing Returns to Sale

Decreasing returns to scale is otherwise known as the law of diminishing returns. This is an important law of production. If the firm continues to expand beyond the stage of constant returns, the stage of diminishing returns to scale will start operate. A proportionate increase in all inputs results in less than proportionate increase in output, the returns to scale is said to be decreasing. For example, if inputs are increased by 40%, but output increases by only 30%, (= < 1), it is a case of decreasing return to scale. Decreasing return to

scale implies increasing costs to scale.

Production Function with Two Variable Inputs

So far we have assumed that the firm is increasing output either by using more of one input (in laws of return) or more of all inputs (in laws of returns to scale). Let us now consider the case when the firm is expanding production by using more of two inputs (varying) that are substitutes for each other. A production function with two variable inputs can be represented by isoquants. Isoquant is a combination of two terms, namely, iso and quant.

Iso means equal. Quant means quantity. Thus isoquant means equal quantity or equal product. Isoquants are the curves which represent the different combination of inputs producing a particular quantity of output. Any point on the isoquant represents or yields the same level of output.

Thus isoquant shows all possible combinations of the two inputs (say labour and capital) capable of producing equal or a given level of output. Isoquants are also known as iso product curves or equal product curves or production indifferent curves. An isoquant may be explained with the following example:

Equal Product Combinations

Table. 3

Combination	Units of labour	Units of Capital	Total Output
A	20	1	1000
B	15	2	1000
C	11	3	1000
D	8	4	1000
E	6	5	1000

In the above schedule, there are five possible combinations. All the five combinations yield the same level of output i.e. 1000 units. 20 units of labour and 1 unit of capital produce 1000 units. 15 units of labour and 2 units of capital also produce 1000 units and so on. All combination are equally likely because all of them produce the same level of output i.e. 1000 units. Now if plot these combination of labour and capital, we shall get a curve. This

curve is known as an isoquant.

In the below diagram units of capital are measured on horizontal axis and units of labour on vertical axis. The five combinations are known as A, B, C, D and E. After joining these points, we get the iso product curve IQ. Here we assume that the level of technology remains constant. We also assume that the input can be substituted for each other. If quantity of labour is reduced, the quantity of capital must be increased to produce the same output. Thus an isoquant shows various combinations of the two inputs in the existing state of technology which produce the same level of output.

Diminishing Marginal rate of Technical Substitution

As already stated, an important assumption in the isoquant diagram is that the inputs can be substituted for each other. If a unit of labour is reduced, the units of capital must be increased in order to produce the same output. Here we want to know the rate at which one factor is substituted for the other. The term marginal rate of technical substitution refers to the rate at which one factor of production is substituted in place of the other factor, the quantity of output remaining the same.

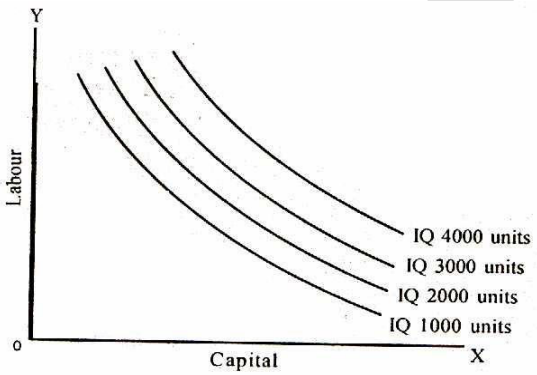
It is the rate at which one input must be substituted for another, in order to keep the same level of output. Thus the marginal rate of technical substitution of capital for labour may be defined the units of labour which can be replaced by one unit of capital; keeping the same level of output. In other words, it is the ratio of small decrease in the amount of labour and a small increase in the amount of capital so as to keep the same level of output. at a point represents marginal rate of technical substitution. It is also important to note that the marginal rate of technical substitution is the ratio of marginal productivity of labour to marginal productivity of capital.

As more and more units of capital are substituted to labour, each additional unit of capital contributes less and less output, while when labour is reduced each last unit of labour contributes more and more to output, because inefficient units of capital are coming to production while inefficient units of labour are going out of production. Marginal productivity of capital will decrease and marginal productivity of labour will

increase. Thus when we move from left to right on an isoquant.

Isoquant Map or Equal Product Map

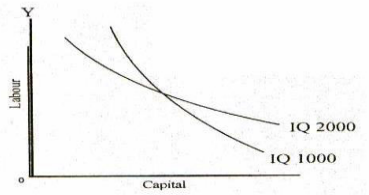
An isoquant map consists of a number of isoquants. An isoquant map gives a set of equal product curves which show different production levels. Each isoquant in the map indicates different levels of output. A higher isoquant represents a higher level of output. The distance of an isoquant from the origin shows the relative levels of output. The farther the isoquant from the origin the greater will be the level of output along it. But it should be noted that the distance between two equal product curves does not measure the absolute difference in the volume of output. Isoquant map is shown in the following diagram.



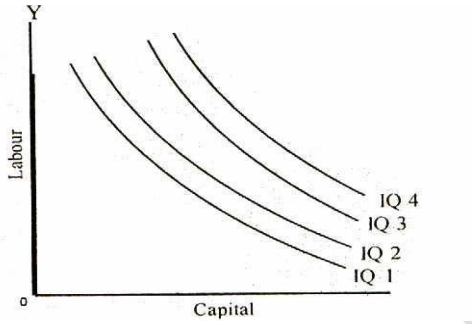
Properties or Features of Isoquant

The following are the important properties of isoquants:

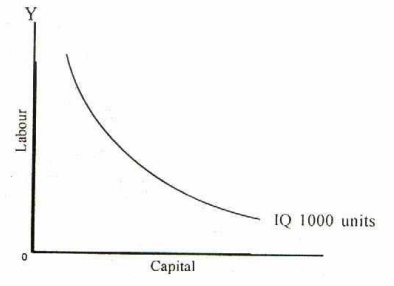
1. Isoquant is downward sloping to the right. This means that if more of one factor is used less of the other is needed for producing the same output.
2. A higher isoquant represents larger output.
3. No isoquants intersect or touch each other. If so it will mean that there will be a common point on the two curves. This further means that same amount of labour and capital can produce the two levels of output which is meaningless. The isoquant as shown in Fig.8 will never exist.



4. Isoquants need not be parallel to each other. It so happens because the rate of substitution in different isoquant schedules need not necessarily be equal. Usually they are found different and therefore, isoquants may not be parallel.



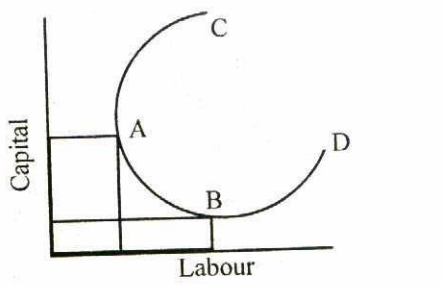
5. Isoquant is convex to the origin. This implies that the slope of the isoquant diminishes from left to right along the curve. This is because of the operation of the principle of diminishing marginal rate of technical substitution.



6. No isoquant can touch either axis. If an isoquant touches X axis then it would mean that without using any labour the firm can produce output with the help of capital alone. But this is wrong because the firm can produce nothing with OK units of capital alone. If an isoquant touches Y axis, it would mean that without using any capital the firm can produce output with the help of labour alone. This is impossible.

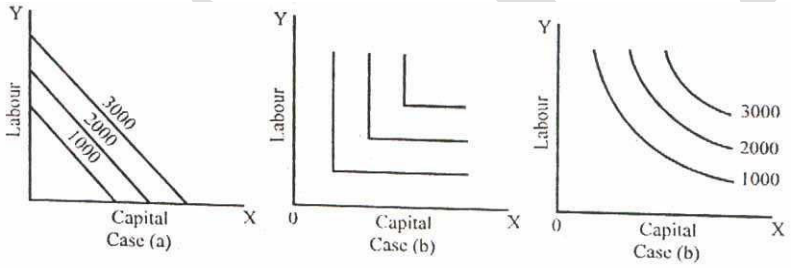
7.Isoquants have negative slope. This is so because when the quantity of one factor

(labour) is increased the quantity of other factor (capital) must be reduced, so that total output remains the same. If the marginal productivity of the factor becomes zero the isoquant will bend back and it will have positive slope as shown below.



The portions AC and BD of the isoquant have positive slope.

If the inputs are perfect substitutes, each isoquant will be a straight line (case a). If the inputs cannot be substituted at all, the isoquants will be right angles (case b). Typical isoquants lie between the extreme cases of straight lines and right angles (case c). Along a curved isoquant, the ability to substitute one input for another varies.



Optimum Input Combination (Least cost combination or Producer's Equilibrium)

The isoquant shows different combinations of two factors producing the same level of output. However, the producer will not accept all combinations. He wants to maximize his profit. It is possible only by maximising the output at minimum cost. Therefore, he will select the optimum input combination which involves the least cost. Optimum input combination or least cost combination is that combination which produces maximum output at the minimum cost. In other words, the optimum or least cost combination is that combination where the average cost of production is the minimum. This is the producer's equilibrium. This can be found out by combining the firm's production function and cost function. The production function is represented by isoquant and cost function is represented by iso-cost curve.

The principle of least cost combination is based on the following assumptions:

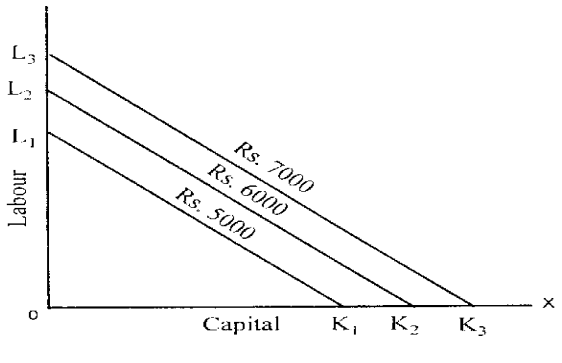
1. Capital and labour are the two factors involved in production.
2. All the units of both the factors are homogeneous.
3. The prices of the input factors are given.
4. The total money outlay is also given.
5. There is perfect competition in the factor market.

In order to analyse producer's equilibrium the firm should combine its isoquant (already discussed) and iso-cost line.

Iso-cost Curve

In order to select the optimum quantity of two inputs, the firm has to consider their quantities and their prices. Factors of production are available at a price. Therefore their prices and amount of money which the firm wants to spend has to be taken into consideration. Isocost line represents these two things. An isocost line indicates the different combination of the two factors which the firm can buy at given prices with a given amount of money.

It shows all the combinations of labour and capital that the firm can purchase with a given outlay and at given prices. Thus isocost shows the prices of the two factors and the total amount of money to spend. To make it more clear, let us take an example. Suppose a firm deci to spend Rs.5000 on 2 factors - capital and labour. If the weekly wage of a worker is Rs.50, the firm can employ 100 workers. Similarly if one unit of capital costs Rs.20, the firm buy 250 units of capital. Thus the firm can spend the whole amount of Rs.5000 either on labour (100 workers) or on capital (250 units) or partly on labour and partly on capital. The isocost line is shown
in the Fig. 12



The isocost line L, K, indicates on outlay of Rs.5000. With Rs.5000 the firm can buy either OL, units of labour or OK., units of capital or any combination of labour and capital between the extremes L(K.,. Similarly the isocost line L2 K... shows an outlay of Rs.6000 which means that either 120 workers may be employed or 300 units of capital may be bought or some units of both capital and labour. Thus isocost line shows all those combinations of capital and labour which the firm can use with the given amount of money. An isocost curve represents the same cost for all the different combination of input. Isocost line is always a straight line (because the firm has no control over market prices of factors).

POSSIBLE QUESTIONS : - PART – B

1. What are the factors of production?
2. What is meant by Isoquant Curves?
3. List out the various types of costs?
4. What are the factors of production?
5. Define Isoquant Curves in production function?
6. List out the cost concepts?
7. Mention the factors of production?
8. What are the various types of Concepts?
9. Give the meaning of the term Cost Output relationship?
10. What are the various types of costs?
11. Write short note on Break -Even -Analysis?
12. Differentiate between Short - run cost and Long – run cost?
13. Mention the factors of production?
14. What are the various types of costs?
15. Give the meaning of the term Cost Analysis?

***CIA – 3 X 2 = 6 Marks**
****ESE – 5 X 2 = 10 Marks**

PART – C

1. Explain the Law of Diminishing Returns with suitable chart.
2. Determine the short run and long run cost of production?
3. Determine the cost output relationship in short and long period?
4. Explain the Assumptions and Significance of the Law of Diminishing Returns?
5. Define and explain the Law of Diminishing Returns with suitable diagramme.
6. Elucidate the term Cost Analysis?
7. What is cost of production? Indicate the approach of Economists and Accountants in deciding the cost of production?
8. Explain the Cost Concepts and Cost classifications?
9. Define the Law of Diminishing Returns and illustrate the concept?
10. What are the differences between short run and long run average costs?

***CIA – 3 X 8 = 24 Marks (EITHER OR TYPE)**
****ESE – 5 X 6 = 30 Marks (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Sec 3 of UGC Act, 1956)
DEPARTMENT OF MANAGEMENT
UNIT II - MANAGERIAL ECONOMICS - Multiple Choice Questions- Each Question carries ONE Mark

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	_____ is the process of transformation of inputs into goods and services of utility to consumers and producers	Production	Sales	Purchases	Costs	Production
2	There are _____ factors of production	one	two	three	five	five
3	_____ Product is total product per unit of variable input.	Minimum	Average	Maximum	Marginal	Average
4	_____ Product is the addition in total output per unit change in variable input	Minimum	Average	Maximum	Marginal	Marginal
5	_____ curves are different combinationa of two consumption baskets corresponding to a given level of utility.	Difference	Cost	Indifference	Production	Indifference
6	An _____ is the locus of all technically efficient combinations for producing a given level of output	Isoquant	Income	Idea	Isocost	Isoquant
7	Production function is a relationship between physical _____ and physical outputs over a given period of time.	Cost	Income	inputs	Expenditure	inputs
8	There is substitutability between the factors of _____, but the factors are not perfect substitutes	marketing	costing	production	sales	production
9	Higher the _____ greater is the volume of output	cost	income	isocost	isoquant	isoquant
10	In case of a homogeneous production function, the expansion path is _____	Convex	Concave	Linear	Curvilinear	Linear

11	If Average product of labour is positive but declining, marginal product of labour could be _____	Declining but positive	Zero	Negative	Declining but positive, Zero and Negative	Declining but positive, Zero and Negative
12	Land, Labour, Capital, Enterprise and _____ are the factors of production	Finance	Organization	Expenditure	Income	Organization
13	Production is known as the conversion of _____ into outputs.	inputs	finance	goods	income	inputs
14	Capital is defined as the _____ means of production	sold	marketed	produced	financed	produced
15	Isoquants are also known as _____ curves	Isoproduct	Isocost	Isoincome	Iso	Isoproduct
16	Which of the following is not a long run concept?	Expansion path	Isoquant	Returns to scale	Law of variable proportion	Law of variable proportion
17	_____ means Sacrifice	Income	Cost	Inputs	Idea	Cost
18	_____ are more or less social and psychological in nature	Income	Cost	Inputs	Real costs	Real costs
19	_____ do not involve actual payment or cash outflow or reduction in assets	Implicit costs	Explicit costs	Opportunity costs	Marginal costs	Implicit costs
20	_____consist of private costs of the firm and social costs paid by the society	Implicit costs	Social costs	Opportunity costs	Marginal costs	Social costs
21	Low price of a good generally keeps its price elasticity of demand as _____	high	medium	low	normal	low
22	In the case of inferior goods, the income elasticity of demand is _____	positive	negative	positive, negative	negative, positive	negative

23	when as a result of increase in price of goods, total expenditure made on goods falls, price elasticity of demand is _____ than unity.	Greater	lesser	nominal	cardinal	Greater
24	_____ is the scientific and analytical estimation of demand for a product for a particular period of time.	Demand forecasting	forecasting	claim	supply	Demand forecasting
25	_____refers to the opinion of the buyers, sales force to have the knowledge of emerging trend in market demand.	questionnaire method	interview method	Survey/opinion method	Schedule	Survey/opinion method
26	Collective opinion method is also known as the _____	Sales force opinion	purchase force opinion method	Sales return opinion	purchase return opinion	Sales force opinion
27	The past data is arranged chronologically with regular intervals of time. This type of data is called_____	Cost series	price series	time series	gap series	time series
28	_____establishes the relationship between quantity demanded and one or more independent variables.	Co-relation	independent method	quantity method	Regression method.	Regression method.
29	The law of supply states that firms will _____ of the commodity when prices are high and vice versa	purchase more	sell more	purchase les	sell less	sell more
30	Market _____ occurs where demand and supply are equal.	Equilibrium	utility	elastic	supply	Equilibrium

31	Commodities which are perishable in nature have _____ supply	elastic	expand	inelastic	infinite	inelastic
32	When a supply of a commodity decreases on a fall in its price, it is called _____	demand	Contraction of supply	consumer su	surplus	Contraction of supply
33	_____ of a commodity is the total quantity that is available in a market at a certain time.	Stock	opening st	closing stoc	Common Stock	Stock
34	_____ is the measure of satisfaction a consumer derives out of consumption of a commodity.	utility	indifferenc	margin of s	demand	utility
35	when total utility is maximum, marginal utility is zero, it is called _____point	saturation	diffusion	utility	growth	saturation
36	_____ is equal to the difference between the price a consumer is willing to pay and the price actually he pays for a commodity	surplus	customer surplus	consumer surplus	Customer deficit	consumer surplus
37	Cardinal utility approach is based on the _____school of thought.	Marshallian	Albert	economic	modern man	Marshallian
38	The assumption of _____ implies that an individual consumer's preferences are always consistent.	transitivity	saturation	utility	marginal utility	transitivity
39	The IC analysis explains the demand for inferior goods and solves _____	Veblen effe	Giffen parad	speculative ef	goods	Giffen paradox

40	The book “Value and capital”was written by_____	JR Hicks	RGD Allen	Alfred Marshall	Thorstein veblen	JR Hicks
41	Which of the following is considered production in economics?	Driving for pleasure	Teaching for a fee	Boating for recreation	Donating blood	Teaching for a fee
42	In which stage of production would a rational producer like to operate_____	I stage-MP is maximum	–BothMP &AP are decreasing but	III Stage –MP is negative	either stage II or III	–BothMP& AP are decreasing but positive
43	In the short-run, when the output of a firm increases, its average fixed cost will	increase	decrease	remains constant	sustained	decrease
44	Perfect competition has the following features except _____	Homogeno us products	perfect knowledge	selling and transport cost occurs	free entry and exit	selling and transport cost occurs
45	Markets are being classifi	demand and	Time	situation	Time, Situation, demand and supply	Time, Situation, demand and supply
46	There is a single seller of a commodity which has no close substitutes can be termed as	Pure monopoly	duopoly	monopoly	pure oligopoly	Pure monopoly
47	A firm that produces substitute goods can adopt the following pricing strategy_____	Transfer pricing	full costing	going rate pri	Customary pricing	going rate pric
48	When demand is slack and market is highly competitive the following method of pricing may be adopted	full cost pricing	marginal cost pricing	peak load pricing	penetration pricing	marginal cost pricing

49	The factors affecting the pricing policy are _____	Cost of product	competitors price	objectives of the business	Cost of product, Ccompetitors price and objectives of business	Cost of product, Ccompetitors price and objectives of business
50	pricing methods can be brought under the following methods	cost oriente	competition	c)both a and b	Cost and Competition oriented	Cost and Competition oriented
51	A perfectly competitive firm has all the following features except	price taker	quantity adjusted	price discriminator	perfectly informed	price discriminator
52	In which of the following types of market structures, is it impossible for a seller to charge different prices for the same good	monopoly	perfect competition	oligopoly	monopolistic competition	perfect competition
53	In perfect competition, a firm increases profit when_____exceeds	TC, TR	MC,MR	AR, AC	TR,TFC	TC, TR
54	the single control in monopoly may mean	single produc	organizatic	govt or quas	Single producer, organizarion govt / quasi govt	Single producer, organizarion govt / quasi govt
55	Which one is not a type of monopoly?	legal monopoly	pure monop	simple monopoly	Discriminating monopoly	legal monopoly
56	The monopolist will not allow any consumers surplus for the buyer in _____	first degree price discrimination	second degree price discrimination of the above.	third degree price discrimination	foruth degree price discrimination	third degree price discrimination
57	Under monopoly which cost curve is parallel to ox-axis?	AVC	FC	MC	AC	FC
58	In a monopolistically competitive market the number of firm is _____	one	two	few	very large	very large

59	Elasticity of production under monopolistic competition is _____	equal to one	more than one	less than one	equal to zero	more than one
60	Which forms of market structure does a firm has no control over the price of the product _____	Monopolistic competition	Perfect competition	Monopoly	Dduopoly	Monopolistic competition

:ing

Unit – III : Main Forms of Market : Basis of Classification - Perfect Competition – Features – Short run Equilibrium and Long run Equilibrium – Price Determination – Monopoly Market – Features – Short run Equilibrium and Long run Equilibrium – Price Discrimination – Degrees of Price Discrimination. Oligopoly Market Competition – Features – Price Leadership – Price Rigidity – Cartel – Collusive and Non-Collusive – Oligopsony – Features – Monopolistic Competition – Features – Product Differentiation – Selling Cost – Short run Equilibrium and Long run Equilibrium – Monopsony – Duopoly Market – Features.

In ordinary language, the term market refers to a public place in which goods and services are bought and sold. In economics, it has a different meaning. Different economists have tried to define market in different ways. Cournot defines market as, "not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with each other that the prices of the same goods tend to equality easily and quickly".

To Ely, "Market means the general field within which the force determining the price of particular product operate". According to Benham," Market is any area over which buyers and sellers are in close touch with one another, either directly or through dealers, that the price obtainable in one part of the market affects the prices paid in other parts". Stonier and Hague explain the term market as "any organisation whereby buyers and sellers of a good are kept in close touch with each other". There is no need for a market to be in a single building.

The only essential for a market is that all buyers and sellers should be in constant touch with each other, either because they are in the same building or because they are able to talk to each other by telephone at a moment's notice.

Thus a market has the following basic components.

1. There should be buyers of the product. If a country consists of people who are very poor, there can hardly be market for luxuries like cars, VCR etc.
2. A commodity should be offered for sale in the market. Otherwise there is no question of buying the commodity. Therefore, existence of sellers is a necessity for any market.

3. Buyers and sellers should have close contact with each other.

4. There should be a price for the commodity. The exchange of commodities between buyers and sellers occurs at a particular price which is mutually agreeable to both the buyers and sellers.

CLASSIFICATION OF MARKET

Market may be classified into different types:

On the basis of area

Markets may be classified on the basis of area into local, national and international markets. If the buyers and sellers are located in a particular locality, it is called as a local market, e.g. fruits, vegetables etc. These goods are perishable; they cannot be stored for a long time; they cannot be taken to distant places. When a commodity is demanded and supplied all over the country, national market is said to exist. When a commodity commands international market or buyers and sellers all over the world, it is called international market.

Whether a market will be local, national or international in character will depend upon the following factors: (a) nature of commodity; (b) taste and preference of the people; (c) availability of storage; (d) method of business; (e) political stability at home and abroad; if) portability of the commodity.

On the basis of time

Time element has been used by Marshall for classifying the market. On the basis of time, market has been classified into very short period, short period, long period and very long period. Very short period market refers to the market in which commodities that are fixed in supply or are perishable are transacted. Since supply is fixed, only the changes in demand influence the price. The short period markets are those where supply can be increased but only to a limited extent. Long period market refers to a market where adequate time is available for changing the supply by changing the fixed factors of production. The supply of commodities may be increased by installing a new plant or machinery and the output can be changed accordingly. Very long period or secular period is one in which changes take place in factors like population, supply of capital and raw

material etc.

On the basis of nature of transactions

Markets are classified on the basis of nature of transactions into two broad categories viz., Spot market and future market. When goods are physically transacted on the spot, the market is called as spot market. In case the transactions involve the agreements of future exchange of goods, such markets are known as future markets.

On the basis of volume of business

Based on the volume of business, markets are broadly classified into wholesale and retail markets. In the wholesale markets, goods are transacted in large quantities. Wholesale markets are in fact, a link between the producer and the retailer while the retailer is a link between the wholesaler and the consumer.

On the basis of status of sellers

During the process of marketing, a commodity passes through a chain of sellers and middlemen. Markets can be classified into primary, secondary and terminal markets. The primary market consists of manufacturers who produce and sell the product to the wholesalers. The wholesalers who are an international link between the manufacturers and retailers constitute secondary markets while the retailers who sell it to the ultimate consumer constitute the terminal market.

On the basis of regulation

On this basis, market is classified into regulated and unregulated markets. For some goods and services, the government stipulates certain conditions and regulations for their transactions. Market of goods and services is called regulated market. On the other hand, goods and services whose transactions are left to the market forces belong to unregulated market. Regulations of market by the government become essential for those goods whose supply or price can be manipulated against the interests of the general public.

On the basis of competition

Markets are classified on the basis of nature of competition into perfect competition and imperfect competition.

PERFECT COMPETITION

The term market structure refers to the degree of competition prevailing in that particular market. For price analysis it is vital for business management to gain knowledge of the nature and process of competition in the prevailing business society.

Hence a thorough study on the different types of market structure is essential for the determination of price. In this lesson we will confine our discussion to perfect competition. Perfect competition in economic theory has a meaning diametrically opposite to the everyday use of the term. In practice, businessmen use the word competition as synonymous to rivalry. In theory, perfect competition implies no rivalry among firms. Perfect competition, therefore, can be defined as a market structure characterised by a complete absence of rivalry among the individual firms.

FEATURES

1.Large number of buyers and sellers

There must be a large number of firms in the industry. Each individual firm supplies only a small part of the total quantity offered in the market. As a result, no individual firm can influence the price. Similarly, the buyers are also numerous. Hence, no individual buyer has any influence on the market price. The price of the product is determined by the collective forces of industry demand and industry supply. The firm is only a 'price taker'. Each firm has to adjust its output or sale according to the prevailing market price.

2.Homogeneity of products

In a perfectly competitive industry, the product of any one firm is identical to the products of all other firms. The technical characteristics of the product as well as the services associated with its sale and delivery are identical.

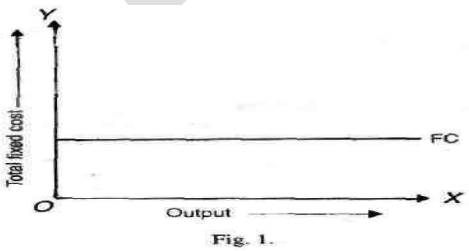


Fig. 1.

The demand curve of the individual firm is also its average revenue and its marginal revenue curve. The assumptions of large numbers of sellers and product homogeneity imply that the individual firm in pure competition is a price taker. Its demand curve is infinitely elastic indicating that the firm can sell any amount of output at the prevailing market price.

3. Free entry exit

There is no barrier to entry or exit from the industry. Entry or exit may take time but firms have freedom of movement in and out of the industry. If the industry earns abnormal profits, new firms will enter the industry and compete away the excess profits. Similarly, if the firms in the industry are incurring losses some of them will leave the industry which will reduce the supply of the industry and will thus raise the price and wipe away the losses.

4. Absence of government regulation

There is no government intervention in the form of tariffs, subsidies, relationship of production or demand. If these assumptions are fulfilled, it is called pure competition which requires the fulfillment of some more condition.

1. **Perfect mobility of factors of production**

The factors of production are free to move from one firm to another throughout the economy. It is also assumed that workers can move between different jobs. Raw materials and other factors are not monopolised and labour is not unionised. In short, there is perfect competition in the factor market.

6.Perfect knowledge

It is assumed that all sellers and buyers have complete knowledge of the conditions of the market. This knowledge refers not only to the prevailing conditions in the current period but in all future periods as well. Information is free and costless. Under these conditions uncertainty about future developments in the market is ruled out.

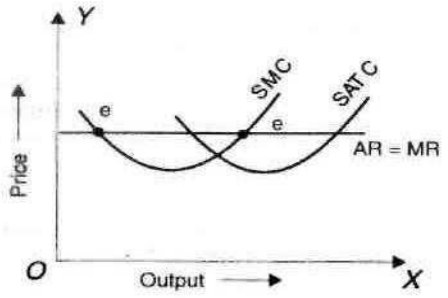
7. Absence of transport costs

In a perfectly competitive market, it is assumed that there are no transport costs.

SHORT RUN EQUILIBRIUM OF THE FIRM

The firm is in equilibrium at the point of intersection of the marginal cost and marginal revenue curves. The first condition for the equilibrium of the firm is that marginal cost should be equal to marginal revenue. The second condition for equilibrium requires that marginal cost curve should cut the marginal revenue curve from below.

Fig. 2



The firm is in equilibrium only at 'e' because only at 'e' both the conditions are satisfied. At 'e ' the firm is not in equilibrium as the second condition is not fulfilled. The fact that the firm is in equilibrium in the short run does not mean that it makes excess profits. Whether the firm makes excess profits or losses depends on the level of average total cost at the short run equilibrium.

In figure 3. (A), the SATC is below the price at equilibrium; the firm earns excess profits. In figure 3. (B), the SATC is above the price; the firm makes a loss. In the short run a firm generally keeps on producing even when it is incurring losses. This is so because by producing and earning some revenue, the firm is able to cover a part of its fixed costs. So long as the firm covers up its variable cost plus at least a part of annual fixed cost, it is advisable for the firm to continue production.

It is only when it is unable to cover any portion of its fixed cost, it should stop producing. Such a situation is known as shut down point. The shut down point of the firm is denoted by W. If price falls below P the firm does not cover its variable costs and is better off if it closes down.

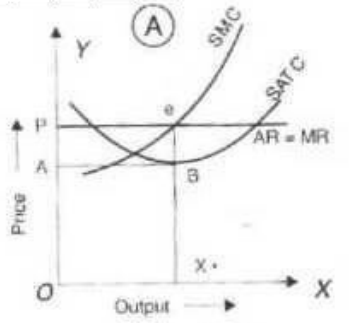


Fig. 3. (A)

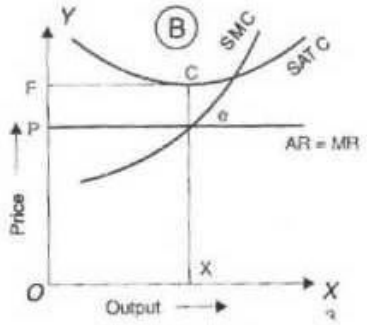


Fig. 3. (B)

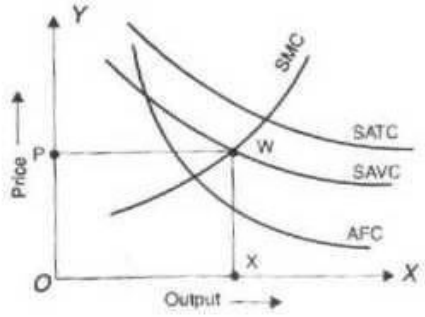


Fig. 4.

Short- runs Equilibrium of the industry.

Given the market demand and market supply, the industry is in equilibrium at the price at which the quantity demanded is equal to the quantity supplied.

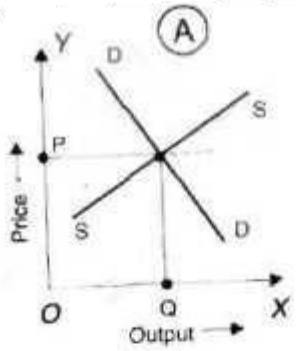


Fig. 5. (A) Short–run Industry Equilibrium

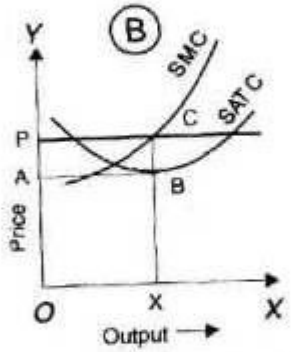
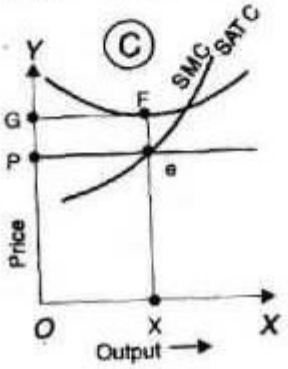


Fig.5. (B) Short–run Equilibrium (profits)

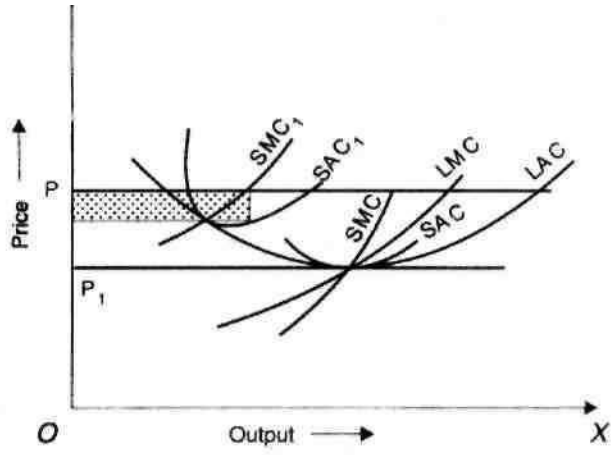


The industry is in equilibrium at price P at which the quantity demanded and supplied is OQ. However this will be a short-run equilibrium as some firms are earning abnormal profits and some incur losses as shown in figures 5. (B) and 5. (C) respectively.

In the long run, firms that make losses will close down. Those firms which make excess profits will expand and also attract new firms into the industry. Entry, exit and readjustment will lead to long run equilibrium in which firms will be earning normal profits and there will be no entry or exit from the industry.

Long-run equilibrium of the firm

In the long run firms are in equilibrium when they have adjusted their plant so as to produce at the minimum point of their long run AC curve, which is tangent to the demand curve. In the long run the firms will be earning just normal profits, which are included in the LAC. The long run equilibrium position of the firm is shown in figure 6.



At the price of OP, the firm is making excess profits. Therefore, it will have an incentive to build new capacity and hence it will move along its LAC. At the same time, attracted by excess profits new firms will be entering the industry. As the quantity supplied increases, the price will fall to P_i at which the firm and the industry are in long- run equilibrium. The condition for the long-run equilibrium of the firm is that the marginal cost tie equal to the price and to the long run-average cost.

LMC = LAC = P

The firm adjusts its plant size so as to produce that level of output I which the LAC is the minimum. At equilibrium the short run marginal is equal to the long run marginal cost and the short run average cost is equal to the long run average cost. Thus, in equilibrium in the long SMC = LMC = LAC = SAC = P = MR. This implies that at the minimum point of the LAC the plant worked at its optimal capacity, so that the minimal of the LAC and SAC coincide.

Long-run Equilibrium of the Industry

The industry is in long run equilibrium when price is reach which all firms are in

equilibrium producing at the minimum point oft LAC curve and making just normal profits. Under these conditions there is no further entry or exit of firms in the industry.

The long run equilibrium is shown in the figure. 7.

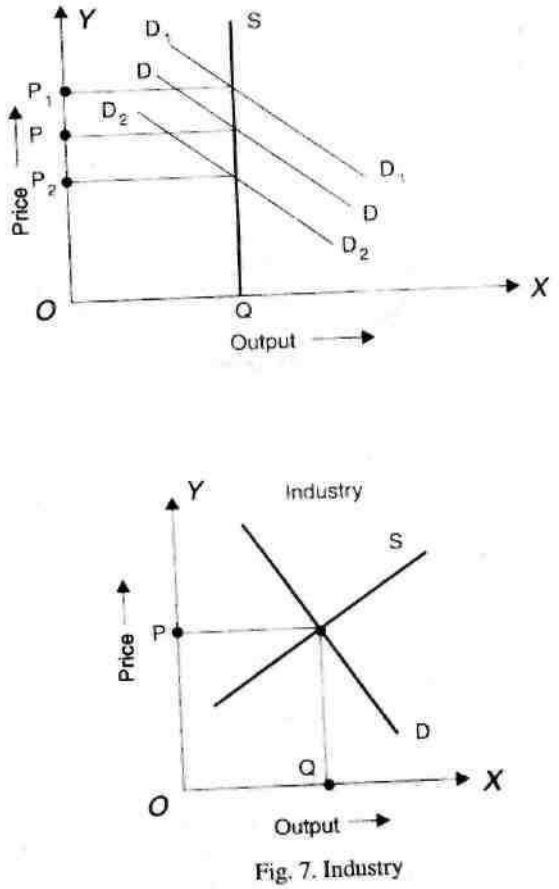


Fig. 7. Industry

At the market price P the firms produce at their minimum cost, earning just normal profits. The firm is in equilibrium because at the level of output x

LMC = SMC = P = MR

This equality ensures that the firm maximises its profit. At the price P the industry is in equilibrium because profits are normal and all costs are covered so that there is no incentive for entry or exit.

Price determination under perfect competition-Role of time

Price of a commodity in an industry is determined at that point where industry demand is equal to industry supply. Marshall laid emphasis on the role of time element in the determination

of price. He distinguished three periods in which equilibrium between demand and supply was brought about viz., very short period or market period; short run equilibrium and long run equilibrium.

Market period

Price is determined by the equilibrium between demand and supply in market period. In the market period, the supply of commodity is fixed. The firms can sell only what they have already produced. This market period may be an hour, a day or few days or even few weeks depending upon the nature of the product. So far as the supply curve in a market period is concerned, two cases are prominent-one is that of perishable goods and the other is that of non perishable durable goods.

For perishable goods like fish, vegetables etc. the supply is given and cannot be kept for the next period; therefore, the whole of it must be sold away on the same day whatever be the price. The supply curve will be a vertical straight line.

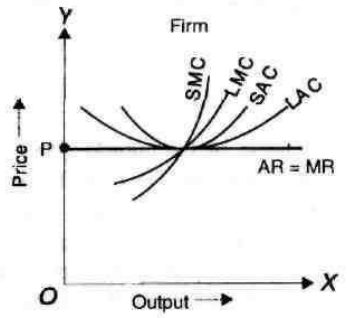


Fig. 8

QS is the supply curve. OQ is the quantity of fish available. DD is the market demand curve. The equilibrium price OP is determined at which quantity demanded is equal to the available supply i.e. at the point where DD intersects the vertical supply curve QS. If demand increases from DD to D_1D_1 supply remaining the same price will increase from OP to OP_1. On the contrary, if there is a decrease in demand from DD to D2D2 the price will fall and the quantity sold will remain the same.

If the commodity is a durable good, its supply can be adjusted to demand. If the demand for commodity declines the firms will start building inventories, while on the other hand, if demand goes up the firms will increase their supplies out of the existing stocks. The

firm can keep on supplying out of its existing stocks only upto the availability of stocks. If demand increases beyond that level, the firm cannot supply any additional quantity of the good. Thus the supply curve for the durable goods is upward sloping upto a distance and then becomes vertical. A firm selling a durable good has a reserve price below which it will not like to sell. The reserve price, is influenced by the cost of production.

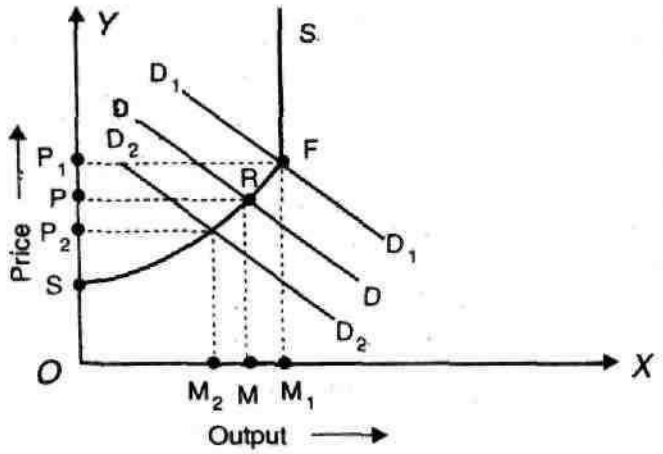


Fig. 9.

SRFS is the supply curve of the durable goods. OM_1 is the total amount of stock available. Upto OP_1 the quantity supplied varies will I price. At OS price, nothing is sold. It is the reserve price. At OP_1 price, the whole stock is offered for sale. DD is the demand curve. Price ul determined at OP at which quantity demanded is equal to the quantity supplied. At this price OM quantity is sold. If demand increases form DD to D_1 D_1 the price will increase to OP_1 and the whole stock will be sold. If the demand decreases from DD to D2D2 the price will fall to OP2 and the amount sold will fall to OM2.

Short run equilibrium

In the short period the firm can vary its supply by changing the variable factors. Moreover, the number of firms in the industry cannot increase or decrease in the short run. Thus the supply of the industry can be changed only within the limits set by the plant capacity of the existing firms. The short period price is determined by the interaction of short period supply and demand curves. The determination of the short run price is shown in figure 10.

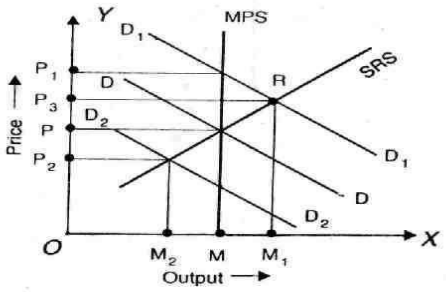
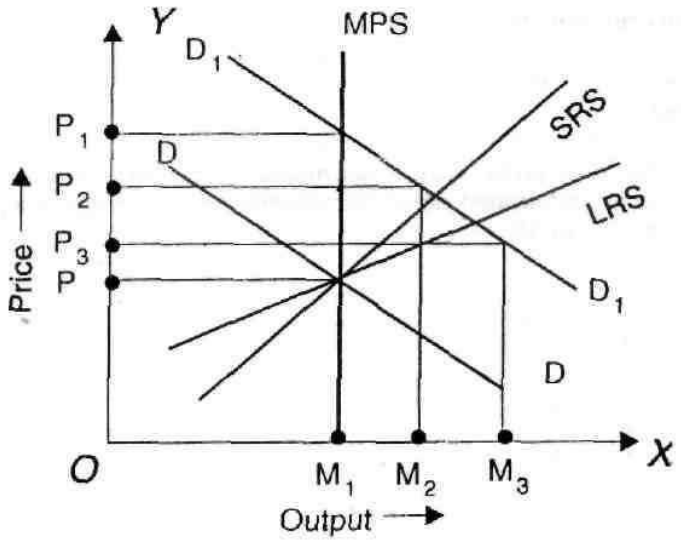


Fig. 10.

DD is the demand curve facing the industry. MPS is the market period supply, curve and SRS is the short run supply curve of the industry. If there is an increase in demand form DD to D1D1 the market price will increase from OP to OP1. The supply of the commodity will be increased by intensive utilisation of fixed factors and increasing the amount of variable factors. So in the short run price will fall to OP3 at which new demand curve D1D1 intersects the short run supply curve SRS. Thus OP3 is the short run price and quantity supplied has increased from OM to OM1.

Long-run equilibrium

In the long run, supply is adjusted to meet the new demand conditions. If there is an increase in demand, the firms in the long run will expand output by increasing the fixed factors of production. They may enlarge their old plants or build new plants. Moreover, in the long run new firms can also enter the industry and thus add to the supplies of the product. The determination of price in the long run is shown in figure 11.



LRS is the long run supply curve; MPS is the market period supply curve and SRS is the short run supply curve. DD is the market demand curve and OP is the market price. If there is an increase in demand from DD to D1D1 the market price will increase from OP to OP1. In the short run, however, the firms will increase output. Price in the short run will fall to OP2 at which D1D1 intersects the short run supply curve SRS. In the long run new firms will enter the industry. As a result output will increase and price will fall to OP3. Thus OP3 is the long run price.

MONOPOLY AND MONOPOLISTIC COMPETITION

The behaviour of a firm under two different market structures, namely monopoly and monopolistic competition is analysed in detail. While analysing the market structure it is essential to assume that the firms are guided by profit maximization. Monopoly is that market form in which a single producer controls the entire supply of a single commodity which has no close substitutes. There must be only one seller or producer. The commodity produced by the producer must have no close substitutes. Monopoly can exist only when there are strong barriers to entry. The barriers which prevent the entry may be economic, institutional or artificial in nature.

Features

1. There is a single producer or seller of the product.
2. There are no close substitutes for the product. If there is a substitute, then the monopoly power is lost.
3. No freedom to enter as there exists strong barriers to entry.
4. The monopolist may use his monopolistic power in any manner to get maximum revenue. He may also adopt price discrimination.

Price-Output Determination Under Monopoly

The aim of the monopolist is to maximise profits. Therefore, he will produce that level of output and charge a price which gives him the maximum profits. He will be in equilibrium at that price and output at which his profits are maximum. In order words, he will be in equilibrium position at that level of output at which marginal revenue equals marginal cost. The monopolist, to be in equilibrium should satisfy two conditions :

1. Marginal cost should be equal to marginal revenue and
2. The marginal cost curve should cut marginal revenue curve from below.

The short run equilibrium of the monopolist is shown in figure 12.

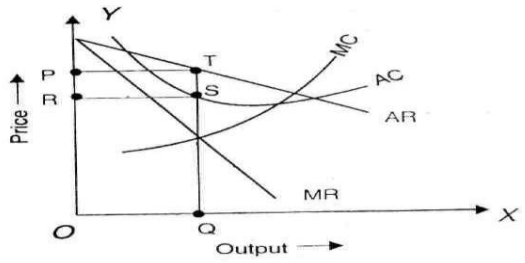
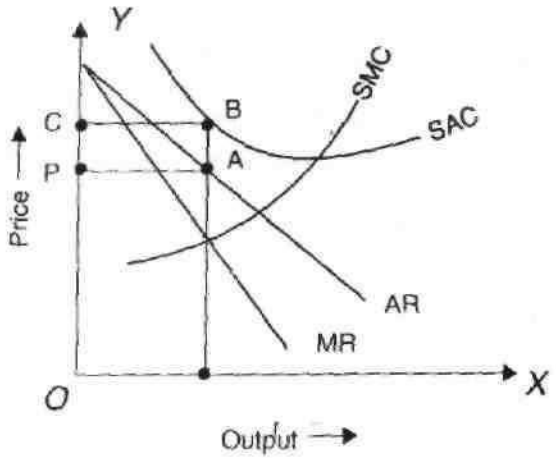


Fig. 12

AR is the average revenue curve, MR is the marginal revenue curve, AC is the average cost curve and MC is the marginal cost curve. Upto OQ level of output marginal revenue is greater than marginal cost but beyond OQ the marginal revenue is less than marginal cost. Therefore, the monopolist will be in equilibrium where MC = MR. Thus a monopolist is in equilibrium at OQ level of output and at OP price. He earns abnormal profit equal to PRST.

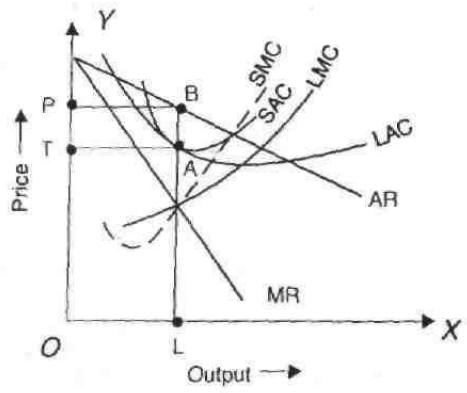
But it is not always possible for a monopolist to earn super- normal profits. If the demand and cost situations are not favourable, the monopolist may realise short run losses.



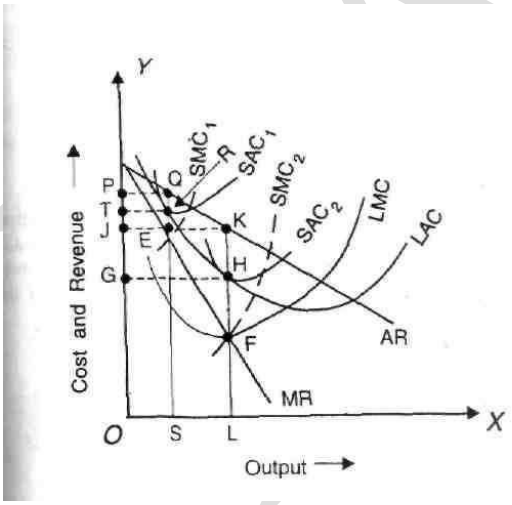
Though the monopolist is a price maker, due to weak demand and high costs, he suffers a loss equal to PABC.

Long run equilibrium

In the long run the firm has the time to adjust his plant size or to use the existing plant so as to maximise profits. The long run equilibrium of the monopolist is shown in figure 14.



The monopolist is in equilibrium at OL output where LMC cuts MR curve. He will charge OP price and earn an abnormal profit equal to TPQH. In order to show the difference between the short run equilibrium and long run equilibrium under monopoly, both can be shown in a single figure



The monopolist is in the short run equilibrium at E producing OS level of output. In the long run he can change the plant and will be in equilibrium at F where MR curve cuts LMC curve. The monopolist has increased his output from OS to OL and price has fallen from OP to OJ. Profits have also increased in the long run from TPQR to GHKJ.

PRICE DISCRIMINATION OR DISCRIMINATING MONOPOLY

Price discrimination refers to the practice of selling the same product at different prices to different buyers. Mrs. Robinson defines it as "charging different price for the same product or same price for differentiated product". Prof. Stigler defines price discrimination as "the scale of technically similar products at prices which are not proportional to Marginal costs". Price discrimination may be divided into three types-personal, local and according to use.

Price discrimination is personal when a seller charges different prices for different persons. For example, hair cut for children and adult. Price discrimination is local when the seller charges different prices for people of different localities. For instance, a seller may charge one price at domestic market and another price in international market. Discrimination is according to use when the same commodity is put to different uses. For example, electricity is usually sold at a cheaper rate for industrial uses than for domestic purposes.

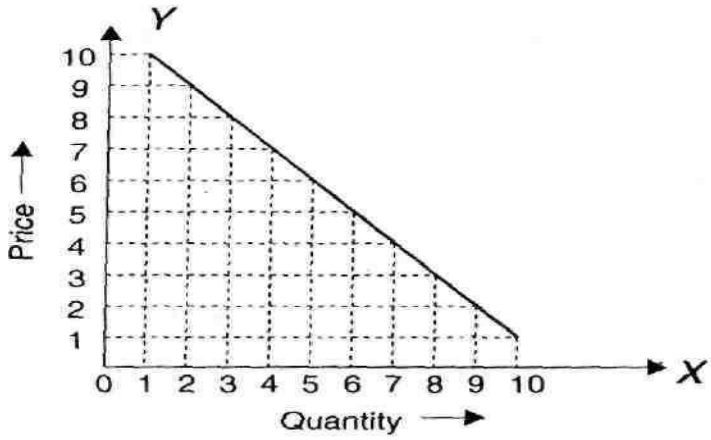
Degrees of price discrimination

Prof. A.C. Pigou has distinguished between three degrees of price discrimination.

1. Price discrimination of the first degree.
2. Price discrimination -of the second degree.
3. Price discrimination of the third degree.

Price discrimination of the first degree

It is also known as perfect price discrimination. Price discrimination of the first degree is said to occur when the monopolist is able to sell each separate unit of the output at a different price. In other words, it involves maximum possible exploitation of each buyer. Price discrimination of the first degree is depicted in figure. 16.



At price Rs. 10 the buyer will purchase one unit of the good; at price Rs. 9 the buyer would purchase 2 units of the good; at price of Rs. 8 he would purchase 3 units of the good; at price of Rs. 7 he would take 4 units of the good and so on. Under simple monopoly, if the seller fixes the price at Rs. 7 the buyer buys 4 units then he would pay Rs. 28 as the price for 4 units. By doing so, he gets a consumer surplus of Rs. 6. This is so because; the buyer is willing to pay Rs. 10 for the first unit, Rs. 9 for the second, Rs.8 for the third and Rs. 7 for the fourth. In all he is willing to pay Rs. 34. He actually pays only Rs. 28. But under price discrimination of the first degree the monopolist charges Rs. 34. As a result the buyer has no consumer's surplus.

Price discrimination of the second degree

In price discrimination of the second degree buyers are divided into different groups and from each group a different price is charged which is the lowest demand price of that group. This is shown in figure. 17.

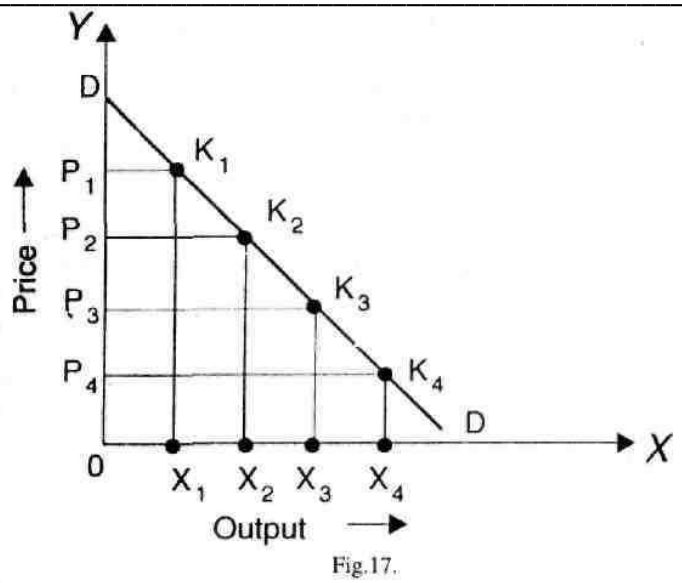


Fig.17.

Market is divided into four groups. DD is the market demand curve. In the first group X units of output will be sold at a price of OP1. All the buyers in this group pay OP1 price and the group gets DK_1 P_1 as consumer's surplus. Similarly for other groups, consumers pay OP2, OP3, OP4 and get the consumer's surplus equal to DK2 P2, DK3 P3 and DK4 P4 respectively.

Price discrimination of the third degree

It occurs when the seller divides his buyers into two or more than two sub- markets or groups and charges a different price in each sub- market. The price charged in the sub- market need not be the lowest demand price of that sub- market.

Possibility of price discrimination

Price discrimination is possible in the following cases:

1. The nature of the commodity should be such as to enable the monopolist to charge different prices. This is possible only when there is no possibility of transference of the commodity from one market to the other. For example, doctors charge different fees for the rich and for the poor for same service.

   When the markets are separated by long distance or tariff, then price discrimination is possible. If the transportation cost is higher than the price difference between the two markets, one monopolist can charge different prices. For example, a commodity may be sold at Rs. 10 in Delhi and Rs. 20 in Madras. If the transportation cost between Delhi and

Madras is greater than Rs. 10 it is not profitable for the consumers to transport the commodity from Delhi to Madras on their own. Similarly when domestic market is protected by tariff, the monopolist can sell the product at a lower price in the foreign market and at a higher price in the domestic market.

2.In certain cases, the firms have a legal sanction for price discrimination. For example, electricity board charges a lower price for industrial purposes and a higher price for domestic purposes. Similarly, transportation companies charge different fares for different classes of passengers.

3. Price discrimination is possible due to preferences or prejudices of the consumers. Different prices are charged for different varieties although they differ only in label or name. Upper class people may prefer to buy in fashionable quarters to buy in a congested, ugly and cheaper locality.

4. Price discrimination may become possible due to ignorance and laziness of buyers. If a seller is discriminating between two markets but the buyers are ignorant that the seller is selling the product at a lower price in another market, price discrimination is possible. Price discrimination is also possible if the buyers are aware that the seller is selling the product at lower price in another market but due to laziness may not go for shopping, in the cheaper market.

5. When a monopolist is able to meet different needs for his customers it is possible for him to follow price discrimination. For example, railways charge different rates for carrying coal, cotton, silk and fruit even though the service rendered is the same for all.

6. A monopolist can easily charge discriminating prices when goods are being supplied to special orders. In such a case, there is no question of comparing prices by the buyers. It is obvious that price discrimination can be practiced only under imperfect competition. It is not at all possible when there is perfect competition. Under perfect competition, the seller has to take the market price as given.

Therefore, there is no scope for price discrimination. The possibility of price discrimination under perfect competition exists only if all sellers are combined together. But as soon as they combine, perfect competition ceases to exist. Price discrimination can occur under conditions of imperfect or monopolistic competition. Larger the market imperfection, greater is the possibility of price discrimination. When there is monopoly, the market

imperfection is maximum and the possibility of price discrimination is also maximum. Since, in case of a monopoly there are no other sellers selling the same product or its substitutes, the monopolist is in a position to charge different prices from different parts of the market.

Conditions for profitable price discrimination

The monopolist may be able to charge discriminating prices but it need not necessarily be profitable for him. It is only when the elasticity of demand in one market is different from the elasticity of demand in the other market that the monopolist will find the policy of price discrimination profitable. The monopolist will find it profitable to charge more in the market where elasticity is low and low price where it is high. Mrs. Robinson says, "The submarkets will be arranged in ascending order of their elasticities, the highest price being charged in the least elastic market, and the lowest price in the most elastic market".

Same elasticity of demand in two markets

If the elasticity of demand is same in two markets, the marginal revenues in two markets at every price of the product will also be the same and it will not be profitable for the monopolist to discriminate between the two markets. This is illustrated in figure 18.

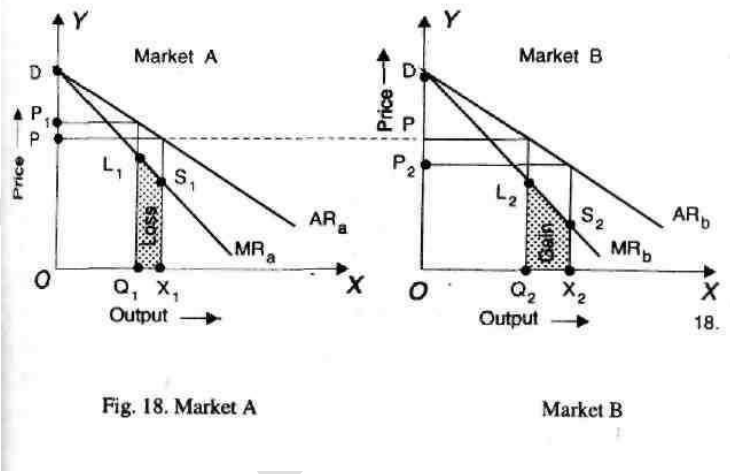


Fig. 18. Market A Market B

ARa and ARb are the iso-elastic demand curves of the markets A and B. At price OP marginal revenue in the two markets is the same. If the monopolist transfers a given amount from one market te another and thereby charge different prices, it would not be profitable for the monopolist. Suppose, he reduces his sales in market A from OX to OQ_1 and transfer it to market B, where the sales go up from OQ2 to OX2. As a result of reduced sales in market A, the

monopolist loses Q1 X1 S1 L1 while he gains Q2 X2 L2 S2 in market B by increasing his sales. Since the loss is greater than the gain, it is not profitable for the monopolist to discriminate prices between the two markets having the same elasticity of demand.

Elasticity of demand differs in two markets

If the monopolist wants to maximum profits, he must discriminate prices if the elasticities of demand in the two markets at the given monopoly prices are different. This is shown in Figure 19.

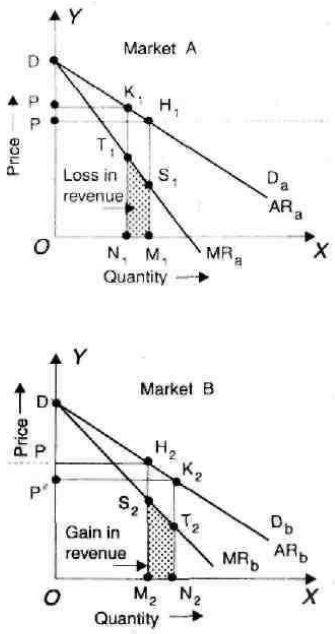


Fig. 19.

The monopolist reduces the output in market B and transfers it to market A. When he increases his sales in market A from OX to OQi, he gains Xi Qj L\ S\ and when he reduces it in market B his sales go down from OQ2 to OX2, he loses X2 Q2 L2 S2. Since the gain is more than the loss it is profitable for the monopolist to follow price discrimination.

Price-output determination under discriminating monopoly

The graphical representation of price-output determination under conditions of discriminating monopoly can be shown with the help of a figure. There are two markets A and B with different price elasticity's. The price elasticity in market B is lower than that in market A.

The total marginal revenue arising from the two markets is arrived at by horizontal summation of the marginal revenue curves for the two sub-markets. Da is the demand curve and MRa is the marginal revenue curve in market A. Similarly, MRb is the marginal

revenue curve in market B corresponding to the demand curve D. AMR is the aggregate marginal revenue curve, which has been derived by adding MRa and MR5 . MC is the marginal cost curve of the monopolist.

The discriminating monopolist will maximise his profits by producing that level of output at which MC intersects AMR. Thus he will be producing OM level of output. This total output will be distributed in such a way that marginal revenues in two markets are equal and at the same time it should be equal to the marginal cost. Since marginal cost is ME, the total output OM has to be distributed in such a way that the marginal revenue in two markets should be equal to the marginal cost. Hence OM amount can be sold in market A and OM2 in market B. Further, OM amount can be sold in market A at M_1 P_1 price and OM2 can be sold in market B at M2 P2 Price. Price is higher in market A where the demand is less elastic than in market B where the demand is more elastic. Thus a profit maximising monopolist charges different prices and supplies different quantities in the sub- markets having different price elasticity's.

Equilibrium under price discrimination in the case of dumping

A special case of price discrimination is one in which a producer sells in two markets, one under conditions of perfect competition and another under the conditions of monopoly. Such a situation occurs when a producer sells his product in domestic market in which he is a monopolist and also in the world market which is perfectly competitive.

In the domestic market in which the producer has a monopoly average revenue curve ARH slopes downwards. In the world market in which there is perfect competition, the demand curve is perfectly elastic the average revenue curve ARW is horizontal and MR curve coincides with it. MC is the marginal cost curve. Aggregate marginal revenue curve is BFED which is the summation of MRH and MRW. MC intersects the aggregate marginal revenue curve at E and the equilibrium level of output is OM. This total output OM has to be distributed between domestic market and world market in such a way that marginal revenue in each market is equal to each other and to the marginal cost. Therefore, OR will be sold in the domestic market at the price of OP^ and RM will be sold in the world market at price OPw. Total profit earned by the producer is CEFB. Price in the world market is lower than the price in the home market. When a producer charges a lower price in, the world market than in the home market, he is said to be dumping in the

world market.

Monopoly equilibrium Vs Competitive equilibrium

The only similarity between the two is that a firm is in equilibrium at the level of output at which marginal revenue is equal to marginal cost. But there are many differences:

1.Under perfect competition, the average revenue curve is horizontal straight line parallel to the X axis. Therefore, MR is equal to AR at all levels of output and MR curve coincides with AR curve. But under monopoly, AR is sloping downwards. Hence, MR is less than AR at all levels of output and MR curve lies below the AR curve. In equilibrium the marginal revenue will be smaller than the average revenue.

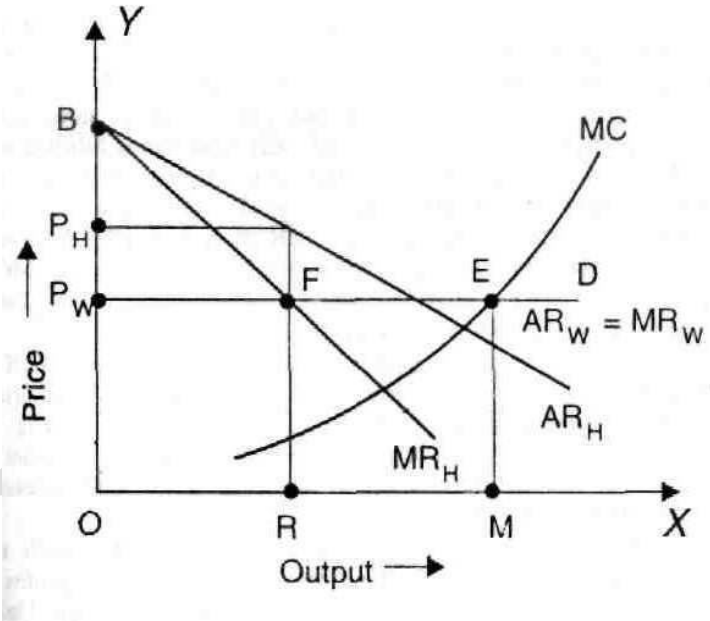


Fig. 22

2.Both under perfect competition and monopoly, the firm is in equilibrium where MC is equal to MR. But in perfect competition, when MC is equal to MR, it is also equal to price or AR. This is not so in case of monopoly. Under monopoly, MR is less than AR or price; in equilibrium MC will be equal to MR but it will be less than price. Therefore, in perfect competition, price is equal to MC and in monopoly price is higher than the marginal cost.

3.Another significant difference between the two is that whereas a perfectly competitive

firm is in long-run equilibrium at the minimum point of the long-run average cost curve, monopolistic firm is in equilibrium at the level of output where average cost is still declining and has not yet reached its minimum point. Under perfect competition, it pays the firm to expand production so long as the average cost is falling since AR and MR remain constant. But it does not pay a monopolist firm to expand production to the minimum of AC curve.

4.Another important difference between the two is that while under perfect competition equilibrium is possible only when MC is rising at the point of equilibrium, but monopoly equilibrium can be reached whether marginal cost is rising, remaining constant or falling at the equilibrium output. This is so because the second order condition of equilibrium namely MC curve should cut MR curve from below at the equilibrium point, can be satisfied in monopoly in all the three cases, whereas in perfect competition the second order condition is fulfilled only when MC curve is rising. Since in perfect competition the MR curve is a horizontal straight line, MC curve can cut the MR curve from below only when MC is rising. But under monopoly MR curve is sloping downward and therefore, MC curve can cut the MR curve from below whether MC is rising, remaining constant or falling. The equilibrium of the monopolist in these three cases is shown in Figure 22. Fig. A illustrates the equilibrium of the monopolist when MC is rising at the equilibrium output. Fig. B shows the monopoly equilibrium when MC is constant at and near the equilibrium output. In Fig. C, monopolist is in equilibrium when MC is falling at and near the point of equilibrium. In all these three cases, OP represents price, OM represents output and RNQP represents profit.

5. Still another difference between the two is that while the perfectly competitive firm in the long run, earns only normal profits, a monopolist can make supernormal profits even in the long run. Under perfect competition, if firms in the short run are making supernormal profits, the new firms will enter the industry to compete away the profits. But under monopoly, the firm continues to earn supernormal profits even in the long run since there are strong barriers to the entry of new firms in monopoly.

It does not mean that the monopoly always guarantees supernormal profits. If the demand and cost conditions are not favourable, the monopolist may suffer short run losses, as shown in the followings

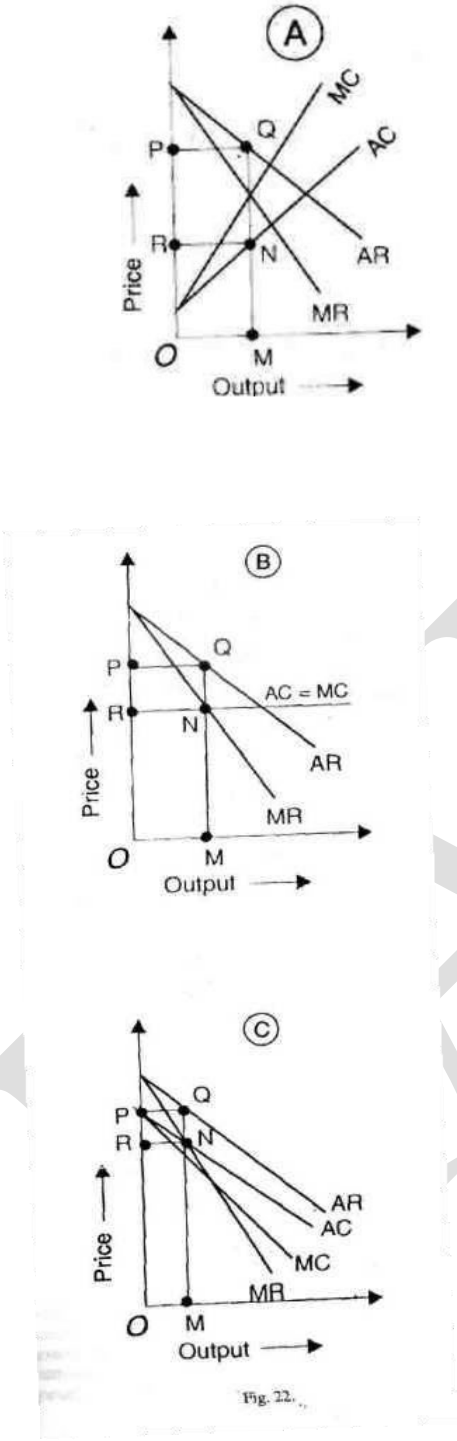


Fig. 22.

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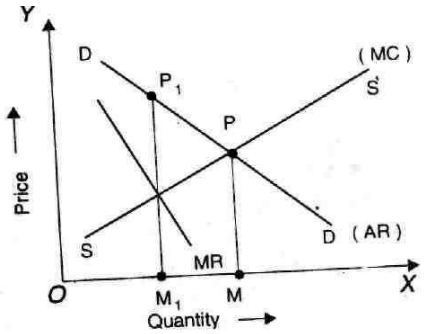
6. Another important difference between monopoly equilibrium and perfectly competitive equilibrium is that under monopoly, price is higher and output smaller than under perfect competition. Price-output level under perfect competition and monopoly is shown in figure.

24.



DD and SS are demand and supply curves of the perfectly competitive industry. The two curves intersect each other at P. Therefore, under perfect competition, price is MP and output is OM. Under monopoly, SS will be the marginal cost curve, MR curve cuts MC curve determining the monopoly price at M_1 P_1 and monopoly output at OM_1. Thus monopoly has resulted in a higher price and a lower output. Thus monopoly restricts output to raise price.

7. Another significant difference between monopoly and perfect competition is that a monopolist can charge discriminatory prices for his goods but a firm operating under perfect competition cannot. Under perfect competition, the price is fixed by the market and the producer cannot exercise any control over it. The question of charging different prices from different set of customers does not arise. On the other hand, a monopolist finds price discrimination both possible and profitable. For this purpose, he splits the market for his goods into sub markets on the basis of elasticity of demand. Under perfect competition the demand curve is perfectly elastic. But under monopoly the demand curve is relatively inelastic. Therefore he can charge different prices in different parts of the market.

MONOPOLISTIC COMPETITION

Perfect competition and monopoly are rarely found in the real world. Therefore, professor Edward. H. Chamberlin of Harvard University brought about a synthesis of the two theories and put forth, "Theory of Monopolistic Competition" in 1933. Monopolistic competition is more realistic than either pure competition or monopoly. It is a blending of competition and monopoly.

"There is competition which is keen though not perfect, between many firms making very similar products". Thus monopolistic competition refers to competition among a large

number of sellers producing close but not perfect substitutes.

FEATURES

1. **Large number of sellers**

In monopolistic competition the number of sellers is large. No one controls a major portion of the total output. Hence each firm has a very limited control over the price of the product. Each firm decides its own price-output policy without considering the reactions of rival firms. Thus there is no interdependence between firms and each seller pursues an independent course of action.

2. Product differentiation

One of the most important features of monopolistic competition is product differentiation. Product differentiation implies that products are different in some ways from each other. They are heterogeneous rather than homogeneous. There is slight difference between one product and others in the same category. Products are close substitutes but not perfect substitutes. Product differentiation may be due to differences in the quality of the product. Product may be differentiated in order to suit the tastes and preferences of the consumers.

The products are differentiated on the basis of materials used, workmanship, durability, size, shape, design, colour, fragrance, packing etc. Products are differentiated in order to promote sales by influencing the demand for the products. This can be achieved through propaganda and advertisement. Advertisement brings a psychological reaction in the minds of the buyers and thus influences the demand. In addition, location of the shop, its general appearance, counter service, credit and other facilities increase sales. Patent rights and trademarks also promote product differentiation. Kodak and Coca Cola are the examples of patent rights. Trademarks like Hamam, Rexona, Lux etc. help the consumers to differentiate one product over others.

3. Free entry and exit of firms

Another feature of monopolistic competition is the freedom of entry and exit of firms. Firms under monopolistic competition are small in size and they are capable of producing close substitutes. Hence they are free to enter or leave the industry in the long run.

Product differentiation increases entry of new firms in the group because each firm produces a different product from the others.

4. Selling cost

It is an important feature of monopolistic competition. As there is keen competition among the firms, they advertise their products in order to attract the customers and sell more. Thus selling cost has a bearing on price determination under monopolistic competition.

5. Group equilibrium

Chamberlin introduced the concept of group in the place of industry. Industry refers to a number of firms producing homogeneous products. But, firms under monopolistic competition produce similar but not identical products. Therefore, Chamberlin uses, the concept of group to include firms producing goods which are close substitutes.

6. Nature of demand curve

Under monopolistic competition, a single firm can control only a small portion of the total output. Though there is product differentiation, as products are close substitutes, a reduction in price leads to increase in sales and vice- versa. But it will have little effect on the price-output conditions of other firms. Hence each will lose only few customers, due to an increase in price.

Similarly a reduction in price will increase sales. Therefore the demand curve of a firm under monopolistic competition slopes downwards to the right. It is highly elastic but not perfectly elastic. In other words, under monopolistic competition, the demand curve faced by the firm is highly elastic. It means that it has some control over price due to product differentiation and there are price differentials between the firms.

Price-Output Determination under Monopolistic Competition

Since, under monopolistic competition, different firms produce different varieties of products, prices will be determined on the basis of demand and cost conditions. The firms aim at profit maximisation by making adjustments in price and output, product adjustment and adjustment of selling costs. Equilibrium of a firm under monopolistic competition is

based upon the following assumptions:

- The number of sellers is large and they act independently of each other.
- The product is differentiated.
- The firm has a demand curve which is elastic.
- The supply of factor services is perfectly elastic.
- The short run cost curves of each firm differ from each other.
- No new firms enter the industry.

Individual Equilibrium and Price Variation

Based on these assumptions, each firm fixes such price and output which maximises its profit. Product is held constant. The only variable is price. The equilibrium price and output is determined at a point where the short run marginal cost equals marginal revenue. The equilibrium of a firm under monopolistic competition is shown in figure 25. DD is the demand curve of the firm. It is also the average revenue curve of the firm. MC is the marginal cost of the firm. The firm will maximise profits by equating marginal cost with marginal revenue.

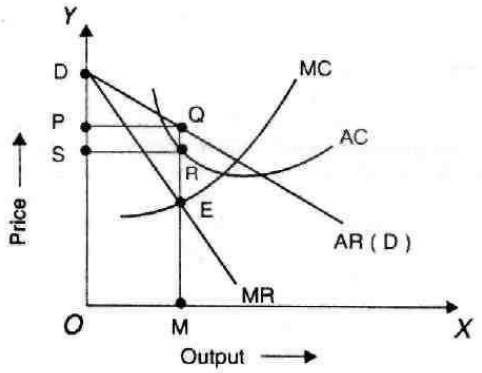
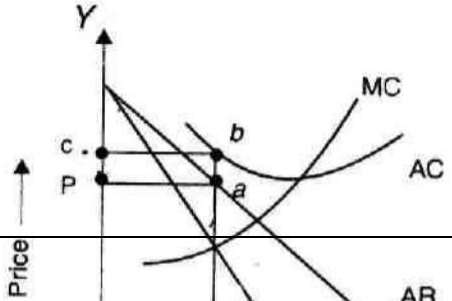


Fig. 25

The firm maximises its profit by producing OM level of output and selling it at a price of OP. The profit earned by the firm is PQRS. Thus in the short run, a firm under monopolistic competition earns supernormal profits. In the short run, the firm may incur losses also. This is shown in figure 26.



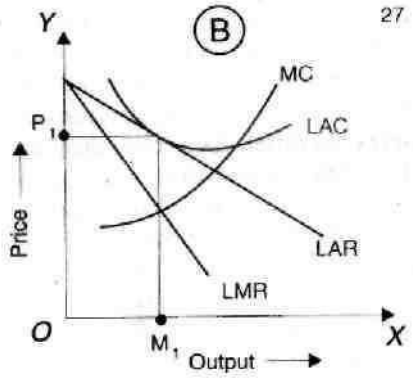
The firm is in equilibrium by producing an output of OQ. It fixes the price at OP. As price is less than cost, it incurs losses equal to pabc. Thus a firm in equilibrium under monopolistic competition may be making supernormal profits or losses depending upon the position of the demand curve and average cost curve.

Group Equilibrium and Price Variation

Group equilibrium refers to price-output determination in a number of firms whose products are close substitutes. The product of each firm has special characteristics. The difference in the quality of the products of the firms under monopolistic competition results in large variation in elasticity and position of the demand curves of the various firms. Similarly the shape and position of cost curves too differ. As a result there exist differences in prices,

output and profits of the various firms in the group. For the sake of simplicity in the analysis of group equilibrium, Chamberlin ignores these differences by adopting infirmity assumption. He assumes that the cost and demand curves of all the products in the group are uniform. Chamberlin introduces another assumption known as 'symmetry assumption'.

It means that the number of firms under monopolistic competition is large and hence the action of an individual firm regarding price and output will have a negligible effect upon his rivals. Figure (A) represents short run equilibrium and figures (B) the long run equilibrium. In the short run, the price is OP and average cost is only MR. Hence there is supernormal profit equal to PQRS. But in the long run, as shown in figure 27 (B), the excess profit is competed away. MC = MR at OM level of output. LAR is tangent to LAC. Price is equal to average cost and there is no extra profit. Only normal profit is earned.



Product Differentiation

While analysing the equilibrium of a firm with regard to the variation of the product we assume the price of product to be constant. The firm has to select among the various possible qualities and attributes of the product. An important characteristic of product variation is that it changes the cost curve and demand for the product. Therefore, the entrepreneur has to choose the product whose cost and demand are such as to yield maximum profit. Yet another feature of product variation is that product variation is qualitative and therefore, quantitative measurement is not possible.

Individual Equilibrium And Product Variation

The equilibrium of the firm under condition of product variation is shown in figure 28.

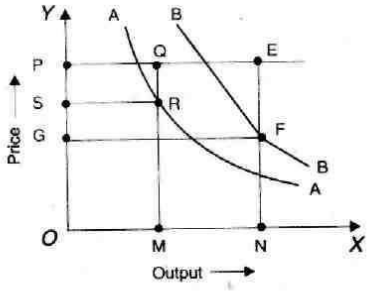


Fig. 28.

AA is the average cost curve of the product A and BB is the average cost curve of the product B. The price of the product is OP. If OM quantity of the product A is demanded at the price of OP, the total costs are OMRS. The entrepreneur earns an abnormal profit equal to PQRS. If the Quantity demanded of the product B is ON, then the total costs are ONFG and the total profits made by the entrepreneur are GFEP. Since the product B yields greater profits than A, the entrepreneur will select the product B.

Group Equilibrium and Product Variation

It is assumed that the demand is uniform and the possibility of product variation is also uniform. The equilibrium adjustment of the product is shown in figure 29.

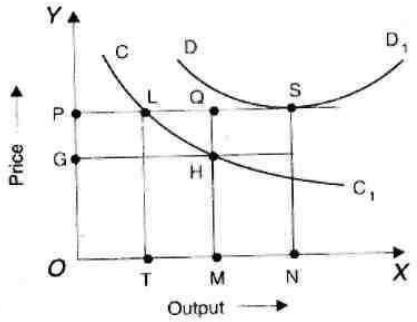


Fig. 29

CC1 is the average cost curve. If the quantity demanded is OM then the total cost - is OMHG. The firm earns supernormal profits equal to GHQP. This supernormal profits should be wiped away to achieve group equilibrium. Attracted by the supernormal profits, new competitor may enter the group. The quantity demanded will come down to OT. Price will cover only cost of production. Besides, the adjustment in the number of firms, product improvement may also take place. When all entrepreneurs improve their product, cost will increase as shown by DD_1 and become equal to the price at the point S.

Group equilibrium must satisfy the following conditions:

1. The average cost must be equal to price.
2. It is not possible for anyone to increase his profits by making further adjustment or improvement in his product.

Selling Cost and Price Determination

Selling cost is another important factor which influences pricing under monopolistic competition. Selling costs are costs incurred on advertising, publicity, salesmanship, free sampling, free service, door to door canvassing and so on. Selling costs are "the costs necessary to persuade a buyer to buy one product rather than another or to buy from one seller rather than another". Under perfect competition, there is no need for advertising as the product is homogeneous. Similarly, under monopoly also, selling costs are

not needed as there are no rivals. But under conditions of monopolistic competition, as the products are differentiated, selling costs are essential to increase sales. Chamberlin defines selling cost, "as costs incurred in order to alter the portion or shape of the demand curve for a product".

Advertisement may be classified into two types: informative and competitive. Informative advertisement enables the buyers to know about existence and uses of the product. It also helps to increase sales of all firms in the group. Competitive advertisement refers to expenses incurred to increase the sales of the product of a particular firm as against other products.

Production cost versus selling cost

Though Watson feels that it is difficult to differentiate selling cost from cost of production, Chamberlin states that these two costs are basically different from one another. Production costs include all expenses incurred in producing a product and transporting it to its destination for consumers. Selling costs are incurred to change the preferences of a consumer for a particular product. Prof. Chamberlin distinguishes between the two in these words: "The former (production) costs create utilities in order that demands may be satisfied; the latter create and shift the demand curves themselves."

Those which alter the demand curve for a product are selling costs and those which do not are production costs. In other words, "those made to adapt the product to the demand arc production costs and those made to adapt the demand to the product are selling costs". The production cost affects the supply but selling cost affects the demand. While the production cost influences the volume of production, the selling cost influences the volume of sales.

Selling costs are subject to varying returns. When selling cost , increases, first it leads to increasing returns and then to diminishing returns. Two factors are responsible for increasing returns.

1. Repeated and continuous advertisements bring in increasing returns. Advertisement seen once will have negligible or no effect on consumer. Therefore, selling cost is a waste. Continued advertising over a period of time and in different media brings favourable effect.

2. Economies of large scale selling operations also lead to increasing returns. But as advertising outlay increases, diminishing returns set in due to change in taste and preferences of the

people. Further, existing buyers may not increase their demand as a result of advertisement. This is because as he buys more, utility falls. The curve of selling cost is U-shaped, due to-the operation of the law of variable proportions.

Individual Equilibrium and Selling Cost

Here it is assumed that the seller adjusts his selling cost keeping the price and product constant. It is also assumed that one seller alone advertises, while all others do not. As a result he attracts new buyers, sells more and makes profit. This is illustrated in figure 32.

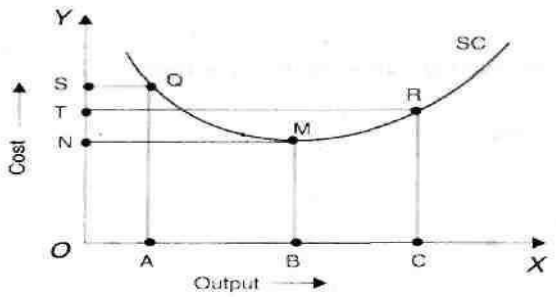
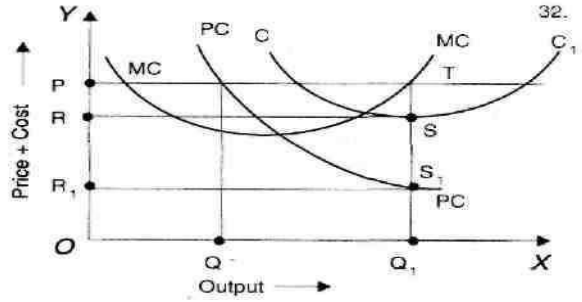


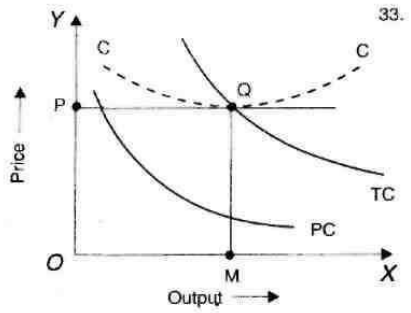
Fig. 31.



PC is the production cost curve. CC_1 is the combined production and selling cost curve. MC is the marginal cost curve. If the seller sells OQ level of output at OP price, he has no profit. His cost of production is equal to price. Therefore, he advertises his product which increases his cost. His combined production and selling costs are indicated by CC_1. At OQ_1 level of output, his production cost is equal to OQ_1 S_1 R_1. His selling cost is R_1 S_1 SR. He earns an abnormal profit equal to PRST.

Group Equilibrium and Selling Cost

The abnormal profit earned by the firm makes all other firms in the group advertise. When all firms advertise total cost of all will increase. Price will be equal to cost. There is no abnormal profit. All firms earn only normal profit. This is shown in figure 33.

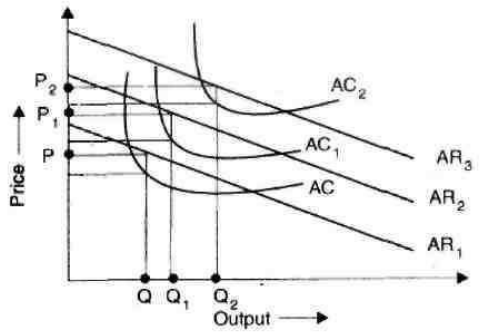


PC is the production cost curve. TC is the total cost curve of the single firm. Due to competition from others, the cost is equal to price. CC is the total cost curve of all the firms in the group. As it is tangent to the price, there is no abnormal profit.

Optimum Selling Costs

A producer undertakes advertisement only when it brings additional revenue. The producer will increase his advertising expenditure as long as the marginal revenue is greater than marginal cost. He will stop at the point at which marginal revenue is greater than marginal cost. He will stop at the point at which marginal revenue is equal to marginal cost. Only at that point, profit will be maximum. This is shown in figure 34.

AR_1 is the average revenue curve before advertisement. AC is the average cost curve. OP is the price. The equilibrium level of output is OQ. If advertisement is undertaken, average revenue curve will shift from AR_1 to AR2 The average cost curve AC_1 includes the cost of advertisement. The equilibrium price will be OP_1 and the output OQ_1 Profits will be larger. Since profits have increased the firm will continue its advertisement expenditure till the marginal revenue is equal to marginal cost. Profit maximisation is achieved at OP2 price and OQ2 output. Beyond this point, advertisement expenditure will lead to fall in profit.



Therefore, a producer under monopolistic competition has to select that cost and revenue curves where the profits are maximum.

DUOPOLY AND OLIGOPOLY

The other forms of market situations, Duopoly and Oligopoly are dealt in this lesson. When there are few sellers of homogeneous or differentiated product, it is the oligopoly market structure. If there are only two sellers, it is a Duopoly market structure.

Duopoly

When there are two monopolists who share the monopoly power then it is called duopoly. It may be of two types-duopoly without product differentiation and duopoly with product differentiation. Under duopoly without product differentiation, there are two monopolists selling an identical commodity. There is no product differentiation. There is also a possibility for collusion. They may agree on price or divide the market for goods. Suppose, if there is no agreement between the two, a constant price war will emerge. In this case they will earn only normal profits. If their costs are different, the one with lower costs will squeeze out the other and a simple monopoly would result.

The best course for the duopolists will be to fix the monopoly price and share the market and profits. In the. short run, duopoly price may be lower than the competitive price. In the long run, the price may.be somewhere between the monopoly price and the competitive price. When there is product differentiation, each producer will have his own customers. There is no danger of price war. There is no agreement. Since products are differentiated the firm with better product will earn supernormal profits.

OLIGOPOLY

Oligopoly is a situation in which few large firms compete against each other and

there is an element of interdependence in the decision making of these firms. A policy change on the part of one firm will have immediate effects on competitors, who react with their counter policies.

Features

Following are the features of oligopoly which distinguish it from .other market structures :

1. Small number of large sellers.

The number of sellers dealing in a homogeneous or differentiated product is small. The policy of one seller will have a noticeable impact on market, mainly on price and output.

2. Interdependence.

Unlike perfect competition and monopoly, the oligopolist is not independent to take decisions. The oligopolist has to take into account the actions and reactions of his rivals while deciding his price and output policies. As the products of the oligopolist are close substitutes, the cross elasticity of demand is very high.

3.Price rigidity.

Any change in price by one oligopolist invites retaliation and counter- action from others, the oligopolist normally sticks to one price. If an oligopolist reduces his price, his rivals will also do so and therefore, it is not advantageous for the oligopolist to reduce the price. On the other hand, if an oligopolist tries to raise the price, others will not do so. As a result they capture the customers of this firm. Hence the oligopolist would never try to either reduce or raise the price. This results in price rigidity.

4.Monopoly element.

As products are differentiated the firms enjoy some monopoly power. Further, when firms collude with each other, they can work together to raise the price and earn some monopoly income.

5.Advertising.

The only way open to the oligopolists to raise his sales is either by advertising or improving the quality of the product. Advertisement expenditure is used as an effective tool to shift the demand in favour of the product. Quality improvement will also shift the demand favorably. Usually, both advertisements as well as variations in designs and quality are used simultaneously to maintain and increase the market share of an oligopolistic.

6. Group behaviour.

The firms under oligopoly recognise their interdependence and realise the importance of mutual cooperation. Therefore, there is a tendency among them for collusion. Collusion as well as competition prevail in the oligopolistic market leading to uncertainty and indeterminateness.

7. Indeterminate demand curve.

It is not possible for an oligopolist to forecast the nature and position of the demand curve with certainty. The firm cannot estimate the sales when it decides to reduce the price. Hence the demand curve under oligopoly is indeterminate.

Types of oligopoly.

Oligopoly may be classified in the following ways:

a. Perfect and imperfect oligopoly.

On the basis of the nature of product, oligopoly may be classified into perfect (pure) and imperfect (differentiated) oligopoly. If the products are homogeneous, then oligopoly is called as perfect or pure oligopoly. If the products are differentiated and are close substitutes, then it is called as imperfect or differentiated oligopoly.

b. Open or closed oligopoly.

On the basis of possibility of entry of new firms, oligopoly may be classified into open or closed oligopoly. When new firms are free to enter, it is open oligopoly. When few firms dominate the market and new firms do not have a free entry into the industry, it is called closed oligopoly.

c. Partial and full oligopoly.

Partial oligopoly refers to a situation where one firm acts as the leader and others follow it. On the other hand, full oligopoly exists where no firm is dominating as the price leader.

d. Collusive and non- collusive oligopoly.

Instead of competition with each other, if the firms follow a common price policy, it is called collusive oligopoly. If the collusion is in the form of an agreement, it is called open collusion. If it is an understanding between the firms, then it is a secret collusion. On the other

hand, if there is no agreement or understanding between oligopoly firms, it is known as non-collusive oligopoly.

e. Syndicated and organised oligopoly.

Syndicated oligopoly is one in which the firms sell their products through a centralised syndicate. Organised oligopoly refers to the situation where the firms organise themselves into a central association for fixing prices, output, quota etc.

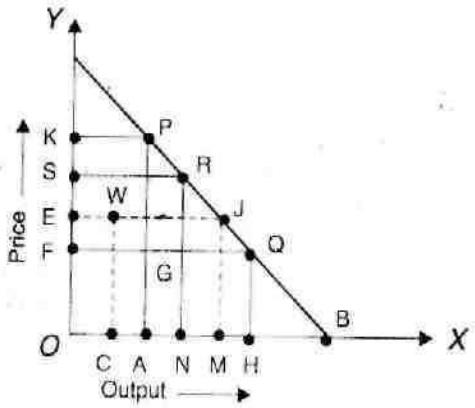
Models of Oligopoly

1. Cournot's model of oligopoly : Augustin Cournot, a French economist, published his theory of duopoly in 1838. Cournot dealt with a case of duopoly. He has taken the case of two identical mineral springs

operated by two owners. His model is based on the following assumptions :

1. The product is homogenous.
2. There is no cost of production. The average cost and marginal cost are zero.
3. Output of the rival is assumed to be constant.
1. The market demand for the product is linear.

Cournot's model



DB is the market demand curve. OB is the total quantity of mineral water which can be produced and supplied by the two producers. If both the producers produce the maximum quantity of OB, the price will be zero. This is because cost of production is assumed to be zero. Cournot assumes that one producer say X starts production first. He will produce OA output and his profit will be OAPK. Suppose the second producer Y enters into the market. He assumes

that the first producer will continue to produce the same. So Y considers PB as his demand curve.

With this demand curve, he will produce AH amount of output. The total output will now be OA + AH = OH and the price will fall to OF. The total profits for both the producers will be OHQR. Out of this total profits, producers X will get OAGF and Y will receive AHQG. Now that the profits of producers X are reduced from OAPK to OAGF by producers Y producing AH output, producer X will reconsider the situation. But he will assume that producer Y will continue to produce AH output. Therefore, he reduces his output from OA to OT. Now the total output will be OT + AH = ON and the price will be OS and the total profits of the two will be ONRS. Out of the total profits, X will get OTLS and Y will get TNRL. Now the producer Y will reappraise his situation. Believing that producer X will continue producing OT, the producer Y will find his maximum profits by producing output equal to 1/2 TB. With this move of producer Y, producer X will find his profits reduced.

Therefore, X will reconsider his position. This process of adjustment and readjustment by each producer will continue, until the total output OM is produced and each is producing the same amount of output. In the final position, producer X produces OC amount of output and producer Y produces CM amount of output and OC = CM. Cournot's duopoly solution can be extended to a situation with more than two sellers. If there were three producers, the total output would be 3/4 of OB, each producing 1/4 OB. If there are n producers, then under Cournot's solutions, the total output produced will be n / (n+1) of OB where OB is the maximum possible output. The essential conclusion is that, as the number of sellers increases from one to infinity the price is continually lowered from what it would be under monopoly conditions to what it would be under purely competitive conditions, and that for any number of sellers, it is perfectly determinate. The basic weakness of Cournot's duopoly model is that the rivals assume the output of the other to be fixed, even though they observe constant changes in output.

POSSIBLE QUESTIONS – PART – B

1. Define Monopolistic Competition.
2. List out the features of Perfect Competition
3. What is meant by Price Discrimination?
4. What is Perfect Competition?
5. What are the features of 'Monopoly Competition'?
6. Write the meaning of 'Equilibrium Price'.
7. What is a Market according to Economic Theory?
8. What is an 'Oligopoly'?
9. State the meaning of the terms 'Price' and 'Pricing'.
10. How would you classify the 'Markets' on the basis of competition?
11. What is 'Imperfect Competition'?
12. State the meaning of 'Duopoly'.
13. What are the features of Monopoly Firm?
14. What do you meant by 'Price Discrimination'?
15. Define the term 'Business Cycle'.

***CIA – 3 X 2 = 6 Marks**
****ESE – 5 X 2 = 10 Marks**

PART – C

1. What is meant by Monopoly? Describe the process of Price Discrimination under Monopoly in the short-run and the long-run.
2. Explain indifference curve analysis with help of diagram.
3. Explain the main features of Monopolistic Competition. How is the price determined in this market structure (a) in the short - run and (b) in the long – run?
4. How the demographic shift changes in the demand and supply? Explain with diagram.
5. 'The Demand Curve under Oligopoly is indeterminate' - Discuss.
6. Explain how the price determined under 'Perfect Competition'?
7. Explain the term 'Price Discrimination' and 'Kinked Demand Curve' under Oligopoly?
8. Discuss the factors that influence the level of National Income.
9. Explain the features of Oligopoly and discuss about Kinked Demand Curve.
10. Define the term 'Business Cycle'. Discuss the different phases and effects of Business Cycle.

***CIA – 3 X 8 = 24 Marks (EITHER OR TYPE)**
****ESE – 5 X 6 = 30 Marks (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Sec 3 of UGC Act, 1956)
DEPARTMENT OF MANAGEMENT

UNIT III - MANAGERIAL ECONOMICS - Multiple Choice Questions- Each Question carries ONE Mark

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	A _____demand curve is a horizontal straight line	perfectly elastic	perfectly inelastic	unitary elastic	relatively elastic	perfectly elastic
2	_____ Revenue is additional revenue that a firm makes by selling one extra unit of output	Nominal	Marginal	Average	Above average	Marginal
3	Under_____ competition AR = MR= P	imperfect	monopoly	perfect	oligopoly	perfect
4	_____ Revenue (AR)is the total revenue earned divided by the total quantity produced.	Nominal	Marginal	Average	Above average	Average
5	_____ revenue (TR) is the multiplicative product of the price and the quantity sold.	Nominal	Marginal	Average	Total	Total
6	The market demand curve for the industry is a standard _____sloping curve	downward	upward	Straight	Narrow	downward
7	The demand curve for an _____firm is a horizontal straight line	Industry	individual	Company	Corporate	individual
8	If price is less than____ a perfectly competitive firm shuts down operations	AVC	VC	FC	ATC	AVC
9	A perfectly competitive firm can sell all the following features Except _____	Price taker	Quantity adjuster	perrfectly informed	Price discriminator	Price discriminator
10	In a perfectly competitive market a firm in the long run operates at _____	AC = MC	AR = MR	MR = MC	P = AR = MR = AC = MC	P = AR = MR = AC = MC

11	Perfect competition is characterised by all the following features except _____	Perfect information	A large number of buyers and sellers	Aggressive Advertising by individual firms	Free entry into and exiyt from the industry	Aggressive Advertising by individual firms
12	Supply curve of a perfectly competitive firm	Does not exist	Is upward sloping	Is horizontal in shape	Is downward sloping	Is upward sloping
13	A market is driven by buyers preferences if number of _____	buyers is large	sellers is large	buyers is small	sellers is small	buyers is small
14	In case of super-normal profit, position of AC curve is _____	Above price line	Below price line	Tangent to price line	Parallel to pice line	Below price line
15	A natural _____ is formed when the size of the market is so small that it can accommodate only one player	monopoly	monopolistic	duopoly	oligopoly	monopoly
16	The _____ cannot set both price and quantity at its own will	monopsony	duopsony	oligopoly	monopolist	monopolist
17	Long run consists of many _____ runs.	long	short	too many	very few	short
18	There is no definite supply curve for a _____	monopolist	monopsony	duopsony	oligopoly	monopolist
19	A profit maximising mopnopolist produces a quantity corresponding to _____	MR = MC	P = MC	P = MR	P = AR = MR = MC	MR = MC
20	Formation of monopoly due to economics of scale is known as _____	A natural barrier	A legal barrier	A structutral barrier	An efficientcy barrier	A structutral barrier
21	The slope of the AR curve in monopolistic competition is _____	sloping down curve	Flat	Parallel straight line	straight line	sloping down curve
22	Business cycle is characterized by which place?	upward phase	downward phase	upward and downward phase	Narrow phase	upward and downward phase

23	A perfectly elastic demand curve is a _____ straight line	vertical	horizontal	slat	stipper	horizontal
24	Total Revenue (TR) is the _____ product of the price and quantity sold (TR = PQ)	tirplicative	summative	multiplicative	normative	multiplicative
25	_____is the additional revenue that a firm makes by selling one extra unit of output.	Additional Revenue (AR)	Average Renue	Total Revenue	Marginal Revenue (MR)	Marginal Revenue (MR)
26	In the _____ perfectly competitive firms earn only normal profits,	short run	very shrot run	long run	very long run	long run
27	The government sets the price of the product in a _____ competitive market .	perfectly	imperfectly	monopolitly	socially	perfectly
28	_____ is a market with a single buyer and many sellers.	Monopoly	duopsony	oligopoly	Monopsony	Monopsony
29	The second order condition for profit maximisation is a _____ condition.	insufficient	sufficient	surplus	deficit	sufficient
30	If average cost is more than price, the firm would earn _____ profit	subnormal	supernormal	normal	ordinal	subnormal
31	Monopolistic competition is criticised as it helps build _____	price	brands	cost	income	brands
32	Firms under monopolistic competition will have limited discretion over price because of _____	customer loyalty	Consumer loyalty	trader loyalty	loyalty	customer loyalty
33	A firm under monopolistic competition would produce at the _____ of the minimum point of its AC curve.	right	narrow	left	straight	left
34	The negative slope of the demand curve of a firm under monopolistic competition is bacause of _____	substitution effect	short effect	Narrow effect	few effect	substitution

35	If a firm in a monopolistic competition market increases the price of its product slightly, it will _____ some of its customers.	profit	increase	susrplus	lose	lose
36	Product differentiation can be real or _____.	imaginary	large	small	very few	imaginary
37	Products in a product group are good, but not _____ substitutes of each other.	imperfect	perfect	monopoly	duopoly	perfect
38	Animperfect market is featured by _____ of market conditions by sellelrs.	attention	monopoly	distortion	perfection	distortion
39	A differentiated product enjoys some degree of _____ in the minds of customers.	uniqueness	hetrogeneous	distortion	differentiatio	uniqueness
40	In a monopolistically competitive firm earns supernormal profit in the short run because of _____	Product differentiation	Free entry and exit of firms	Imperfect knowledge	Independent decision making	Product differentiati on
41	In a monopolistically competitive market the number of firms is _____	Few	Very large	One	Two	Very large
42	Elasticity of products under monopolistic competiotion is _____	Equal to one	Less than one	Equal to Ze	more than on	more than o
43	Comparative advertising induces a buyer to pay for which of the following?	Brand image	Brand equity	Brand leverage	Brand extension	Brand equity
44	A monopoly firm produces and sells less than firms under _____ and perfect competition.	monopoly	monopolistic	duopoly	oligopoly	monopolisti
45	There is no _____for entering a perfectly competitive market.	cost	profit	deficit	surplus	cost

46	Factors of _____ can freely move in and out of the industry	purchase	market	sales	production	production
47	_____ is a market with a single buyer and many sellers	Monopolistic	Oligopoly	Monopsony	Duopsony	Monopsony
48	Each factor of production charges a _____ price in the market.	uniform	Changed	different	modified	uniform
49	Elasticity of demand for a perfectly competitive firm is equal to _____	zero	one	more than one	infinity	infinity
50	Perfect competition is a market condition with _____	Many sellers	Single buyer	Very large number of sellers	Restricted entry and exit of players	Restricted entry and exit of players
51	A market is driven by _____preferences if number of buyers is small.	buyers	sellers	traders	producers	buyers
52	In case of_____ profit, position of AC curve is below price line.	normal	super-normal	low	abnormal	super-norm
53	If _____ cost is more than price, the firm would earn subnormal profit	below	above	marginal	average	average
54						
55	A monopoly firm produces and sells less than firms under monopolistic and _____competition.	Perfect	imperfect	duopoly	oligopoly	Perfect
56	A monopoly is a market in which a single seller sells a product of service which has _____	substitutes	complemetaries	no substitutes	more substitutes	no substitute
57	A monpoly is characterised by _____ entry of firms.	restricted	unrestricted	free	close	restricted
58	A _____ elastic demand curve is a horizontal straight line	imperfectly	perfectly	slightly	currently	perfectly

59	A _____ competitive firm can sell all the following features Except price discriminator	perfectly	imperfectly	comparativ	monopoly	perfectly
60	in a _____competitive market a firm in the long run operates at P = AR = MR = AC = MC	imperfectly	comparativel	monopoly	perfectly	perfectly

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Unit – IV: Difference between Normal Residents and Non-Residents – Domestic territory – Gross and Net Concepts of Income and Product – Market Price and Factor Cost – Factor Payments and Transfer Payments – National Income Aggregates – Private Income – Personal Income – Personal Disposable Income – National Disposable Income – Measurement of National Income – Production Method – Income Method – Expenditure Method. Phases of Business Cycle – Causes of cyclical movements – Price movements: Inflation, Deflation – Types of Inflation – Effects of Inflation – Control of Inflation.

Historically, economics, especially microeconomics, began with the discussion of how incomes are determined: the relative incomes (shares of the national income) of labour, owners of capital, and owners of land (i.e. natural resources). Adam Smith (*The Wealth of Nations,* 1776), David Ricardo (*Principles,* 1817), Karl Marx *(Das Kapital,* 1867*),* and others (Malthus, J.S. Mill) all were concerned with this question which was related for them to the **theory of value**. Smith, Ricardo, and Marx developed a **labour theory of value:** the value of a good or service is determined (or defined) in terms of the amount of labour embodied in its production.

This has now been replaced in mainstream economic thought by marginal utility theory and demand-supply analysis: the value of a good or service is the price at which the marginal unit is exchanged. More crudely, a good or service is worth exactly what someone is willing to pay for it. Just as for final goods and services, the price of a particular factor of production is set, assuming a competitive market for the factor, by the interaction of demand and supply.

The prices of factors have various names:

labour - wages, salaries, compensation

capital - profit, interest and dividends, the return on capital

land - rent (not to be confused with economic rent, see below).

Capital means the stock of goods that are used in the production of other goods and services and which have themselves been produced (**real capital**). We distinguish between **fixed capital**, durable goods such as buildings, machinery, and tools, and **circulating capital**, stocks of raw materials, semi-finished goods, and components (also called **intermediate goods)** that are used up rapidly. So what determines the demand for and supply of factors of production?

Demand for Factors

The demand for a factor of production is a **derived demand** because it is determined by the demand for the goods and services which it can be used to produce. Factors of production are demanded to the extent that the products they are used to produce are demanded. If the demand for food rises, then we would expect, *ceteris paribus*, that the demand for agricultural land and the demand for agricultural labour and other factors of agricultural production would increase.

If the price of food rises, we might reasonably expect that the payment for the use of agricultural land (rent, profits of owner-operators) would increase. Recall the profit-maximizing/ cost-minimizing production decision of the firm: the marginal cost of any factor equals the marginal revenue product of the factor (MC = MRP). For labour in a competitive market, marginal cost equals the wage rate. Marginal revenue product equals the marginal revenue of the product (which is the price in a competitive product market) multiplied by the marginal physical product of the factor. Thus,

$$w = P_{Product} \times MPP_{Labour}.$$

A firm's demand curve for a factor is derived from its marginal physical product curve (declining because of the Law of Diminishing Marginal Returns). Thus the firm's demand curve for the factor is declining. The market demand curve is the (horizontal) sum of the demand curves of all firms that potentially employ the factor.

The Price Elasticity of Factor Demand depends on a numbers of considerations:

- the rate at which the marginal product of the factor declines (technological considerations).
- the ease of substitution by/for other factors (technology and the prices of other factors).
- the significance of the factor in product cost: the larger its cost is as a share of the total cost of production, the more elastic. (Explanation: for a given percentage change in the price of the factor, the greater the factor's share of the cost of production, the greater the increase in the price of the product, the greater the drop in demand for the product, the greater the drop in demand for the factor.)
- the elasticity of demand of the product.

The last two in the list above are Marshall's principles of derived demand. Other examples of derived demand include the demand for money and the demand for foreign currency.

Supply of Factors

The supply of capital is inelastic and changes only slowly over time (short-term and long-term inelastic). Existing capital goods become economically obsolescent or physically wear out and are discarded. The rate at which new capital is created (i.e., the rate of **capital investment**) depends on the expected return on real capital and the cost of (return on) financial capital (the interest rate).

The supply of land is also inelastic, although high returns may draw some land into use (e.g., making it worthwhile to clear forested land) and low returns may result in some land being abandoned.

The supply of labour depends on individual workers' choices between good and services, on one hand, and leisure, on the other hand, the size of the population and other demographic factors.

Factor-Price Differentials

Why are there different wages/salaries for the same work at different locations?

- Temporary differentials: with separate but connected local labour markets, any wage differential that results from a one-time but permanent shift of demand or supply in one local market is temporary and soon eliminated by labour mobility. If wages for the same work are higher in Calgary than Regina (perhaps due to a growth in demand in Calgary), then workers move from Regina to Calgary, labour supply increases in Calgary and falls in Regina and wages drop in Calgary and rise in Regina until the differential is eliminated. Of course, if the cause of the market disruption continues to grow, then the wage differential will continue to exist in some amount and market adjustments will continue to occur.
- Equilibrium differentials may be created by one or more causes:
  - Variations in the cost of living. While the money wage may be different, the **real wage** may be same if the relative level of prices (particularly of consumer goods such as housing and personal taxes) differ in the same proportion.

- Intrinsic differences, e.g. skill levels, that produce different marginal (physical) productivity.
- Acquired differences, e.g. training or experience, that produce different marginal (physical) productivity.
- Non-monetary benefits such as attachment to home, attractive climate and other amenities of a location may result in lower wages. Disbenefits such as discomfort or danger of the worksite raise wages. Workers base their decisions on utility (not just income) and that includes both wages and non-monetary benefits and disbenefits. If in the long-term, wages in Regina wages are less than wages in Sudbury (and the costs of living and the marginal productivity of labour are the same), one can infer that Regina is a more attractive place to live.
- Stability of employment. Labour mobility results not from actual current wage differentials but expected future income differences. Thus, workers also take into consideration such matters as the probability of getting a job, of being laid-off, etc.
- Transactional costs. Small wage differentials may exist for an extended period of time because workers in lower wage markets believe that a higher wage will not cover their costs of moving, searching for a job, risking a bad fit in a new job, etc.

In the long run, we can expect that lower wages that do not reflect differences in labour productivity will induce capital to relocate to take advantage of lower costs of production if (and only if) the product can be transported back to the original market at a unit cost that is less than the savings on the wage bill per unit of production.

Economic rent

Economic rent is not rent in the usual usage but has a particular meaning for economists. **Economic rent** is the excess of total payments to a factor of production over and above its **transfer earnings** which are defined as the level of payment just sufficient to keep the factor of production in its present occupation or use (the wage or payment it would receive in the next most remunerative usage, ignoring non-monetary benefits, etc.).

Classic examples of economic rent include the salaries of baseball superstars or movie actors. But some part of their income may be return on the risk of entering that occupation (and

potentially failing to make a living wage over a working lifetime: not reaching the majors, injury and disability, plus the short earning period, etc.) and a return on the human capital investment made by the successful players or actors in developing their skills.

For capital, economic rent takes the form of excess or super-normal profits. Theoretically, economic rent could be taxed away and the factor would remain in the same use/occupation. But the factor might move to another employer or jurisdiction to avoid the tax. And there are also equity issues in taxing return on risk and the other elements described above.

Non-renewable Resources

The supply of non-renewable resources (e.g. coal, minerals, old growth lumber) hinges on the owner's decision between extracting/ harvesting the resource and selling it today or leaving it in the ground (or inventories) to be sold at a later date. For the marginal unit sold in a competitive market, the amount obtained from extracting and selling it today will equal the expected present value of the amount earned from selling it one year hence. Therefore, if potential stocks are fully known and demand is stable, and extraction costs are negligible compared to the price (or rise at a rate of inflation that approximates the interest rate), then over time the equilibrium (market-clearing) price will rise annually by a percentage equal to the interest rate.

Thus a competitive market naturally leads to rising prices as a non-renewable resource is exhausted, thereby encouraging conservation, the search for new resources (exploration, replanting), and innovation through the development of substitute factors of production and resource-conserving technology.

This result relates only to the annual change in the price; the absolute level (high or low) will be determined, as in any other competitive market, on demand and supply.

Hotelling's Rule: the socially optimal rate of extraction of a non-renewable resource is the one that results in the price of the resource rising annually at a rate equal to the interest rate. A competitive market produces the socially optimal extraction rate.

This mechanism can fail for a number of reasons: lack of information on the part of resource owners, inadequate property rights and over exploitation (the tragedy of the commons), political or market instability, unequal market and social values/discount rates (particularly, a high government discount rate/rate of time preference (cf. the Hwy 407 reading).

When governments intervene to keep the price of a non-renewable resource (or a product derived from a non-renewable resource) below its free-market price, the current users or consumers obtain a subsidy at the expense of future user-consumers who, once the policy becomes unsustainable, will eventually have to make major adjustments abruptly while enduring shortages or paying much higher prices than they would have without the previous government intervention.

Demand for a factor by a firm under marginal productivity theory

MARGINAL PRODUCTIVITY THEORY OF DISTRIBUTION: 1. The market price for a **factor** of production is determined by the supply and **demand**for that **factor**. ... **Demand** by a **firm** for a **factor** of production is the **marginal productivity** schedule of the **factor**.

Marginal Productivity Theory of Distribution: Definitions, Assumptions, Explanation!

The oldest and most significant theory of factor pricing is the marginal productivity theory. It is also known as Micro Theory of Factor Pricing.

It was propounded by the German economist T.H. Von Thunen. But later on many economists like Karl Mcnger, Walras, Wickstcad, Edgeworth and Clark etc. contributed for the development of this theory.

According to this theory, remuneration of cache factor of production tends to be equal to its marginal productivity.

Marginal productivity is the addition that the use of one extra unit of the factor makes to the total production. So long as the marginal cost of a factor is less than the marginal productivity, the entrepreneur will go on employing more and more units of the factors. He will stop giving further employment as soon as the marginal productivity of the factor is equal to the marginal cost of the factors.

Definitions:

"The distribution of income of society is controlled by a natural law, if it worked without friction, would give to every agent of production the amount of wealth which that agent creates." -J.B. Clark

"The marginal productivity theory contends that in equilibrium each productive agent will be rewarded in accordance with its marginal productivity." -Mark Blaug

"The marginal productivity theory of income distribution states that in the long run under perfect competition, factors of production would tend to receive a real rate of return which was exactly equal to their marginal productivity." -Liebhafasky

Assumptions of the Theory:

The main assumptions of the theory are as under:

1. Perfect Competition:

The marginal productivity theory rests upon the fundamental assumption of perfect competition. This is because it cannot take into account unequal bargaining power between the buyers and the sellers.

2. Homogeneous Factors:

This theory assumes that units of a factor of production are homogeneous. This implies that different units of factor of production have the same efficiency. Thus, the productivity of all workers offering the particular type of labour is the same.

3. Rational Behaviour:

The theory assumes that every producer desires to reap maximum profits. This is because the organizer is a rational person and he so combines the different factors of production in such a way that marginal productivity from a unit of money is the same in the case of every factor of production.

4. Perfect Substitutability:

The theory is also based upon the assumption of perfect substitution not only between the different units of the same factor but also between the different units of various factors of production.

5. Perfect Mobility:

The theory assumes that both labour and capital are perfectly mobile between industries and localities. In the absence of this assumption the factor rewards could never tend to be equal as between different regions or employments.

6. Interchangeability:

It implies that all units of a factor are equally efficient and interchangeable. This is because different units of a factor of production are homogeneous, since they are of the same efficiency,

they can be employed inter-changeable, and e.g., whether we employ the fourth man or the fifth man, his productivity shall be the same.

7. Perfect Adaptability:

The theory takes for granted that various factors of production are perfectly adaptable as between different occupations.

8. Knowledge about Marginal Productivity:

Both producers and owners of factors of production have means of knowing the value of factor's marginal product.

9. Full Employment:

It is assumed that various factors of production are fully employed with the exception of those who seek a wage above the value of their marginal product.

10. Law of Variable Proportions:

The law of variable proportions is applicable in the economy.

11. The Amount of Factors of Production should be Capable of being Varied:

It is assumed that the quantity of factors of production can be varied i.e. their units can either be increased or decreased. Then the remuneration of a factor becomes equal to its marginal productivity.

12. The Law of Diminishing Marginal Returns:

It means that as units of a factor of production are increased the marginal productivity goes on diminishing.

13. Long-Run Analysis:

Marginal productivity theory of distribution seeks to explain determination of a factor's remuneration only in the long period.

Explanation of the Theory:

The marginal productivity theory states that under perfect competition, price of each factor of production will be equal to its marginal productivity. The price of the factor is determined by the industry. The firm will employ that number of a given factor at which price is equal to its marginal productivity. Thus, for industry, it is a theory of factor pricing while for a firm it is a factor demand theory.

Analysis of Marginal Productivity Theory from the Point of View of an Industry:

Under the conditions of perfect competition, price of each factor of production is determined by the equality of demand and supply. As the theory assumes that there exists full employment in the economy, therefore, supply of the factor is assumed to be constant. So, factor price is determined by its demand which itself is determined by the marginal productivity. Thus, under such conditions, it becomes essential to throw light on the demand curve or marginal productivity curve of an industry.

As the industry consists of a group of many firms, accordingly, its demand curve can be drawn with the demand curves of all the firms in the industry. Moreover, marginal revenue productivity of a factor constitutes its demand curve. It is only due to this reason that a firm's demand or labour depends on its marginal revenue productivity. A firm will employ that number of labourers at which their marginal revenue productivity is equal to the prevailing wage rate.

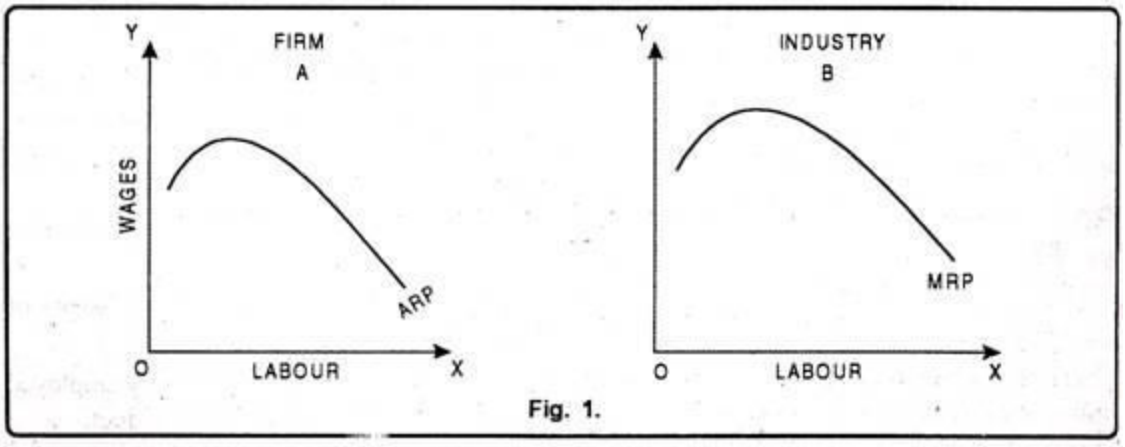


Fig. 1.

Fig. 2 shows that at wage rate OP_1, the demand for labour is ON_1 and marginal revenue productivity curve is MRP_1. If wage rate falls to OP, firms will increase production by demanding more labour. In such a situation the price of the commodity will fall and marginal revenue productivity curve will also shift to MRP_2.

At OP wages, the demand for labour will increase to ON. DD_1 is the firm's demand curve for labour. The summation of demand of all the firms shows demand curve of an industry. Since the number of firms is not constant under perfectly competitive market, it is not possible to estimate the summation of demand curves of all firms. However, one thing is certain that is the demand curve of industry also slopes downward from left to right. The point where demand for and

supply of a factor are equal will determine the factor price for the industry. This theory assumes the supply of a factor to be fixed.

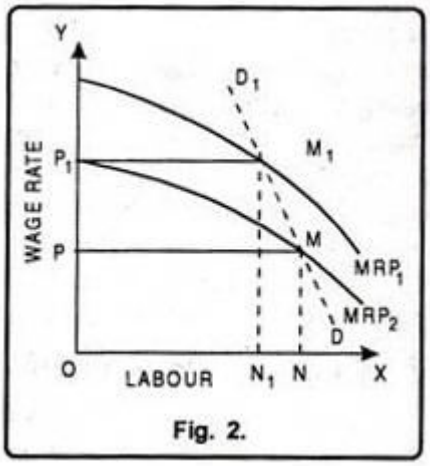


Fig. 2.

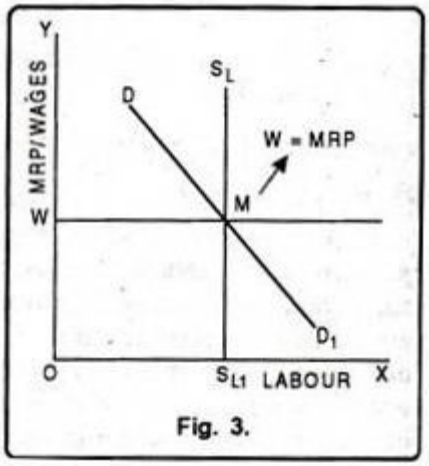


Fig. 3.

Thus factor price is determined by the demand for factor i.e. factor price will be equal to the marginal revenue productivity. It has been shown by Fig. 3. In the Fig. 3, number of labour has been taken on OX axis whereas wages and MRP have been taken on OY axis. DD_1 is the industry's demand curve for labour. This is also the Marginal Revenue Productivity curve.

Factor Price (OW) = Marginal Revenue Productivity MRP.

Thus under perfect competition, factor price is determined by the industry and firm demands units of a factor at this price.

Analysis of Marginal Productivity Theory from the Point of View of Firm:

Under perfect competition, number of firms is very large. No single firm can influence the market price of a factor of production. Every firm acts as a price taker and not a price maker.

Therefore, it has to accept the prevailing price. No employer would like to pay more than what others are paying. In other words, a firm will employ that number of a factor at which its price is equal to the value of marginal productivity. Therefore, from the point of view of a firm, the theory indicates how many units of a factor it should demand.

It is due to this reason that it is also called Theory of Factor Demand. Other things remaining the same, as more and more labourers are employed by a firm, its marginal physical productivity goes or- diminishing. As price under perfect competition remains constant, so when marginal physical productivity of labour goes on diminishing, marginal revenue productivity will also go on diminishing. Therefore, in order to get the equilibrium position, a firm will employ labourers up to a point where their respective marginal revenue productivity is equal to their wage rate.

Table 2. Factor Demand by the Firm

Labourer	MPP	Price of Product	MRP (MPP × MR)	Wage Rate
1.	20	5	20 × 5 = 100	55
2.	17	5	17 × 5 = 85	55
3.	14	5	14 × 5 = 70	55
4.	11	5	11 × 5 = 55	55
5.	8	5	8 × 5 = 40	55

Table 2 indicates that wage rate of labour is Rs. 55 per labourers. Price of the product produced by the labourer is Rs. 5 per unit. Now, when a firm employs one labourer, his marginal physical productivity is 20 units. By multiplying the MPP with price of the product we get marginal revenue productivity. Here, it is Rs. 100 for the first labour. The marginal revenue productivity of second labourer is Rs. 85 and of third labourer it is Rs. 70.

The marginal revenue productivity of fourth labourer is Rs. 55 which is equal to wage rate. The firm will earn maximum profits if it employs up to the fourth labourer. If the firm employs fifth labourer, it will have to suffer losses of Rs. 15. Therefore, to get maximum profits, a firm will employ a factor upto a point where MRP is equal to price.

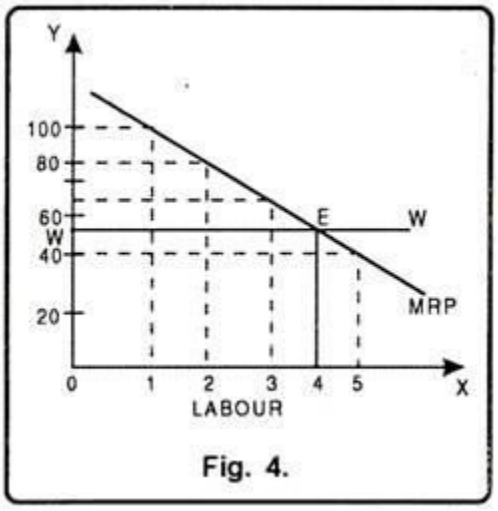


Fig. 4.

In Fig. 4 number of labourers has been measured on OX-axis and wage rate on Y-axis. MRP is marginal revenue productivity curve and WW is the wage rate prevailing in the market. Since, under perfect competition wage rate will remain constant that is why WW wage line is parallel to OX-axis.

MRP curve is sloping down-ward. It cuts WW at point E which is the equilibrium wage rate of Rs. 55. At point E, firm will demand only four labourers. Thus, from the above, we can conclude that a factor is demanded up to the limit where its marginal productivity is equal to prevailing price.

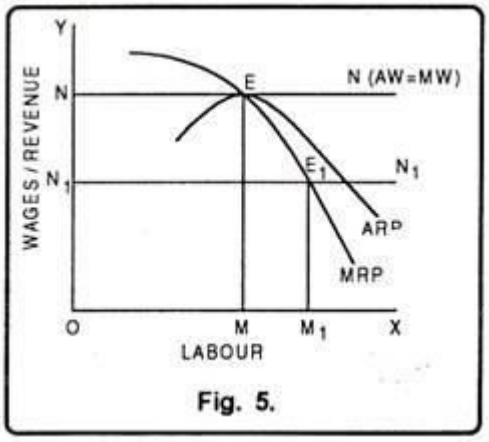


Fig. 5.

Under perfect competition, in long period in the equilibrium position, not only the marginal wages of a firm are equal to marginal revenue productivity, even the average wages of the firm are equal to average net revenue productivity as has been shown in Fig. 5. The fig. 5 shows that

at point 'E' marginal wages of labour are equal to marginal revenue productivity and the firm employs OM number of workers. At this point, even the average net revenue productivity is equal to average wages. Thus firm earns only normal profit. If wage line shifts from NN to N[N] then the demand for labour increases from OM to OM_1.

Determination of Factor Pricing under Imperfect Competition:

Marginal productivity theory applies to the condition of perfect competition. But in real life we face imperfect competition. Therefore, economists like Robinson, Chamberlin have analyzed factor pricing under imperfect competition. There are various firms under imperfect competition. But here we shall analyze only Monopsony. Under monopsony, there is perfect competition in product market. Consequently MRP is equal to VMP. There is imperfect competition in factor market.

It indicates that there is only one buyer of the factors. Therefore, monopsony refers to a situation of market where only a single firm provides employment to the factors. If the firm demands more factors, factor price will go up and vice-versa. However, the determination of factor price under monopsony can be explained with the help of Fig. 6.

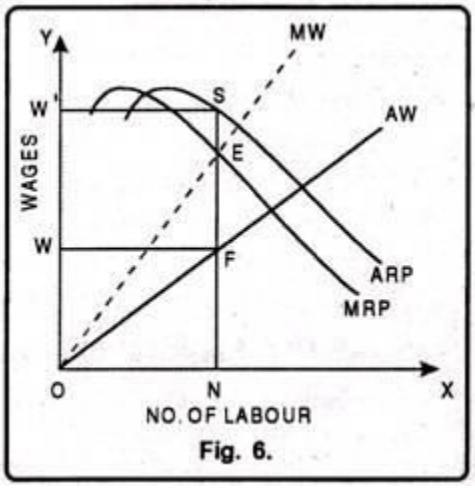


Fig. 6.

In Fig. 6 number of labourers has been shown on X-axis and wages on Y-axis. MW is marginal wage curve and ARP is the average wage curve. MRP is the marginal revenue productivity curve and AW is the average revenue productivity curve.

In the fig. 6 a monopsony will employ that number of labourers at which their marginal wage is equal to MRP. In the fig. 6 firm is in equilibrium at point E. Here, firm will employ ON

labourers and they will be paid wages equal to NF. In this way, ON labourers will get less wages than their MRP i.e. EN. Monopsony firm will have EF profit per labourer which arises due to exploitation of labourers. Total profit SFWW' is due to exploitation of labour.

Criticisms of the Theory:

The marginal productivity theory of distribution has been subjected to a number of criticisms:

1. In determination of marginal product:

Firstly, main product is a joint product— produced by all the factors jointly. Hence the marginal product of any particular factor (say, land or labour) cannot be separately determined. As William Petty pointed out as early in 1662: Labour is the father and active principle of wealth, as lands are the mother.

2. Unrealistic:

It is also shown that the employment of one additional unit of a factor may cause an improvement in the whole of organisation in which case the MPP of the variable factors may increase. In such circumstances, if the factor is paid in accordance with the VMP, the total product will get exhausted before the distribution is completed. This is absurd. We cannot think of such a situation in reality.

3. Market imperfection:

The theory assumes the existence of perfect competition, which is rarely found in the real world. But E. Chamberlin has shown that the theory can also be applied in the case of monopoly and imperfect competition, where the marginal price of a factor would be equal to its MRP (not to its VMP).

4. Full employment:

Again, the assumption of full employment is also unrealistic. Full employment is also a myth, not a reflection of reality.

5. Difficulties of factor substitution:

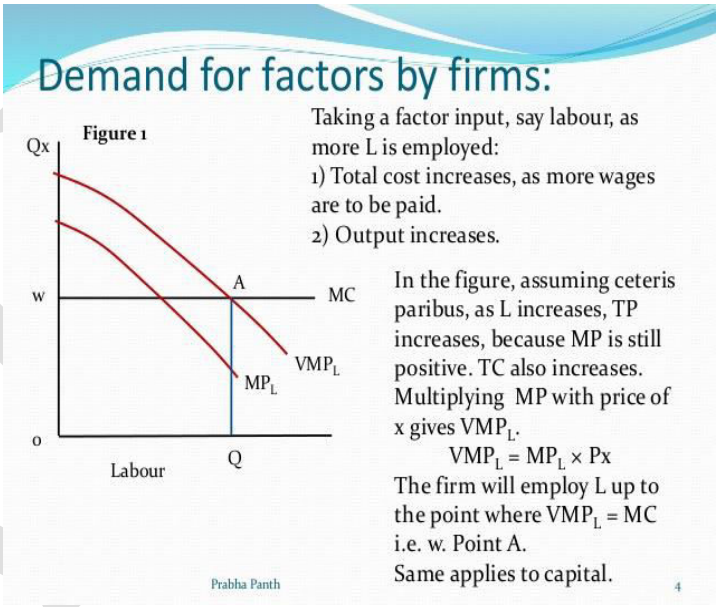
W. W. Leontief, the Nobel economist, denies the possibility of free substitution of the factors always owing to the technical conditions of production. In some products process, one factor cannot be substituted by another. Moreover organisation or entrepreneurship is a specific factor which cannot be substituted by any other factor.

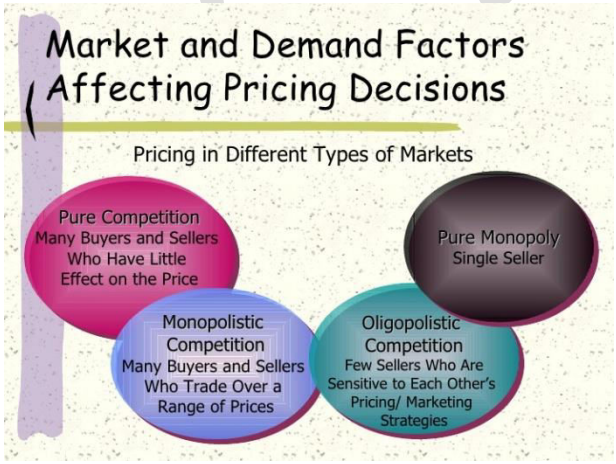
6. Emphasis on the demand side only:

The theory is one-sided as it ignores the supply side of a factor; it has emphasised only the demand side i.e., the employer's side, hi the opinion of Samuelson, the marginal productivity theory is simply a theory of one aspect of the demand for productive services by the firm.

7. Inhuman theory:

Finally, the theory is often described as 'inhuman' as it treats human and non-human factors in the same way for the determination of factor prices.





Market demand for a factor supply of labour

Labor **Demand** and **Supply** in a Perfectly Competitive**Market**. ... The **demand** and **supply** of labor are determined in the labor **market**. The participants in the labor **market** are workers and firms. Workers **supply**labor to firms in exchange for wages.

Although labour has certain peculiarities and cannot be regarded as a commodity, still wages are very largely determined by the interaction of the forces of demand and supply.

Demand for Labour:

The demand for labour is a derived demand. It is derived from demand for the commodities it helps to produce. The greater the consumers' demand for the product, the greater the producers' demand for the labour required in making it. Hence an expected increase in the demand for a commodity will increase the demand for the type of labour that produces this commodity.

The elasticity of demand for labour depends, therefore, on the elasticity of demand for its output. Demand for labour will generally be inelastic if their wages form only a small proportion of the total wages. The demand, on the other hand, will be elastic if the demand for the commodity it produces is elastic or if cheaper substitutes are available.

The demand for labour also depends on the prices of the co-operating factors. Suppose the machines are costly, as is the case in India, obviously more labour will be employed. The demand for labour will increase. Another factor that influences the demand for labour is the technical progress. In some cases, labour and machinery are used in a definite ratio. For instance, the introduction of automatic looms reduces the demand for labour.

After considering all relevant factors, e.g., demand for the products, technical conditions, and the prices of the co-operating factors, the wages are governed by one fundamental factor, viz., marginal productivity. Just as there is a demand price of commodities, so there is a demand price for labour.

The demand for labour, under typical circumstances of a modern community, comes from the employer who employs labour and other factors of production for making profits out of his business. The demand price of labour, therefore, is the wage that an employer is willing to pay for that particular kind of labour.

Suppose an entrepreneur employs workers one by one. After a point, the law of diminishing marginal returns will come into operation. Every additional worker employed will add to the total net production at a decreasing rate. The employer will naturally stop employing additional

workers at the point at which the cost of employing a worker just equals the addition made by him to the value of the total net product.

Thus, the wages that he will pay to such a worker (the marginal unit of labour) will be equal to the value of this additional product or marginal productivity. But since all the workers may be assumed to be of the same grade, what is paid to the marginal worker will be paid to all the workers employed. This is all about the demand side of labour. Now let us consider the supply side.

Supply of Labour:

By the supply of labour, we mean the various numbers of workers of a given type of labour which would offer themselves for employment at various wage rates.

The supply of labour may be considered from two view-points?

(a) Supply of labour to the industry and

(b) Supply of labour to the entire economy.

For an industry, the supply of labour is elastic. Hence, if a given industry wants more labour, it can attract it from other industries by offering a higher wage. It can also work the existing labour force over-time. This in effect will mean an increase in supply. The supply of labour for the industry is subject to the law of supply, i.e., low wage, small supply and high wage, large supply. Hence, the supply curve of labour for an industry rises upwards from left to right.

The supply of labour for the entire economy depends on economic, social and political factors or institutional factors, e.g., attitude of women towards work, working age, school and college leaving age and possibilities of part-time employment for students, size and composition of the population and sex distribution, attitude to marriage, the size of the family, birth control, standard of medical facilities and sanitation, etc.

The supply of labour may be decreased by workers refusing to work for a time. This happens when labour is organised into trade unions. The workers may not accept wages offered by the employer if such wages do not ensure the maintenance of a standard of living to which they are accustomed.

But, as we shall see, it is only when higher wages are justified by higher marginal productivity that high wages will be paid. Thus, workers with low marginal productivity cannot demand high wages merely on the basis of their standard of living. On the whole, we might say that, the

number of potential workers being given, the supply of labour may be defined as the schedule of units of labour at the prevailing rates of wages.

This depends on two factors:

(a) The number of workers who are willing and able to work at different wages;

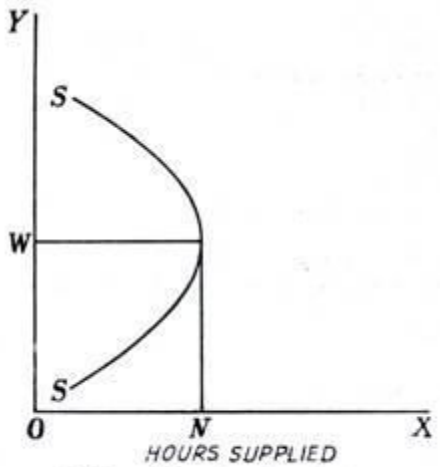
(b) The number of working hours that each Worker is willing and able to put in at different wages.

In case the workers have no staying power and the only alternative to work is starvation, the supply of labour in general will be perfectly inelastic. This means that wages can he driven down. Over a short period, reduction in wages may not cause any reduction in the supply of labour. For any industry over a long period, the supply curve will slope upwards from left to right. In other words, supply will be somewhat elastic in the long run.

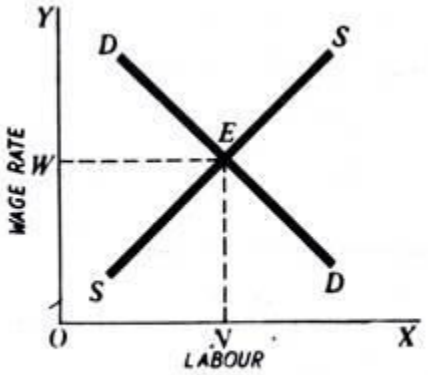
Backward Sloping Supply Curve of Labour:

While labour's supply curve sloping upwards from left to right is the general rule, an exceptional case of labour's supply curve may also be indicated (see Fig. 31.1) When the workers' standard of living is low, they may be able to satisfy their wants with a small income and when they have made that much, they may prefer leisure to work. That is why it happens that, sometimes, increase in wages leads to a contraction of the supply of labour. This is represented by a backward-sloping supply curve as under.

For some time this particular individual is prepared to work long hours as the wage goes up (wage is represented on OY—axis in Fig. 31.1). But beyond OW wage, he will reduce rather than increase his working hours.



Backward Bending Supply Curve of Labour

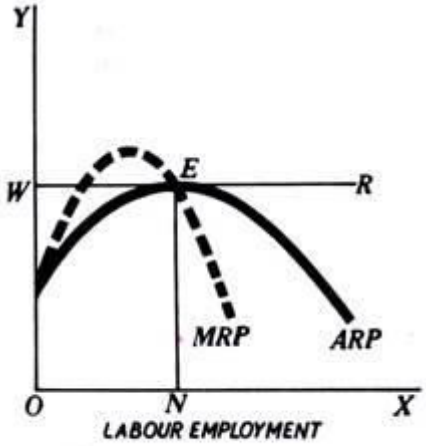


Determination of Wages
Fig. 31.1

However, this backward sloping Curve may sometimes be true of certain workers, the supply curve of labour to industry as a whole will normally slope upwards from left to right (as shows in Fig. 31.2)

Interaction of Demand and Supply:

We have now analysed the demand side as well as the supply side of labour. We shall now see how their interaction determines the wage level. This is shown in Fig. 31.2



Long-run Equilibrium Wage-rate
Fig. 31.2

In this diagram, we have shown the wage determination of a particular type of labour for an industry. The curve SS represents supply of labour to the industry. DD is the demand curve for labour of that industry. Demand and supply curves intersect at E. Therefore, the wage rate OW (= NE) will be established. The equilibrium wage rate will change if the demand and/or supply conditions change.

Under competitive conditions, wage rate in the long run will be equal to both the marginal revenue product and the average revenue product. If the wage rate is less than the average revenue product, the firms would be earning supernormal profits. As a result, new firms will enter the industry and the demand for labour will increase which will push up the wage rate so as to be equal to average revenue product.

On the other hand, if the wage rate is above the average revenue product, the firms will be suffering losses. As a result, some firms will leave the industry and demand for labour will decrease which will force the wage-rate down. Fig. 31.2 shows the long-run equilibrium of the firms under perfect competition. This diagram shows that long-run equilibrium wage rate is OW. At wage rate OW, the firm is employing ON number of labour. This OW rate is equal to marginal revenue product (MRP) and average revenue product (ARP) at point E. The point E is the equilibrium position of the firm in the long run.

We have so far concerned ourselves with the problem of how wages in general are determined. But is there any general rate of wages?

If labour had been like any other commodity, it would also have been sold in the market at the same rate. But as you know, labour is peculiar in certain respects. Labourers differ in efficiency. They are less mobile than goods. Their supply cannot be increased to order and it is a most painful process to reduce I hem. If a day is lost, its labour is lost with it. For these and other reasons, a uniform rate of earnings for workers is not possible. There is thus no prevailing rate of wages similar to the prevailing rate of interest or prevailing price of a good.

All over the world, labour is spat up into a very large number of groups and sub-groups, each with a different level of wages. Even within the same group, the differences are ever so many. Consequently there cannot possibly be a general rate of wages. All that can be done is to and out an average rate which can be discovered by dividing the total amount paid to a given group of workers by the total number of workers in it. The fact is that the wages differ from occupation to occupation. Wages are relative.

Market supply of labour

Perfectly competitive **labour markets** and their **supply of labour** curves. ... The situation is similar in a perfectly competitive **labour market**. The going wage is determined in the **market** and no one firm can affect this given wage through its actions. But, each firm can employ as many workers as it wants at this given wage.

The **labour supply** is the number of hours people are willing and able to supply at a given wage rate

- It is the number of workers willing and able to work in a particular job or industry for a given wage
- The labour supply curve for any industry or occupation will be upward sloping. This is because, as wages rise, other workers enter this industry attracted by the incentive of higher rewards. They may have moved from other industries or they may not have previously held a job, such as housewives or the unemployed
- The extent to which a rise in the prevailing wage or salary in an occupation leads to an expansion in the supply of labour depends on the elasticity of labour supply.

Key factors affecting labour supply

1.**The real wage rate on offer in the industry itself** – higher wages raise the prospect of increased factor rewards and should boost the number of people willing and able to work

2.**Overtime:** Opportunities to boost earnings come through overtime payments, productivity-related pay schemes, and share option schemes

3.**Substitute occupations:** The real wage rate on offer in competing jobs affects the wage and earnings differential that exists between two or more occupations. For example an increase in the earnings available to trained plumbers and electricians may cause some people to switch their jobs

4. Barriers to entry: Artificial limits to an industry's labour supply (e.g. through the introduction of minimum entry requirements) can restrict labour supply and force pay levels higher – this is the case in professions such as legal services and medicine where there are strict "entry criteria"

5.**Improvements in the occupational mobility of labour:** For example if more people are trained with the necessary skills required to work in a particular occupation.

6.**Non-monetary characteristics of specific jobs** – include factors such as the risk with different jobs, the requirement to work anti-social hours or the **non-pecuniary benefits**that certain jobs provide including **job security**, **working conditions,** opportunities for promotion and the chance to live and work overseas, employer-provided in-work training, employer-provided or subsidised health and leisure facilities and other in-work benefits including occupational pension schemes.

7.**Net migration of labour** – the UK is a member of the European Union single market that enshrines free movement of labour as one of its guiding principles. A rising flow of people seeking work in the UK is making labour migration an important factor in determining the supply of labour available to many industries – be it to relieve shortages of skilled labour in the NHS or education, or to meet the seasonal demand for workers in agriculture and the construction industry.

Factors affecting supply of labour

The supply of labour is affected by numerous factors including the **wage rate**, **migration patterns**, changes in **income** tax, benefit reform, trade unions, government labour regulations, changes in the retirement **age** and female participation in the workforce.

In every economic field the market of labour is affected by the demand and supply powers. The supply of labour is considered on the basis of population, different age groups, participation of sex ratio and their education.

Supply of labour is related with that quantity and rate at which the labourers are ready to work. According to Rees following are four factors which affect the supply of labour: 1. Participation Rate as Labour Force 2. Number of Hours the Labourers is Willing to Work 3. Speed or Intensity of Work 4. Efficiency or Skill of Work.

Factor # 1. Participation Rate as Labour Force:

Normally the number of labourers is based on the population. How much percentage does really work. It depends on the persons of 14 to 60 years age which is totally based on the ratio of population.

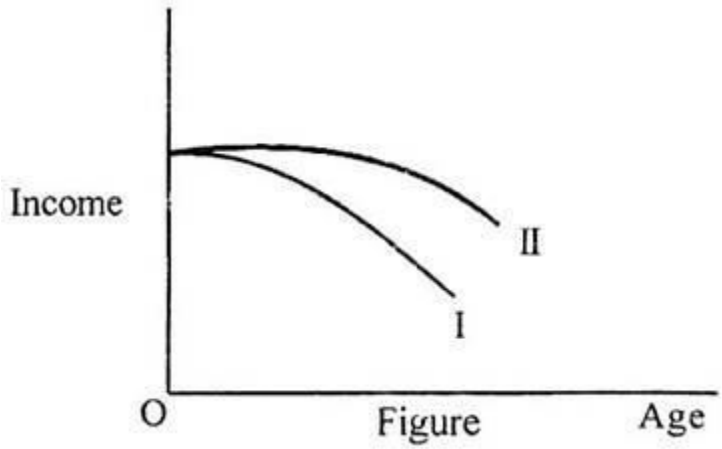
The industrialised countries prove that:

(i) When there is progress in national income, and

(ii) High age people comparatively stop the work at low age.

As for the question of first stage, the real reason is increasing at the level of education. For second stage, keeping the social security in mind they do not want to do the work after retirement. In under developed economy the quantity of aged labourers is always low in both agricultural and industrial sector.

As per the diagram, it is clear that in under developed countries, there is a rapid decline of average life time earning profile of labours in comparison to developed countries. According to Standing, **"In the early stages, there is a fairly rapid decline in the participation rates of the youngest and oldest age groups; but once those declines have taken place any subsequent decline in the overall, or crude male participation rate is slight."**



Figure

In this figure, on the basis of imagination, the average life time earning profiles is drawn where (I) is for under developed countries, and (II) for developed countries.

In the Indian economy the participation of Labour power is shown on the basis of received data of census.

In the following table the data are given from 1901 to 1981:

Workers—Population Ratio

Year	Labour force	Male	Female
1901	46.8	60.8	31.7
1911	48.1	62.0	33.7
1921	46.9	60.4	32.6
1931	43.8	58.1	28.8
1951	39.1	53.9	23.4
1961	43.1	57.3	28.0
1971	34.2	52.7	14.2
1981	37.5	52.2	20.8

Source: Study material, H.P. University

Pandey searched the reasons of difference of participation rate regarding workers. He assumed the size of work field, literacy rate, sex ratio, increase in population rate and the participation ratio of women. According to Pandey's analysis there is a proper impact of literacy rate, increase in population rate and women participation rate on all over the participation of city. But he did not stress on the participation rate of rural areas.

According to Pandey increase in employment and income inspires the rural people. Especially children, ladies and old people remove them from effective labour power. Reddy has analysed the participation of women to work in the rural areas. According to Reddy the average income of men who are involved in agriculture sector affects the participation of ladies in work. The ladies whose husbands are working in industrial sector their participation ratio is low.

Factor # 2. Number of Hours the Labourers is Willing to Work:

The second aspect of supply of labour is hours of work or time. Supply of labour cannot be determined without knowing that how many hours the work is done. The working hours have been reduced with the movement in labour organisations and the supply has been affected.

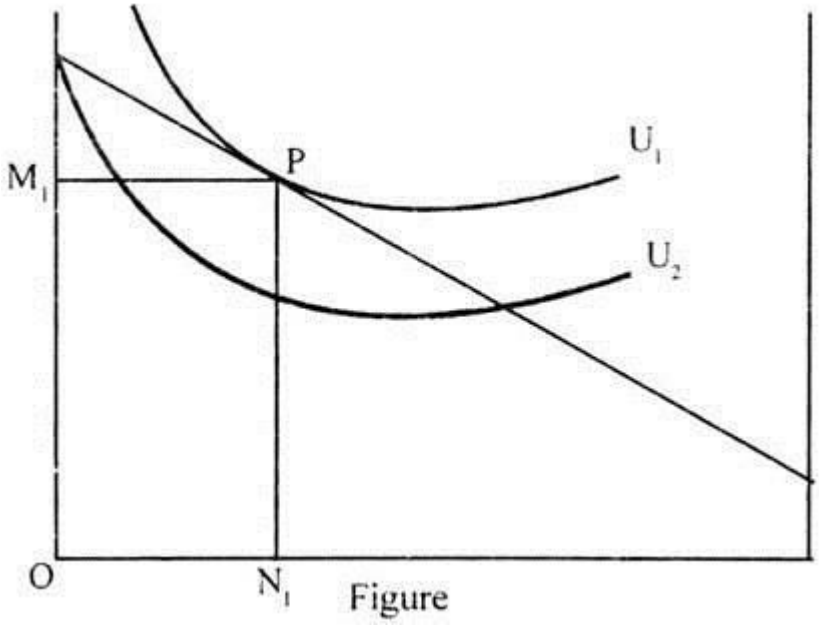
Due to this change, the supply of labour will automatically be changed. The supply became low when the working hours are increased and if the hours are decreased the supply will increase.

We are taking some assumptions to study the working population of supply of labour:

(a) There is a difference between market work and non- market activities.

(b) In both works the decision for allotment of time is taken on personal basis.

On the above assumptions in the market work and non-market activities, the utility maximization tendency solution of person is balanced through the budget constraint. It can be seen by this diagram.



Figure

Utility Maximisation Tendency Solution:

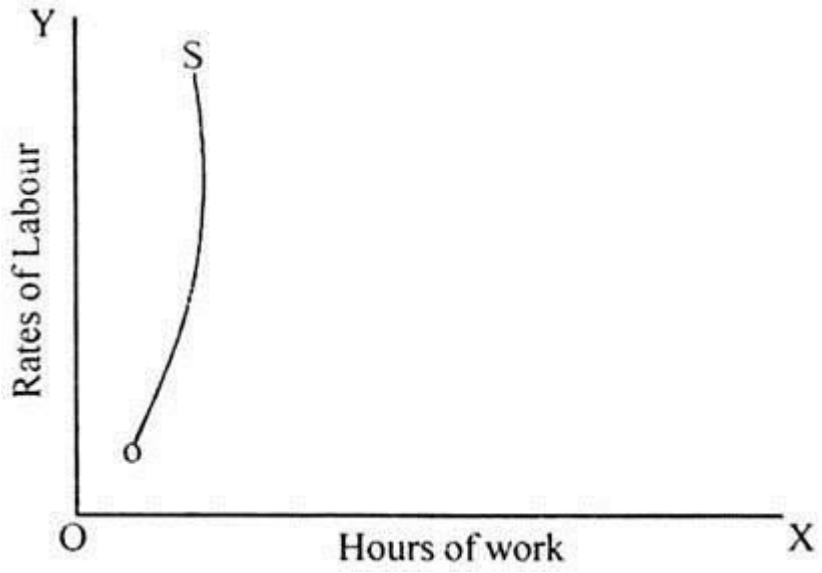
On OM axis the utility received from market work is shown and on ON axis the utility received from non-market work is shown. Market and non-market work describes the level of satisfaction. On the level of satisfaction utility curve (U_1) shows the negative trend that the deficiency received from the market work can be set by getting the excess progress made in non-market

sector. Or it can be reciprocal. U_1 curve shows the low utility level and U_1 curve shows the high utility level.

Maximum utilization state is shown by budget line AB and utilization curve is shown by U_1, which touches at point P.

Now we will differentiate between enterprises and effect of Income due to the increase in labour rate under market activities. Increase in market activities relates with the increase in the labour rate and in this way there will be increase in market activities.

Side by side due to increase in labour rate there will be increase in real income of person, which he will spend on non-market activities. In this way, increase in labour rate will affect the market activities in both ways. When income impact is more powerful than subsidiary effect then curve of labour will be seen high up from left to right. It can be seen from the following picture.



Factor # 3. Speed or Intensity of Work:

Speed of work controls the quantity of labour. One labour who works at a double speed completes the supply of other labourer. This speed depends on various factors. Education, health, climate and others put impact on this tendency of work. We can change the speed knowingly.

Factor # 4. Efficiency or Skill of Work:

Skill of work is related with the kind of work that how much wastage is done, how many accidents are committed and many other factors are considered to know the efficiency of work.

Prof. Wilbut Boor has put the four factors in to a formula which are number of workers. Hours of work, Speed of work and skill of work.

Productivity of labour = N × H × T × S

Where,

N = Number of workers

H = Hours of work

T = Time taken for work

S = Skill of work

Among the above factors, if there is increase in any factor, there will be increase in productivity. In the modern time some new factors has been introduced like increase in number of workers, increase in the skill of work but there is a decrease in the time of work.

As far as the supply curve is concerned, in a business firm or industry under sort term the curve of labour supply remain upward rising. In the long term the curve will be downward but its curve will be less than upward. In the developed countries the supply curve will be in a position of leisure and looks backward bending.

In under developed countries, such supply curve looks as same due to institutional pressure. Except this in underdeveloped countries, in some areas of social development it is found completely flexible in the primary steps.

On this hypothesis we will think that in developed countries the curve of Labour supply is very flexible especially in agricultural sector. This hypothesis is attached with the name of Lewis which is developed by Fei and Rains.

According to Lewis:

1. In many economies the life strategy of wages is based on the unlimited supply of labour.

2. In such economies labourers, agriculture, casual labour, petty trade, domestic services are received. In most of the area's population is more than the resources.

3. Such economies, in the capitalistic sector employment are increased when there is increase in capital formation.

4. In capital formation and industrial progress the portion of profit in national income increased but there is no increase in the wages.

In India, under Five year plans the labour power, and unemployment is estimated on the basis of usual status concept, weekly status concept and on daily status concept.

factor market equilibrium

For **factor markets** that are not perfectly competitive, such as those controlled by monopoly or monopsony, **factor market equilibrium** is achieved when the controlling firm maximizes profit. For monopoly, this is the **factor** quantity that equates marginal revenue and marginal cost.

Equilibrium of a Firm in Factor Market: Perfect Competition and Imperfect Competition!

When an organization decides to hire a factor of production, it makes comparison between MRP of the factor with that of its Marginal Factor Cost (MFC).

If the MRP is greater than the marginal cost of factor (MRP>MC), then the factor is employed because it would generate more marginal revenue.

On the other hand, when MRP is lesser than the marginal cost of factor (MRP<MC), then the organization would not employ the factor as it would increase costs. In case, the MRP is equal to the marginal cost of factor (MRP=MC), then the organization would attain equilibrium.

However, in modern times, the organizations determine the actual amount of factors that are required to achieve equilibrium. For determining the equilibrium point, it is necessary for an organization to analyze the factor market in different market structures, such as perfect competition and imperfect competition. Let us discuss the equilibrium of a firm in different market structures.

Equilibrium in Factor Market: Perfect Competition:

In the factor market, under perfect competition, an individual organization cannot affect the prices of a factor of production by increasing or decreasing its consumption.

This is because the quantity demanded by an organization of a particular factor is very small as compared to the market demand. In such a case, the organization cannot affect the price of the factor, thus it has to purchase the factor at the prevailing market price. Even if the organization increases the consumption of the factor, the price of the factor would remain same.

For example, in perfect competition, organizations need to pay wages to its employees according to the wage rates prevailing in the market. Similarly, if we look upon the supply side, a single supplier does not have ample amount of products to meet the demand of all the customers in the market. Therefore, in perfect competition, marginal product (MP) and average product (AP) are

same and their curves would intersect each other. Thus, MP and AP would form a straight horizontal line. Here, we would again take the example of labor and wages to understand equilibrium in factor market under perfect competition.

Figure-5 shows the equilibrium in the factor market under perfect competition:

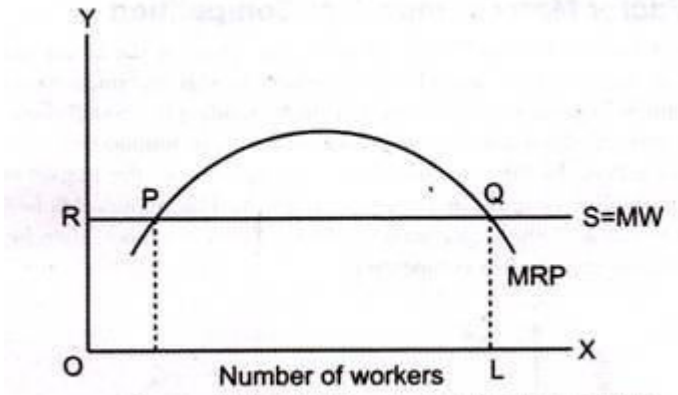


Figure-5: Equilibrium in Perfect Competition

In Figure-5, we have assumed labor as a variable factor, while keeping the other factors at constant. The RS line shows the marginal wage rate. In the factor market, all organizations can hire any number of workers at the prevailing price OR. The MRP curve of labor intersects the line RS at two points P and Q.

An organization cannot attain equilibrium at point P because at this point the number of workers employed is increased. Thus, in this case, the MRP of labor would be higher than the marginal wage OR. On the other hand, at point Q, when the organization employs OL number of workers, the MRP of labor is equal to its marginal cost.

Therefore, the organization would attain its equilibrium at point Q. Apart from this, if the organization employs more than OL workers, the marginal cost of labor would exceed MRP. In such a case, the organization would incur losses.

In summation, there are two conditions required for attaining equilibrium in the factor market under perfect competition, which are as follows:

i. MRP = MFC

ii. MRP curve intersects marginal cost from above (as shown in Figure-5)

However, from Figure-5, we cannot determine whether the organization would earn profit or incur loss.

This can be determined with the help of Figure-6:

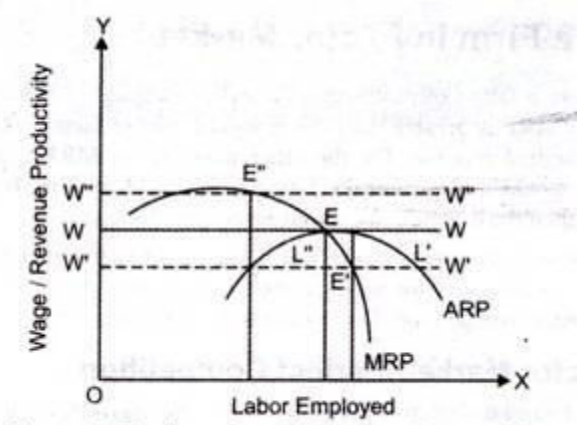


Figure-6: Profit or Loss in Perfect Competition

In Figure-6, MRP intersects Average Revenue Productivity (ARP) at point E. When the wages are at level OW the equilibrium point is attained at E'. On the other hand, when the wages are at level OW", equilibrium point is achieved at point E". At point E', extra profit is E'L', which is in the short run only.

In the long run, supernormal profit attracts new organizations to enter the market. This increases the demand for labor; therefore, the wage level of labor also increases and reaches OW. At OW wage level, the equilibrium shifts to E and supernormal profit disappears. This is because wages are equal to average revenue productivity.

However, at equilibrium point E", the wages are more than the average revenue productivity. In such a case, the organization would incur losses. In case of losses, many organizations would leave the market, which would result in the reduction of labor and wage rates. This again brought the wage level at OW and equilibrium point at E. At this point, MRP would become equal to ARP.

Equilibrium in Factor Market: Imperfect Competition:

In the above, we have discussed the equilibrium of an organization in the factor market under perfect competition. However, in the real world, the factor market is imperfect. Therefore, we would learn the equilibrium of an organization in the factor market under imperfect competition.

For understanding the equilibrium in case of imperfect competition, we would take the case of monopsony. In monopsony, there is only one buyer of factors of production and a large number

of sellers. In this case, there is no competitor in the market who wants to buy the factors of production.

Therefore, the single buyer has a control on the price of factors. This implies that he/she can bargain for the prices of factors as per his/her choice. For example, if the buyer wants to hire a factor say labor, then he/she can set wages according to him/her.

Figure-7 shows the equilibrium in imperfect competition:

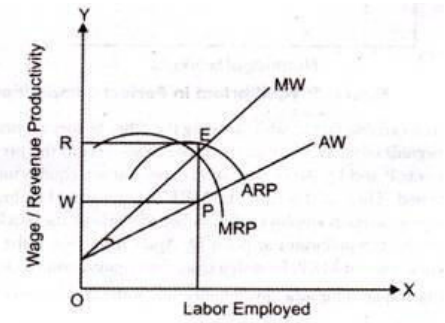


Figure-7: Equilibrium in Imperfect Competition

In Figure-7, Average Wage (AW) curve moves from left to right in upward direction and Marginal Wage (MW) curve is above the AW curve. In imperfect competition, equilibrium can be attained when MW is equal to MRP. In present case, equilibrium is at point E.

At point E, AW is NP and MRP is EN and NP is less than EN. This shows that services provided by labor is more than wages provided by the organization to them. In other words, the labor is exploited by the organization. This is also termed as monopolistic exploitation.

In imperfect competition, as the buyer has the power to decide the wages of labor; therefore, labor is exploited in this type of market structure. For example, in case of oligopoly or monopoly, the number of job opportunities is limited and the unemployment is high. In such cases, the labor is ready to work even at low wage rates.

POSSIBLE QUESTIONS : UNIT - IV

PART – B

1. Write a short note on factor market?
2. When is Price Discrimination possible?
3. Define the term Perfect Competition.
4. What factors determine the size of the market?
5. What do you mean by Supply of labour?
6. Write a short note on Economic rent?
7. List out the factors of production?
8. What is meant by circulating capital?
9. List out the assumptions of factor market theory?
10. State the meaning of the term labour supply?

***CIA – 3 X 2 = 6 Marks**
****ESE – 5 X 2 = 10 Marks**

PART – C

1. Explain the demand for a factor by a firm under marginal productivity theory?
2. Elaborate the term Factor Market Equilibrium?
3. Enumerate the term Market supply of Labour
4. Discuss the demand for a factor by a firm under marginal productivity theory?
5. How Prices are fixed under Factor Market Equilibrium?
6. Elaborate the comparison between Perfect and Monopoly in the product market?
7. Determine the Market demand for a factor and supply of labour?
8. Enumerate the various assumptions of the factor market theory?
9. Explain the Analysis of Marginal Productivity Theory from the Point of View of an Industry?
10. Determine the Key factors affecting labour supply?

***CIA – 3 X 8 = 24 Marks (EITHER OR TYPE)**
****ESE – 5 X 6 = 30 Marks (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Sec 3 of UGC Act, 1956)
DEPARTMENT OF MANAGEMENT

UNIT IV - MANAGERIAL ECONOMICS - Multiple Choice Questions- Each Question carries ONE Mark

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	Final output comprises goods and services purchased by end _____	customer	consumer	producer	financier	consumer
2	_____ products are used as input in the production of some other product	Substitute	Complementary	Intermediate	Durable	Intermediate
3	GNP is the aggregate final output of citizens and business of an economy in a year	GNP	NNP	NDP	GDP	GNP
4	_____ income estimated at the prevailing prices is national income at current prices.	National	International	Regional	Local	National
5	_____income is income per head of a country for a year	Gross Nationa	Per capita	Net National	Gross	Per capita
6	National income at _____ is national income calculated by income method.	opportunity co	cost	factor cost	marginal cost	factor cost
7	_____is the decrease in value of an asset due to its usage and wearing out	Amalgamatio n	Depreciation	Revaluation	Re estimation	Depreciation
8	The process of savings being converted into investment is known as _____	Income	Savings	Formation	Capital formation	Capital formation
9	Economies of _____mean reduction in costs of production by way of producing in bulk	cost	income	production	scale	scale

10	Under price _____ producers charge a very high price in the beginning to skim the market and earn super margins on sales	rationaling	skimming	rating	penetrating	skimming
11	If GDP is Rs. 34,000 crore and net income from abroad is Rs. (-) 4,200, then GNP is equal to _____	34000 - (-4,200)	34000 x (-4,200)	34000 +(-4,200)	34000/ (-4,200)	34000 +(-4,200)
12	Which of the product is not a final product ?	Chair	Book	Alumina	Aaairplane	Alumina
13	Transfer payments are included in	GDP	GNP	Per Capita Income	Personal Income	Personal Income
14	Net factor income from abroad is	GDP - NDP	GNP - NNP	GNP - GDP	GNP only	GNP - GDP
15	The nominal GDP is Rs. 36,000 and real GDP is Rs. 34,000. GDP deflator therefore is _____	36,000 / 34,000	34,000 / 364,000	36,000 - 34,000	36,000*34,000	36,000 / 34,000
16	A currency issued by the government is called a _____ issue.	financial	fiduciary	perfect	imperfect	fiduciary
17	_____ is as valuable as is its capacity	Gold	Goods	Money	Service	Money
18	_____ bears an inverse relationship with price	Demand	Income	Supply	Cost	Supply
19	Inflationary gap represents rise in _____ due to a gap between effective demand and supply	Demand	Income	Supply	price	price
20	_____ is total units of goods/services purchased with a given amount of money.	Income	Purchasing pow	Real income	Capacity	Real income

21	_____ is defined as the sum of Gross Domestic Product and Net Factor Income from Abroad.	GNP	GDP	NDP	NNP	GNP
22	_____ is the aggregate final output of citizens and businesses of an economy in a year.	Gross Domestic Product	Net National Product	National Domestic Product	Gross National Product	Gross National Product
23	GNP less depreciation on assets is equal to _____	GNP	GDP	NDP	NNP	NNP
24	_____ at market price = GNP at market price - Depreciation	GNP	GDP	NDP	NNP	NNP
25	National income measured on the basis of some fixed price time or by taking a base year, is real _____	income	national income	rational income	national expense	national income
26	NNP at Factor Cost = NNP at Market Prices - Indirece Taxes + _____	direct Tax	Sales tax	Subsidies	service tax	Subsidies
27	National income estimated at the prevailing prices is national income at _____prices	future	postponed	penetrated	current	current
28	Real GDP = Nominal GDP / _____ deflator	NDP	NNP	GDP	GNP	GDP
29	GDP deflator is the ratio of nominal _____ in a year to real GDP of that year.	NDP	NNP	GDP	GNP	GDP
30	_____ income is income per head of a country for a year.	Per capita	national	real	Local	Per capita
31	Per Capita Income = National Income / _____	Total income	Total cost	Total population	Total	Total population

32	_____ income is the income which can be spent onconsumption by individuals and families	Net	Real	Gross	Personal Disposable	Personal Disposable
33	Inflation is the basis of calculating _____ national income	Real	Net	Gross	Disposable	Real
34	National Income calculated by output method is _____ to that calculated by income method.	marginal	nominal	ordinal	equal	equal
35	Personal disposable income is _____ from per capita income.	same	different	due	for	different
36	Intermediate goods are also known as _____ goods because they are used as inputs in the production of other goods.	trader	customer	producer	consumer	producer
37	The process of savings being converted into_____ is known as capital formation	cash	profit	product	investment	investment
38	In the circular flow of income and output, savings is _____	Injection of money	withdrawal of money	Additions to capital stock	investment	withdrawal of money
39	_____ is used to adjust fixed incomes and contractual incomes to maintain the real value of such incomes.	Money	Investment	Inflation rate	Goods	Inflation rate
40	_____ is the automatic linkage between monetary obligations and price levels	Indexation	Money	Investment	Inflation rate	Indexation

41	The argument that money inflation precedes price inflation is known as _____	money	monetarism	income	expense	monetarism
42	Built in inflation is also known as _____ inflation	cost	income	hangover	money	hangover
43	_____ occurs when supply of goods is not fully responsive to increase in supply of money	demand inflation	supply inflation	economy inflaiton	Price inflation	Price inflation
44	_____ is printing of additional currency on demand of governement to meet ists needs of expenditure and/or loans.	deficit financing	surplus financing	deficit	financing	deficit financing
45	Increase in bank rate is known as _____	dear	change	modify	expansion	dear
46	SLR is an indicator of _____ of commercial banks	insolvency	solvency	money	income	solvency
47	_____ convinces commercial banks to prevent excessive expansion of credit.	Governement	companies	industries	moral suasion	moral suasion
48	In quantity theory of money, T is _____ of goods and services.	transaction volume	volume	value	finance	transaction volume
49	_____pull inflation refers to the effects of falling unemployment rates in the curve.	Income	volume	Supply	Demand	Demand
50	A _____ index reduces all the distinct prices for a class of goods to a single number	place	price	product	promotion	price

51	Face value of full bodied_____ is equal to the intrinsic value of the metal.	insolvency	solvency	money	income	money
52	_____ is homogenous throughout a nation	insolvency	solvency	money	income	money
53	Built in inflation might start due to _____	persistent demand pull inflation	Unemployment	Selective credit control	Control	persistent demand pull inflation
54	Narrow money does not include _____	Term deposits	Notes in the hands of public	Coins in the hands of public	Demand deposits in the banks	Term deposits
55	Money must have all of the following features except _____	No loss of value	Physical attribute	Indexation	Divisibility	Physical attribute
56	Selective credit control is a _____	Quantitative method	bank credit	money supp	Qualitative method	Qualitative method
57	A fall in bank rate leads to _____	Costlier credit to commercal banks	More attractive deposits	Less attractive loans	More attractive loans	More attractive loans
58	As per Keynsian theory, economic fluctuations are due to changes in _____	Autonomous investment	Rate of investment	Warrantd rate of growth	Disinvestment	Rate of investment
59	Supply bears an inverse relationship with _____	price	income	deficit	Cost	price
60	Final output comprises goods and services_____ __ by end consumer.	sold	traded	advertised	purchased	purchased

Unit – V : Objectives of Monetary policy – Types of Monetary Policy – Instruments of Monetary policy – Objectives of Fiscal Policy – Types of Fiscal Policy – Instruments of Fiscal Policy – Budget Preparation – Deficit Budget. Balance of Trade and Balance of Payments – Current Account and Capital Account of BOP – Disequilibrium in BOP. Money supply – Commercial Banks – Central Banks – Functions – Process of Credit Creation and Money supply – High Powered Money – Money multiplier – Money and Interest rate – Theories of Interest.

Monetary policy refers to the credit control measures adopted by the central bank of a country. Johnson defines monetary policy "as policy employing central bank's control of the supply of money as an instrument for achieving the objectives of general economic policy." G.K. Shaw defines it as "any conscious action undertaken by the monetary authorities to change the quantity, availability or cost of money."

"Monetary policy involves the influence on the level and composition of aggregate demand by the manipulation of interest rates and the availability of credit"-D.C. Aston.

Monetary policy implies those measures designed to ensure an efficient operation of the economic system or set of specific objectives through its influence on the supply, cost and availability of money. The concept of monetary policy has been defined in a different manner according to different economists;

R.P. Kent has defined the monetary policy as "The management of the expansion and contraction of the volume of money in circulation for the explicit purpose of attaining a specific objective such as full employment." Dr.D.C. Rowan remarked, "The monetary policy is defined as discretionary action undertaken by the authorities designed to influence:

(a) The supply of money,

(b) Cost of Money or rate of interest and

(c) The availability of money."

According to Prof. Crowther, "Monetary Policy consists of the steps taken or efforts made to reduce to a minimum the disadvantages that flow from the existence and operation of the monetary system. It is a policy to regulate the flow of monetary resources in the economy to attain certain specific objectives." D.C. Aston has defined:"Monetary policy involves the influence on the level and composition of aggregate demand by the manipulation of interest rates and the availability of credit."

According to G.K. Shaw; "By monetary policy we mean any conscious action undertaken by the monetary authorities to change the quantity, availability or cost (rate of interest) of money. A broader definition might also take into account action designated to influence the composition and the age profile of the national debt, as for example, open market operations geared to purchase the short term securities and seal of long term bonds."

In the words of Mr. C.K. Johri; "It would comprise those decisions of the government and Reserve Bank of India which affect the volume and composition of money supply in the size and distribution of credit (including Co-operative Banks Credit) the level and structure of interest rates and the effect of these variables upon the factors determining output and prices."

Objectives of Monetary Policy:

The monetary policy in developed economies has to serve the function of stabilization and maintaining proper equilibrium in the economic system. But in case of underdeveloped countries, the monetary policy has to be more dynamic so as to meet the requirements of an expanding economy by creating suitable conditions for economic progress. It is now widely recognized that monetary policy can be a powerful tool of economic transformation.

As the objective of monetary policy varies from country to country and from time to time, a brief description of the same has been as following:

(i) Neutrality of money

(ii) Stability of exchange rates

(iii) Price stability

ADVERTISEMENTS:

(iv) Full Employment

(v) Economic Growth

(vi) Equilibrium in the Balance of Payments.

1. Neutrality of Money:

Economists like Wicksteed, Hayek and Robertson are the chief exponents of neutral money. They hold the view that monetary authority should aim at neutrality of money in the economy. Any monetary change is the root cause of all economic fluctuations. According to neutralists, the monetary change causes distortion and disturbances in the proper operation of the economic system of the country.

They are of the confirmed view that if somehow neutral monetary policy is followed, there will be no cyclical fluctuations, no trade cycle, no inflation and no deflation in the economy. Under this system, money is kept stable by the monetary authority. Thus the main aim of the monetary authority is not to deviate from the neutrality of money. It means that quantity of money should be perfectly stable. It is not expected to influence or discourage consumption and production in the economy.

2. Exchange Stability:

Exchange stability was the traditional objective of monetary authority. This was the main objective under Gold Standard among different countries. When there was disequilibrium in the balance of payments of the country, it was automatically corrected by movements. It was popularly known, "Expand Currency and Credit when gold is coming in; contract currency and credit when gold is going out." This system will correct the disequilibrium in the balance of payments and exchange stability will be maintained.

It must be noted that if there is instability in the exchange rates, it would result in outflow or inflow of gold resulting in unfavorable balance of payments. Therefore, stable exchange rates play a key role in international trade. Thus, it is clear from this fact that: the main objective of monetary policy is to maintain stability in the external equilibrium of the country. In other words, they should try to eliminate those adverse forces which tend to bring instability in exchange rates.

(i) It leads to violent fluctuations resulting in encouragement to speculative activities in the market.

(ii) Heavy fluctuations lead to loss of confidence on the part of domestic and foreign capitalists resulting in adverse impact in capital outflow which may also result in capital formation and growth.

(iii) Fluctuations in exchange rates bring repercussions in the internal price level.

3. Price Stability:

The objective of price stability has been highlighted during the twenties and thirties of the present century. In fact, economists like Crustar Cassels and Keynes suggested price stabilization as a main objective of monetary policy. Price stability is considered the most genuine objective of monetary policy. Stable prices repose public confidence because cyclical fluctuations are totally eliminated. It promotes business activity and ensures equitable distribution of income and wealth. As a consequence, there is general wave of prosperity and welfare in the community. Price stability also impedes economic progress as there is no incentive left with the business community to increase

production of qualitative goods. It discourages exports and encourages imports. But it is admitted that price stability does not mean 'price rigidity' or price stagnation'. A mild increase in the price level provides a tonic for economic growth. It keeps all virtues of a stable price.

4. Full Employment:

During world depression, the problem of unemployment had increased rapidly. It was regarded as socially dangerous, economically wasteful and morally deplorable. Thus, full employment assumed as the main goal of monetary policy. In recent times, it is argued that the achievement of full employment automatically includes prices and exchange stability.

However, with the publication of Keynes' General Theory of Employment, Interest and Money in 1936, the objective of full employment gained full support as the chief objective of monetary policy. Prof. Crowther is of the view that the main objective of monetary policy of a country is to bring about equilibrium between saving and investment at full employment level.

Similarly, Prof. Halm has also favoured Keynes' view. Prof. Gardner Ackley regards that the concept of full employment is 'slippery'. Classical economists believed in the existence of full employment which is the normal feature of an economy. Full employment, thus, exists when all those who are ready to work at the existing wage rate get work. Voluntary, frictional and seasonal unemployed are also called employed.

According to their version, full employment means absence of involuntary unemployment. Therefore, it implies not only employment of all types of labourers but also includes the employment of all economic resources. It is not an end in itself rather a pre-condition for maximum social and economic welfare.

Keynes equation of income, $Y = C + I$ throws light as to how full employment can be secured with monetary policy. He argues that to increase income, output and employment, it is necessary to increase consumption expenditure and investment expenditure simultaneously. This indirectly solves the problem of unemployment in the economy. Since the consumption function is more or less stable in the short period, the monetary policy should aim at raising investment expenditure.

As monetary policy is the government policy regarding currency and credit, in this way, government measures of currency and credit can easily overcome the problem of trade fluctuations in the economy. On the other side, when the economy is facing the problem of depression and

unemployment, private investment can be stimulated by adopting 'cheap money policy' by the monetary authority.

Therefore, this policy will serve as an effective and ideal stimulant to private investment as there is pessimism all round in the economy. Further, the objective of full-employment must be integrated with other objectives, like price and exchange stabilization. The advanced countries like U.S.A. and U.K. are normally working at full employment level as their main concern is how to maintain full employment and avoid fluctuations in the level of employment and production. While, on the contrary, the main problem in underdeveloped country is as to how to achieve full employment.

Therefore, in such economies, monetary policy can be designed to meet with the problem of under employment and disguised unemployment and by further creating new opportunities for employment. The most suitable and favourable monetary policy should be followed to promote full-employment through increased investment, which in turn having multiplier and acceleration effects.

After achieving the objective of full-employment, monetary policy should aim at exchange and price stability. In short, the policy of full employment has the far-reaching beneficial effects.

(a) Keeping in view the present situation of unemployment and disguised unemployment particularly in more growing populated countries, the said objective of monetary policy is most suitable.

(b) On humanitarian grounds, the policy can go a long way to solve the acute problem of unemployment.

(c) It is useful tool to provide economic and social welfare of the community.

(d) To a greater extent, this policy solves the problem of business fluctuations.

5. Economic Growth:

In recent years, economic growth is the basic issue to be discussed among economists and statesmen throughout the world. Prof. Meier defined "Economic growth as the process whereby the real per capita income of a country increases over a long period of time." It implies an increase in the total physical or real output, production of goods for the satisfaction of human wants.

In other words, it means utilization of all the productive natural, human and capital resources in such a manner as to ensure a sustained increase in national and per capita income over time.

Therefore, monetary policy promotes sustained and continuous economic growth by maintaining equilibrium between the total demand for money and total production capacity and further creating

favourable conditions for saving and investment. For bringing equality between demand and supply, flexible monetary policy is the best course. In other words, monetary authority should follow an easy or tight monetary policy to suit the requirements of growth. Again, monetary policy in a growing economy, has to satisfy the growing demand for money. Thus, it is the responsibility of the monetary authority to circulate the proper quantity and quality of money.

6. Equilibrium in the Balance of Payments:

Equilibrium in the balance of payments is another objective of monetary policy which emerged significant in the post war years. This is simply due to the problem of international liquidity on account of the growth of world trade at a more faster speed than the world liquidity.

It was felt that increasing of deficit in the balance of payments reduces, the ability of an economy to achieve other objectives. As a result, many less developed countries have to curtail their imports which adversely effects development activities. Therefore, monetary authority makes efforts that equilibrium should be maintained in the balance of payments.

Types of Monetary Policy

Broadly speaking, there are two **types of monetary policy**, expansionary and contractionary. Expansionary **monetary policy** increases the money supply in order to lower unemployment, boost private-sector borrowing and consumer spending, and stimulate economic growth. Monetary policy is how central banks manage liquidity to create economic growth. Liquidity is how much there is in the money supply. That includes credit, cash, checks, and money market mutual funds. The most important of these is credit. It includes loans, bonds, and mortgages.

Objectives of Monetary Policy

The primary objective of central banks is to manage inflation. The second is to reduce unemployment, but only after they have controlled inflation.

The U.S. Federal Reserve, like many other central banks, has specific targets for these objectives. It seeks an unemployment rate below 6.5 percent. The Fed says the natural rate of unemployment is between 4.7 percent and 5.8 percent. It wants the core inflation rate to be between 2 percent and 2.5 percent. It seeks healthy economic growth. That's a 2 to 3 percent annual increase in the nation's gross domestic product.

Types of Monetary Policy

1 – CONTRACTIONARY MONETARY POLICY:

The contractionary monetary policy is one of the most used monetary policies because it helps reduce the inflation rate. A contractionary monetary policy is taken by the authorities when the inflation rate is sky-high and the central bank needs to do something immediately. The main tools of this policy are interest rates and security options. When the central bank adopts a contractionary monetary policy, it tries to raise the interest rates of the bank so the people keep their money in banks to avail higher interest rates. This will result in less money in the hands of people and as a result, the inflation rate will reduce. Secondly, the central bank also sells off securities in the open market so that the public would be more interested to buy more securities which will result in the same i.e. lowering the inflation rate. Central banks use contractionary monetary policy to reduce inflation. They have many tools to do this. The most common are raising interest rates and selling securities through open market operations.

2 – EXPANSIONARY MONETARY POLICY:

This is just the opposite of the previous type of monetary policy. An expansionary monetary policy is only adopted when the inflation is curbed and the main objective of the central bank becomes to reduce the unemployment rate and to avoid recession (if at all). As per expansionary monetary policy, the central bank reduces the interest rate so that the public keep their money in their hands. This step results in more purchasing power and as a result, public consume more from businesses in the country. This helps avoid unemployment and recession. The central bank also stops selling securities in the open market and they only allow securities to be sold through the member banks. This also ensures that the economy grows rapidly, enhances the employment rate, and reduces the chances of a recession.

They use expansionary monetary policy to lower unemployment and avoid recession. They lower interest rates, buy securities from member banks, and use other tools to increase liquidity.

Monetary Policy Versus Fiscal Policy

Ideally, monetary policy should work hand-in-glove with the national government's fiscal policy. It rarely works this way. Government leaders get re-elected for reducing taxes or increasing spending. To put it bluntly, it’s about rewarding voters and campaign contributors. As a result, fiscal

policy is usually expansionary. To avoid inflation in this situation, monetary policy must be restrictive.

Six Tools of Monetary Policy

All central banks have three tools of monetary policy in common. Most have many more. They all work together in an economy, by managing banks' reserves.

The Fed has six major tools. First, it sets a reserve requirement, which tells banks how much of their money they must have on reserve each night. If it weren't for the reserve requirement, banks would lend 100 percent of the money you've deposited. Not everyone needs all their money each day, so it is safe for the banks to lend most of it out.

The Fed requires that banks keep 10 percent of deposits on reserve. That way, they have enough cash on hand to meet most demands for redemption. When the Fed wants to restrict liquidity, it raises the reserve requirement. The Fed only does this as a last resort because it requires a lot of paperwork. It's much easier to manage banks' reserves using the fed funds rate. This is the interest rate that banks charge each other to store their excess cash overnight. The target for this rate is set at the eight annual Federal Open Market Committee meetings. The Fed funds rate impacts all other interest rates, including bank loan rates and mortgage rates.

The Fed's third tool is its discount rate. That's how it charges banks to borrow funds from the Fed's fourth tool, the discount window. The FOMC sets the discount rate a half-point higher than the Fed funds rate. The Fed prefers banks to borrow from each other. Fifth, the Fed uses open market operations to buy and sell Treasurys and other securities from its member banks. This changes the reserve amount that banks have on hand without changing the reserve requirement.

Sixth, many central banks including the Fed use inflation targeting. It clearly sets expectations that they want some inflation. People are more likely to buy if they know prices are rising. In addition, the Federal Reserve created many new tools to deal with the Great Recession. These include the Commercial Paper Funding Facility and the Term Auction Lending Facility.

Instruments of Monetary Policy:

The instruments of monetary policy are of two types: first, quantitative, general or indirect; and second, qualitative, selective or direct. They affect the level of aggregate demand through the supply of money, cost of money and availability of credit. Of the two types of instruments, the first category includes bank rate variations, open market operations and changing reserve requirements.

They are meant to regulate the overall level of credit in the economy through commercial banks. The selective credit controls aim at controlling specific types of credit. They include changing margin requirements and regulation of consumer credit. We discuss them as under:

Bank Rate Policy:

The bank rate is the minimum lending rate of the central bank at which it rediscounts first class bills of exchange and government securities held by the commercial banks. When the central bank finds that inflationary pressures have started emerging within the economy, it raises the bank rate. Borrowing from the central bank becomes costly and commercial banks borrow less from it.

The commercial banks, in turn, raise their lending rates to the business community and borrowers borrow less from the commercial banks. There is contraction of credit and prices are checked from rising further. On the contrary, when prices are depressed, the central bank lowers the bank rate.

It is cheap to borrow from the central bank on the part of commercial banks. The latter also lower their lending rates. Businessmen are encouraged to borrow more. Investment is encouraged. Output, employment, income and demand start rising and the downward movement of prices is checked.

Open Market Operations:

Open market operations refer to sale and purchase of securities in the money market by the central bank. When prices are rising and there is need to control them, the central bank sells securities. The reserves of commercial banks are reduced and they are not in a position to lend more to the business community.

Further investment is discouraged and the rise in prices is checked. Contrariwise, when recessionary forces start in the economy, the central bank buys securities. The reserves of commercial banks are raised. They lend more. Investment, output, employment, income and demand rise and fall in price is checked.

Changes in Reserve Ratios:

This weapon was suggested by Keynes in his Treatise on Money and the USA was the first to adopt it as a monetary device. Every bank is required by law to keep a certain percentage of its total deposits in the form of a reserve fund in its vaults and also a certain percentage with the central bank.

When prices are rising, the central bank raises the reserve ratio. Banks are required to keep more with the central bank. Their reserves are reduced and they lend less. The volume of investment, output and employment are adversely affected. In the opposite case, when the reserve ratio is lowered, the reserves of commercial banks are raised. They lend more and the economic activity is favourably affected.

Selective Credit Controls:

Selective credit controls are used to influence specific types of credit for particular purposes. They usually take the form of changing margin requirements to control speculative activities within the economy. When there is brisk speculative activity in the economy or in particular sectors in certain commodities and prices start rising, the central bank raises the margin requirement on them.

The result is that the borrowers are given less money in loans against specified securities. For instance, raising the margin requirement to 60% means that the pledger of securities of the value of Rs 10,000 will be given 40% of their value, i.e. Rs 4,000 as loan. In case of recession in a particular sector, the central bank encourages borrowing by lowering margin requirements.

Conclusion:

For an effective anti-cyclical monetary policy, bank rate, open market operations, reserve ratio and selective control measures are required to be adopted simultaneously. But it has been accepted by all monetary theorists that (i) the success of monetary policy is nil in a depression when business confidence is at its lowest ebb; and (ii) it is successful against inflation. The monetarists contend that as against fiscal policy, monetary policy possesses greater flexibility and it can be implemented rapidly.

Fiscal Policy

The **objective of fiscal policy** is to maintain the condition of full employment, economic stability and to stabilize the rate of growth. For an under-developed economy, the **main** purpose of **fiscal policy** is to accelerate the rate of capital formation and investment. Fiscal policy must be designed to be performed in two ways-by expanding investment in public and private enterprises and by diverting resources from socially less desirable to more desirable investment channels. The objective of fiscal policy is to maintain the condition of full employment, economic stability and to stabilize the rate of growth.

For an under-developed economy, the main purpose of fiscal policy is to accelerate the rate of capital formation and investment.

"Arthur Smithies, fiscal policy aims primarily at controlling aggregate demand and leaves private enterprise its traditional field- the allocation of resources among alternative uses."

Therefore, fiscal policy in under-developed countries has a different objective to that of advanced countries.

Generally following are the objectives of a fiscal policy in a developing economy:

1. Full employment
2. Price stability
3. Accelerating the rate of economic development
4. Optimum allocation of resources
5. Equitable distribution of income and wealth
6. Economic stability
7. Capital formation and growth
8. Encouraging investment

1. Full Employment:

The first and foremost objective of fiscal policy in a developing economy is to achieve and maintain full employment in an economy. In such countries, even if full employment is not achieved, the main motto is to avoid unemployment and to achieve a state of near full employment. Therefore, to reduce unemployment and under-employment, the state should spend sufficiently on social and economic overheads. These expenditures would help to create more employment opportunities and increase the productive efficiency of the economy.

In this way, public expenditure and public sector investment have a special role to play in a modern state. A properly planned investment will not only expand income, output and employment but will also step up effective demand through multiplier process and the economy will march automatically towards full employment. Besides public investment, private investment can also be encouraged through tax holidays, concessions, cheap loans, subsidies etc.

In the rural areas attempts can be made to encourage domestic industries by providing them training, cheap finance, equipment and marketing facilities. Expenditure on all these measures will help in eradicating unemployment and under-employment.

In this context, Prof. Keynes made the following recommendations to achieve full employment in an economy:

(a) To capture the excessive purchasing power and to curb private spending:

(b) Compensate the deficiency in private investment through public investment;

(c) Cheap money policy or lower interest rates to attract more and more private entrepreneurs.

2. Price Stability:

There is a general agreement that economic growth and stability are joint objectives for underdeveloped countries. In a developing country, economic instability is manifested in the form of inflation. Prof. Nurkse believed that "inflationary pressures are inherent in the process of investment but the way to stop them is not to stop investment. They can be controlled by various other ways of which the chief is the powerful method of fiscal policy."

Therefore, in developing economies, inflation is a permanent phenomena where there is a tendency to the rise in prices due to expanding trend of public expenditure. As a result of rise in income, aggregate demand exceeds aggregate supply. Capital goods and consumer goods fail to keep pace with rising income.

Thus, these result in inflationary gap. The price rise generated by demand pull reinforced by cost push inflation leads to further widening the gap. The rise in prices raises demand for more wages. This further gives rise to repeated wage-price spirals. If this situation is not effectively controlled, it may turn into hyper inflation.

In short, fiscal policy should try to remove the bottlenecks and structural rigidities which cause imbalance in various sectors of the economy. Moreover, it should strengthen physical controls of essential commodities, granting of concessions, subsidies and protection in the economy. In short, fiscal measures as well as monetary measures go side by side to achieve the objectives of economic growth and stability.

3. To Accelerate the Rate of Economic Growth:

Primarily, fiscal policy in a developing economy, should aim at achieving an accelerated rate of economic growth. But a high rate of economic growth cannot be achieved and maintained without stability in the economy. Therefore, fiscal measures such as taxation, public borrowing and deficit financing etc. should be used properly so that production, consumption and distribution may not

adversely affect. It should promote the economy as a whole which in turn helps to raise national income and per capita income.

4. Optimum Allocation of Resources:

Fiscal measures like taxation and public expenditure programmes, can greatly affect the allocation of resources in various occupations and sectors. As it is true, the national income and per capita income of underdeveloped countries is very low. In order to gear the economy, the government can push the growth of social infrastructure through fiscal measures. Public expenditure, subsidies and incentives can favorably influence the allocation of resources in the desired channels.

Tax exemptions and tax concessions may help a lot in attracting resources towards the favored industries. On the contrary, high taxation may draw away resources in a specific sector. Above all, direct curtailment of consumption and socially unproductive investment may be helpful in mobilization of resources and the further check of the inflationary trends in the economy. Sometimes, the policy of protection is a useful tool for the growth of some socially desired industries in an under-developed country.

Prof. R.N. Tripathi suggests the following steps to raise the saving ratio which provides the required finance for developmental schemes:

(i) Direct physical control.

(ii) Increasing the rate of existing taxes.

(iii) Introduction of new taxes,

(iv) Public borrowing of non-inflationary nature,

(v) Deficit financing.

5. Equitable Distribution of Income and Wealth:

It is needless to emphasize the significance of equitable distribution of income and wealth in a growing economy. Generally, inequality in wealth persists in such countries as in the early stages of growth, it concentrates in few hands. It is also because private ownership dominates the entire structure of the economy. Besides, extreme inequalities create political and social discontentment which further generate economic instability. For this, suitable fiscal policy of the government can be devised to bridge the gap between the incomes of the different sections of the society.

To reduce inequalities and to do distributive justice, the government should invest in those productive channels which incur benefit to low income groups and are helpful in raising their

productivity and technology. Therefore, redistributive expenditure should help economic development and economic development should help redistribution.

Thus, well-planned fiscal programme, public expenditure can help development of human capital which in turn possesses positive effects on income distribution. Regional disparities can also be removed by providing incentives to backward regions. A redistributive tax policy should be highly progressive and aim at imposing heavy taxation on the richer and exempting poorer sections of the community. Similarly, luxurious items, which are consumed by the higher section, may be subject to heavy taxation.

6. Economic Stability:

Fiscal measures, to a larger extent, promote economic stability in the face of short-run international cyclical fluctuations. These fluctuations cause variations in terms of trade, making the most favourable to the developed and unfavorable to the developing economies. So, for the purpose of bringing economic stability, fiscal methods should incorporate built-in-flexibility in the budgetary system so that income and expenditure of the government may automatically provide compensatory effect on the rise or fall of the nation's income.

Therefore, fiscal policy plays a leading role in maintaining economic stability in the face of internal and external forces. The instability caused by external forces is corrected by a policy, popularly known as 'tariff policy' rather than aggregative fiscal policy. In the period of boom, export and import duties should be imposed to minimize the impact of international cyclical fluctuations.

To curb the use of additional purchasing power, heavy import duty on consumer goods and luxury import restrictions are essential. During the period of recession, government should undertake public works programmes through deficit financing. In nut shell, fiscal policy should be viewed from a larger perspective keeping in view the balanced growth of various sectors of the economy.

7. Capital Formation and Growth:

Capital assumes a central place in any development activity in a country and fiscal policy can be adopted as a crucial tool for the promotion of the highest possible rate of capital formation. A newly developing economy is encompassed by a 'vicious circle of poverty'. Therefore, a balanced growth is needed to breakdown the vicious circle which is only feasible with higher rate of capital formation. Once a country comes out of the clutches of backwardness, it stimulates investment and encourage capital formation.

Prof. Raja J. Chelliah recommends that fiscal policy must aim at the following for attaining rapid economic growth:

(i) Raising the ratio of saving (s) to Income (y) by controlling consumption (c);

(ii) Raising the rate of investment:

(iii) Encouraging the flow of spending into productive way;

(iv) Reducing glaring inequalities of income and wealth.

Therefore, fiscal policy must be designed to be performed in two ways-by expanding investment in public and private enterprises and by diverting resources from socially less desirable to more desirable investment channels. This Policy will help to raise the level of aggregate savings in the economy and create capital for bringing about a qualitative improvement in it. Capital formation, however, can also be facilitated by taxation, deficit spending and foreign borrowing. In fact, fiscal measures of the government can induce the private entrepreneurs to take active participation for mobilizing resources at least in the long run.

8. To Encourage Investment:

Fiscal policy aims at the acceleration of the rate of investment in the public as well as in private sectors of the economy. Fiscal policy, in the first instance, should encourage investment in public sector which in turn effect to increase the volume of investment in private sector. In other words, fiscal policy should aim at rapid economic development and must encourage investment in those channels which are considered most desirable from the point of view of society.

It should aim at curtailing conspicuous consumption and investment in unproductive channels. In the early stages of economic development, the government must try to build up economic and social overheads such like transport and communication, irrigation, flood control, power, ports, technical training, education, hospital and school facilities, so that they may provide external economies to induce investment in industrial and agricultural sectors of the economy.

Types of Fiscal Policy

There are two main types of fiscal policy: **expansionary** and **contractionary**. **Expansionary fiscal policy**, designed to stimulate the **economy**, is most often used during a recession, times of high **unemployment** or other low periods of the business cycle. It entails the **government spending** more money, lowering taxes, or both. Fiscal policy is prepared to ensure economic growth of a country. The government of a country takes responsibility for the well-being of the countrymen. That's why

every spending of the government should be in the right order. And to do so, the government needs to collect the taxes from businesses and individuals of the country. Though the actual purpose of the fiscal policies are argued among the ministers of the country, in essence, the objective of a fiscal policy is to take care of the local needs of the country so that the national interest can be kept as an overall goal.

1 – EXPANSIONARY FISCAL POLICY:

This policy is quite popular among the people of the country because through this, consumers get more money in their hands and as a result their purchasing power increases drastically. The government uses this by two ways. Either they spend more money on public works, provide benefits to the unemployed, spend more on projects that are halted in between or they cut taxes so that the individuals or businesses don't need to pay much to the government. On the other hand, individuals who prefer cutting taxes talk about it because they believe that by cutting taxes the government would be able to generate more cash into consumers' hands. Expansionary policy isn't easy to apply for state government because state government is always on a pressure to keep a budget that is balanced. As it becomes impossible at local levels, expansionary fiscal policy should be mandated from the central government.

2 – CONTRACTIONARY FISCAL POLICY:

As you can expect, a contractionary fiscal policy is just the opposite of the expansionary fiscal policy. That means the objective of the contractionary policy is to slow down the economic growth. But why a government of a country would like to do that? The only reason for which contractionary fiscal policy can be used is to flush out the inflation. However, it is a rarest thing and that's why government doesn't use contractionary policy at all. The nature of this sort of policy is just the opposite. In this case, the government spending is cut as much as possible and the rate of taxes is increased so that the purchasing power of the consumer gets reduced.

Instruments of Fiscal Policy

The tools of **fiscal policy** are taxes, expenditure, public debt and a nation's budget. They consist of changes in government revenues or rates of the tax structure so as to encourage or restrict private expenditures on consumption and investment. Some of the major instruments of fiscal policy are as follows: A. Budget B. Taxation C. Public Expenditure D. Public Works E. Public Debt.

A. Budget:

The budget of a nation is a useful instrument to assess the fluctuations in an economy.

Different budgetary principles have been formulated by the economists, prominently known as:

(1) Annual budget,

(2) cyclical balanced budget and

(3) fully managed compensatory budget.

1. Annual Balanced Budget:

The classical economists propounded the principle of annually balanced budget. They defended it with force till the deep rooted crisis of 1930's.

The reasons for their reacceptance of this principle are as under:

(i) They maintained that there should be balance in income and expenditure of the government;

(ii) They felt that automatic system is capable to correct the evils;

(iii) Balanced budget will not lead to depression or boom in the economy;

(iv) It is politically desirable as it checks extravagant spending of the state;

(v) This type of budget assures full employment without inflation;

(vi) The principle is based on the notion that government should increase the taxes to get more money and reduce expenditure to make the budget balanced. However, this principle is subject to certain objections.

These objection are as under:

(i) Classical version that balanced budget is neutral is not well based. In practice, a balanced budget can be expansionary.

(ii)The assumptions of full employment and automatic adjustment are too untenable in a modern economy.

(iii)Some economists also argue that annually balanced budget involves lesser burden of the taxes.

2. Cyclically Balanced Budget:

The cyclical balanced budget is termed as the 'Swedish budget'. Such a budget implies budgetary surpluses in prosperous period and employing the surplus revenue receipts for the retirement of public debt. During the period of recession, deficit budgets are prepared in such a manner that the budget surpluses during the earlier period of inflation are balanced with deficits.

The excess of public expenditure over revenues are financed through public borrowings. The cyclically balanced budget can stabilize the level of business activity. During inflation and prosperity,

excessive spending activities are curbed with budgetary surpluses while budgetary deficits during recession with raising extra purchasing power.

This policy is favored on the following account:

(i) The government can easily adjust its finances according to the needs;

(ii)This policy works smoothly in all times like depression, inflation, boom and recession;

(iii) Cyclically balanced budget simply ensures stability but gives no guarantee that the system will get stabilized at the level of full employment.

3. Fully Managed Compensatory Budget:

This policy implies a deliberate adjustment in taxes, expenditures, revenues and public borrowings with the motto of achieving full employment without inflation. It assigns only a secondary role to the budgetary balance. It lays down the emphasis on maintenance of full employment and stability in the price level. With this principle, the growth of public debt and the problem of interest payment can be easily avoided. Thus, the principle is also called 'functional finance.'

The fully managed compensatory budget has been criticized on the following grounds:

(i) It considers that the government should give blanket guarantee against unemployment.

(ii) This policy is not automatic.

(iii) It brings political upheavals as it delays the implementation of appropriate fiscal measures.

(iv) A country is burdened with debt in the long run period.

(v) This policy is a prolonged lag which in practice has a disturbing effect on the economy.

B. Taxation:

Taxation is a powerful instrument of fiscal policy in the hands of public authorities which greatly effect the changes in disposable income, consumption and investment. An anti- depression tax policy increases disposable income of the individual, promotes consumption and investment. Obviously, there will be more funds with the people for consumption and investment purposes at the time of tax reduction. This will ultimately result in the increase in spending activities i.e. it will tend to increase effective demand and reduce the deflationary gap. In this regard, sometimes, it is suggested to reduce the rates of commodity taxes like excise duties, sales tax and import duty. As a result of these tax concessions, consumption is promoted. Economists like Hansen and Musgrave,

with their eye on raising private investment, have emphasized upon the reduction in corporate and personal income taxation to overcome contractionary tendencies in the economy.

Now, a vital question arises about the extent to which unemployment is reduced or mitigated if a tax reduction stimulates consumption and investment expenditure. In such a case, reduction of unemployment is very small. If such a policy of tax reduction is repeated, then consumers and investors both are likely to postpone their spending in anticipation of a further fall in taxes. Furthermore, it will create other complications in the government budget.

Anti-Inflationary Tax Policy:

An anti-inflationary tax policy, on the contrary, must be directed to plug the inflationary gap. During inflation, fiscal authorities should not retain the existing tax structure but also evolve such measures (new taxes) to wipe off the excessive purchasing power and consumer demand. To this end, expenditure tax and excise duty can be raised. The burden of taxation may be raised to the extent which may not retard new investment. A steeply progressive personal income tax and tax on windfall gains is highly effective to curb the abnormal inflationary pressures. Export should be restricted and imports of essential commodities should be liberated.

C. Public Expenditure:

The active participation of the government in economic activity has brought public spending to the front line among the fiscal tools. The appropriate variation in public expenditure can have more direct effect upon the level of economic activity than even taxes. The increased public spending will have a multiple effect upon income, output and employment exactly in the same way as increased investment has its effect on them. Similarly, a reduction in public spending, can reduce the level of economic activity through the reverse operation of the government expenditure multiplier.

(i) Public Expenditure in Inflation:

During the period of inflation, the basic reason of inflationary pressures is the excessive aggregate spending. Both private consumption and investment spending are abnormally high. In these circumstances, public spending policy must aim at reducing the government spending. In other words, some schemes should be abandoned and others be postponed. It should be carefully noted that government spending which is of productive nature, should not be shelved, since that may aggravate the inflationary dangers further.

However, reduction in unproductive channels may prove helpful to curb inflationary pressures in the economy. But such a decision is really difficult from economic and political point of view. It is true, yet the fiscal authority can vary its expenditure to overcome inflationary pressures to some extent.

(ii) Public Expenditure in Depression:

In depression, public spending emerges with greater significance. It is helpful to lift the economy out of the morass of stagnation. In this period, deficiency of demand is the result of sluggish private consumption and investment expenditure. Therefore, it can be met through the additional doses of public expenditure equivalent to the deflationary gap. The multiplier and acceleration effect of public spending will neutralize the depressing effect of lower private spending's and stimulate the path of recovery.

D. Public Works:

Keynes General Theory highlighted public works programme as the most significant anti-depression device. There are two forms of expenditure i.e., Public Works and 'Transfer Payments. Public Works according to Prof. J.M. Clark, are durable goods, primarily fixed structure, produced by the government. They include expenditures on public works as roads, rail tracks, schools, parks, buildings, airports, post offices, hospitals, irrigation canals etc. Transfer payments are the payments such like interest on public debt, subsidy, pension, relief payment, unemployment, insurance and social security benefits etc. The expenditure on capital assets (public works) is called capital expenditure. Keynes had strong faith in such a programme that he went to the extent of saying that even completely unproductive projects like the digging up of holes and filling them up are fully admissible.

Public works are supported as an anti-depression device on the following grounds:

(i) They absorb hitherto unemployed workers.

(ii) They increase the purchasing power of the community and thereby stimulate the demand for consumption goods.

(iii)They help to create economically and socially useful capital assets as roads, canals, power plants, buildings, irrigation, training centres and public parks etc.

(iv) They provide a strong incentive for the growth of industries which are generally hit by the state of depression.

(v) They help to maintain the moral and self respect of the work force and make use of the skill of unemployed people.

(vi) The public works do not have an off setting effect upon private investment because these are started at a time when private investment is not forthcoming.

The above stated points are, therefore, the evidence that public works programme fully satisfies, the main criteria as laid down for public expenditure.

1. Difficult Forecasting:

The effectiveness of public works programmes always rests upon accurate forecasting of the depression or boom. But prediction of accurate forecasting is very difficult.

2. Timing of Public Works:

Another serious problem relates to the timing of public works with the moment of cycle. Due to lack of accurate forecasting, proper timing is neither feasible nor possible. Thus this factor along undermines the significance of public works as an instrument of stabilization.

3. Delay in starting:

Public works programmes are not something which can be started immediately. Actually, it is a long term programme which requires proper planning with regard to the finance and engineering. In this way, delay is the natural cause. Dernburg and McDougal have rightly noticed, "public works are, in short, clumsy and slow moving requiring time to get ready and time to turn off."

4. Scarcity of Resources:

The undertaking of public works programme may pose a serious threat due to non-availability of resources. It is likely that scarcity of resources may further aggravate the crisis instead of giving the pace of smoothness.

5. Limited Scope of Employment:

The public works programme is not capable of assuring job to all cadres of unemployed workers. Such works are only started to absorb unskilled and semi-skilled workers and not the specialised.

6. Misallocation of Resources:

As the slump gets deepened, there is wide spread unemployment of manpower and equipment. Generally, public works are located in only few selected areas. Thus, they may prove to be inadequate to cope with the requirements. Again, immobility in factors of production may also prevent the

economic utilization of available resources. As a result, they reduce the efficiency of public works programme.

7. Burden of Public Debt:

The public works programme, generally, are financed through borrowing during depression. This will saddle the country with a heavy burden of repayment of principle amount and interest therein.

8. Cost Price Maladjustments:

The public works programme may perpetuate cost price maladjustments in heavy industries where public expenditure is concentrated. During the period of boom, wages and prices in construction industries have a strong upward tendency while in recession or depression, prices move downward, wages and costs remain sticky relatively. In short, such distortion in cost price structure brings more instability in the economy.

9. Effect on Private Enterprise:

In certain areas, the construction programmes undertaken by the public agencies may complete with private investment. As a result, the later is driven out of business. In such a case, public works will prove to be self-off setting and the aggregate demand will possibly fail to increase.

10. Control over Public Works:

The success of public works mostly depends on the nature of control over them. If public works are controlled by the central authority, delay is likely to arise in selected projects.

11. Political Considerations:

Public works are often started in democratic countries in certain areas not on account of economic reasons, but the political pressures at national, state and local levels sway the government decisions. Consequently, the economic utility of such public works remains very limited.

E. Public Debt:

Public debt is a sound fiscal weapon to fight against inflation and deflation. It brings about economic stability and full employment in an economy.

The government borrowing may assume any of the following forms mentioned as under:

(a) Borrowing from Non-Bank Public:

When the government borrows from non-bank public through sale of bonds, money may flow either out of consumption or saving or private investment or hoarding. As a result, the effect of debt

operations on national income will vary from situation to situation. If the bond selling schemes of the government are attractive, the people induce to curtail their consumption, the borrowings are likely to be non inflationary.

When the money for the purchase of bonds flows from already existing savings, the borrowing may again be non-inflationary. Has the government not been borrowing, these funds would have been used for private investment, with the result that the debt operations by the government will simply bring about a diversion of funds from one channel of spending to another with the similar quantitative effects on national income.

(b) Borrowing from Banking System:

The government may also borrow from the banking institutions. During the period of depression, such borrowings are highly effective. In this period, banks have excessive cash reserves and the private business community is not willing to borrow from banks since they consider it unprofitable.

When unused cash lying with banks is lent out to government, it causes a net addition to the circular flow and tend to raise national income and employment. Therefore, borrowing from banking institution have desirable and favourable effect specially in the period of depression when the borrowed money is spend on public works programmes.

(c) Drawing from Treasury:

The government may draw upon the cash balances held in the treasury for financing budgetary deficit. It demonstrates dishoarding resulting in a net addition in the supply of money. It is likely to be inflationary in nature. But, generally, there are small balances over and above what is required for normal day to day requirements. Thus, such borrowings from treasury do not have any significant result.

(d) Printing of Money:

Printing of money i.e. deficit financing is another method of public expenditure for mobilizing additional resources in the hands of government. As new money is printed, it results in a net addition to the circular flow. Thus, this form of public borrowing is said to be highly inflationary.

Deficit financing has a desirable effect during depression as it helps to raise the level of income and employment but objection is often raised against its use at the time of inflation or boom. Here, it must be added that through this device, the government not only gets additional resources at minimum cost

but can also create appropriate monetary effects like low interest rates and easy money supply and consequently economic system is likely to register a quick revival.

Budget Preparation

Many organizations prepare budgets that they use as a method of comparison when evaluating their actual results over the next year. The process of preparing a budget should be highly regimented and follow a set schedule, so that the completed budget is ready for use by the beginning of the next fiscal year. Here are the basic steps to follow when preparing a budget:

1. *Update budget assumptions*. Review the assumptions about the company's business environment that were used as the basis for the last budget, and update as necessary.
2. *Review bottlenecks*. Determine the capacity level of the primary bottleneck that is constraining the company from generating further sales, and define how this will impact any additional company revenue growth.
3. *Available funding*. Determine the most likely amount of funding that will be available during the budget period, which may limit growth plans.
4. *Step costing points*. Determine whether any step costs will be incurred during the likely range of business activity in the upcoming budget period, and define the amount of these costs and at what activity levels they will be incurred.
5. *Create budget package*. Copy forward the basic budgeting instructions from the instruction packet used in the preceding year. Update it by including the year-to-date actual expenses incurred in the current year, and also annualize this information for the full current year. Add a commentary to the packet, stating step costing information, bottlenecks, and expected funding limitations for the upcoming budget year.
6. *Issue budget package*. Issue the budget package personally, where possible, and answer any questions from recipients. Also state the due date for the first draft of the budget package.
7. *Obtain revenue forecast*. Obtain the revenue forecast from the sales manager, validate it with the CEO, and then distribute it to the other department managers. They use the revenue information as the basis for developing their own budgets.
8. *Obtain department budgets*. Obtain the budgets from all departments, check for errors, and compare to the bottleneck, funding, and step costing constraints. Adjust the budgets as necessary.

9. *Obtain capital budget requests*. Validate all capital budget requests and forward them to the senior management team with comments and recommendations.
10. *Update the budget model*. Input all budget information into the master budget model.
11. *Review the budget*. Meet with the senior management team to review the budget. Highlight possible constraint issues, and any limitations caused by funding problems. Note all comments made by the management team, and forward this information back to the budget originators, with requests to modify their budgets.
12. *Process budget iterations*. Track outstanding budget change requests, and update the budget model with new iterations as they arrive.
13. *Issue the budget*. Create a bound version of the budget and distribute it to all authorized recipients.
14. *Load the budget*. Load the budget information into the financial software, so that you can generate budget versus actual reports.

The number of steps noted here may be excessive for a smaller business, where perhaps just one person is involved in the process. If so, the number of steps can be greatly compressed, to the point where a preliminary budget can possibly be prepared in a day or two.

Deficit Budget

A **budget deficit** occurs when an individual, business or government **budgets** more spending than there is revenue available to pay for the spending, over a specific period of time. Debt is the aggregate value of **deficits** accumulated over time.

A budget deficit is when spending exceeds income. The term usually applies to governments, although individuals, companies, and other organizations can run deficits. A deficit must be paid. If it isn't, then it creates debt. Each year's deficit adds to the debt. As the debt grows, it increases the deficit in two ways. First, the interest on the debt must be paid each year. This increases spending while not providing any benefits. Second, higher debt levels can make it more difficult to raise funds. Creditors become concerned about the borrower's ability repay the debt. When this happens, they demand higher interest rates to provide a greater return on this higher risk.

The opposite of a budget deficit is a surplus. It occurs when spending is lower than income. A budget surplus allows for savings. If the surplus is not spent, it is like money borrowed from the present to create a better future. If a deficit is financed by debt, then it has the opposite effect. It is

money borrowed from the future to pay for the present standard of living. A balanced budget is when revenues equal spending. Most U.S. states must balance their budgets. The federal government does not have that restriction.

Causes

Many situations can cause a spending to exceed revenue. An involuntary job loss can eliminate revenue. Sudden medical expenses can quickly send spending skyward. Spending can easily outpace revenue if the consequences of debt aren't too painful. That occurs in the early stages of credit card debt. The debtor keeps charging, and only paying the minimum payment. It's only when interest charges become excessive that overspending becomes too painful. Like families, governments also lose revenue during recessions. As workers lose jobs, there aren't enough taxes coming in.

Unlike families, the federal government can adding each year's deficit to the debt for a long time. As long as interest rates remain low, the interest on the national debt is reasonable.

The federal budget deficit is not an accident. The president and Congress intentionally create it in each fiscal year's budget. That's because government spending drives economic growth. It's a result of expansionary fiscal policy. Job creation gives more people money to spend, which further boosts growth. Tax cuts also expand the economy.

Effects

There are immediate penalties for most organizations that run persistent deficits. If an individual or family does so, their creditors come calling. As the bills go unpaid, their credit score plummets. That makes new credit more expensive. Eventually, they may declare bankruptcy.

The same applies to companies who have ongoing budget deficits. Their bond ratingsfall. When that happens, they have to pay higher interest rates to get any loans at all. These are called junk bonds.

Governments are different. They receive income from taxes.

Balance of Trade and Trade and Balance of Payments

"**Balance of payments** is the overall record of all economic transactions of a country with the rest of the world. **Balance of trade** is the difference in the value of exports and imports of only visible items. **Balance of trade** includes imports and exports of goods alone i.e., visible items." After the implementation of globalization policy, world has become a small village and now every contry freely transacts with the other countries of the world. In this context, two statements are prepared to

keep a record of the transactions made by the country internationally; they are Balance of Trade (BOT) and Balance of Payments (BOP). The **balance of payment** keeps a track of transaction in goods, services, and assets between the country's residents, with the rest of the world. On the other hand, the balance of exports and import of the product and services is termed as **Balance of Trade**.

The scope of BOP is greater than BOT, or you can also say that Balance of Trade is a major section of Balance of Payment. Let's understand the difference between Balance of Trade and Balance of Payment in the article given below.

Balance of Trade Vs Balance of Payments

BASIS FOR COMPARISON	BALANCE OF TRADE	BALANCE OF PAYMENT
Meaning	Balance of Trade is a statement that captures the country's export and import of goods with the remaining world.	Balance of Payment is a statement that keeps track of all economic transactions done by the country with the remaining world.
Records	Transactions related to goods only.	Transactions related to both goods and services are recorded.
Capital Transfers	Are not included in the Balance of Trade.	Are included in Balance of Payment.
Which is better?	It gives a partial view of the country's economic status.	It gives a clear view of the economic position of the country.
Result	It can be Favorable, Unfavorable or balanced.	Both the receipts and payment sides tallies.
Component	It is a component of Current Account of Balance of Payment.	Current Account and Capital Account.

Current Account and Capital Account of BOP

The balance of payments of a country contains two **accounts**: **current** and **capital**. The **current account** records exports and imports of goods and services as well as unilateral transfers, whereas the **capital account** records purchase and sale transactions of foreign assets and liabilities during a particular year.

The **balance of payment** is the record of dealings in goods, services and assets, between the citizens of the nation and the rest of the world. It is divided into two parts, i.e. Current Account and Capital Account. **Current Account** is an account showing the trade of merchandise, whereas the **Capital Account** gives place to all capital transactions. While current account is used to keep a track on the movement of money in and out the economy, during a particular period. The capital account, on the other hand, represents the flow of capital in the economy. It is quite troublesome to understand what matters are considered in the former and what are discussed in the latter. So, here in this article, we've presented the difference between capital account and current account, take a read.

Current Account Vs Capital Account

BASIS FOR COMPARISON	CURRENT ACCOUNT	CAPITAL ACCOUNT
Meaning	An account which records the export and import of merchandise and unilateral transfers done during the year by a nation are known as Current Account.	An account which records the trading of foreign assets and liabilities during the year by a country is known as Capital Account.

BASIS FOR COMPARISON	CURRENT ACCOUNT	CAPITAL ACCOUNT
Reflects	Net Income of the country.	Net change in ownership in national assets.
Deals with	Receipt and disbursements of cash and non-capital items.	Sources and application of capital.
Components	Trade in goods and services, investment income, unrequited transfers.	Foreign Direct Investment, Portfolio Investment, Government loans etc.

Definition of Current Account

The Balance of Payment is a set of accounts which comprises of two major accounts, one of which is the Current Account. Current Account is the record of the inflow and outflow of money to and from the country during a year, due to the trading of commodity, service, and income. The account is an indicator of the status of the economy. The major components of a current account are:

- **The Balance of Trade (only visible items i.e. goods)**: Goods imported and exported to and from the country.
- **Trading of Services**: Services received from other countries and rendered to other nations.
- **Net investment income**: Income from foreign investment less payments on foreign investments.
- **Net cash transfers**: Current transfers in the form of donations, gifts, aids, etc. form part of net cash transfer.

Current Account is the record of the exchange of commodities and services for the recent period. It shows the flow of foreign trade. In India, reporting of the account is done by the Central Bank. If the account shows a negative balance, then it means that the imports are greater than exports or consumption exceeds savings. Similarly, if there is a positive balance, then it is a symbol of exports over imports.

Definition of Capital Account

The remaining half of the Balance of Payment is Capital Account, which records the movement of capital in the economy due to capital receipts and expenditure. It recognises foreign investment in domestic assets and domestic investment in foreign assets. The details can be recorded by analysing the inflow and outflow of funds from the nation's economy. The funds can be in the form of loans or investments. Under Capital Account, investments made by both public and private sectors are taken together. The capital flow may either be debt creating or non-debt creating. The following are the components of Capital Account:

- **Foreign Direct Investment**: Investment and control in a company based in a country by a foreign company.
- **Portfolio Investment**: Investment in stocks, bonds, debts and other financial assets.
- **Government loans to the Government of other countries of the world.**

If there is an export of goods or services the current account will be credited while if there is an import the account will be debited. In contrast to capital account, if there is a purchase of machinery from a foreign country, then the capital account will be debited whereas if a building is purchased in a country by a foreign country then the account will be credited. The Balance of Payment is the sum total of both the accounts. Apart from all the differences between the two accounts of the balance of payment, if one account shows surplus the other will show the deficit and vice versa, but at the end, both the accounts will get balanced.

Disequilibrium in BOP

The **BOP** deficit or surplus indicate imbalance in the**BOP**. This imbalance is interpreted as **BOP Disequilibrium**. A country's **balance of payments** is said to be in **disequilibrium** when its autonomous receipts (credits) are not equal to its autonomous payments (debits).

Causes and Measures of Disequilibrium!

Overall account of BOP is always in equilibrium. This balance or equilibrium is only in accounting sense because deficit or surplus is restored with the help of capital account.

In fact, when we talk of disequilibrium, it refers to current account of balance of payment. If autonomous receipts are less than autonomous payments, the balance of payment is in deficit reflecting disequilibrium in balance of payment.

1. Causes of disequilibrium in BOP:

There are several factors which cause disequilibrium in the BOP indicating either surplus or deficit.

Such causes for disequilibrium in BOP are listed below:

(i) Economic Factors:

(a) Imbalance between exports and imports. (It is the main cause of disequilibrium in BOR), (b) Large scale development expenditure which causes large imports, (c) High domestic prices which lead to imports, (d) Cyclical fluctuations (like recession or depression) in general business activity, (e) New sources of supply and new substitutes.

(ii) Political Factors:

Experience shows that political instability and disturbances cause large capital outflows and hinder Inflows of foreign capital.

(iii) Social Factors:

(a) Changes in fashions, tastes and preferences of the people bring disequilibrium in BOP by influencing imports and exports; (b) High population growth in poor countries adversely affects their BOP because it increases the needs of the countries for imports and decreases their capacity to export.

2. Measures to correct disequilibrium in BOP:

Sustained or prolonged deficit has to be settled by short term loans or depletion of capital reserve of foreign exchange and gold.

Following remedial measures are recommended:

(i) Export promotion:

Exports should be encouraged by granting various bounties to manufacturers and exporters. At the same time, imports should be discouraged by undertaking import substitution and imposing reasonable tariffs.

(ii) Import:

Restrictions and Import Substitution are other measures of correcting disequilibrium.

(iii) Reducing inflation:

Inflation (continuous rise in prices) discourages exports and encourages imports. Therefore, government should check inflation and lower the prices in the country.

(iv) Exchange control:

Government should control foreign exchange by ordering all exporters to surrender their foreign exchange to the central bank and then ration out among licensed importers.

(v) Devaluation of domestic currency:

It means fall in the external (exchange) value of domestic currency in terms of a unit of foreign exchange which makes domestic goods cheaper for the foreigners. Devaluation is done by a government order when a country has adopted a fixed exchange rate system. Care should be taken that devaluation should not cause rise in internal price level.

(vi) Depreciation:

Like devaluation, depreciation leads to fall in external purchasing power of home currency. Depreciation occurs in a free market system wherein demand for foreign exchange far exceeds the supply of foreign exchange in foreign exchange market of a country (Mind, devaluation is done in fixed exchange rate system.)

Money supply

Definition: The total stock of money circulating in an economy is the money supply. The circulating money involves the currency, printed notes, money in the deposit accounts and in the form of other liquid assets.

Description: Valuation and analysis of the money supply help the economist and policy makers to frame the policy or to alter the existing policy of increasing or reducing the supply of money. The valuation is important as it ultimately affects the business cycle and thereby affects the economy. Periodically, every country's central bank publishes the money supply data based on the monetary aggregates set by them. In India, the Reserve Bank of India follows M0, M1, M2, M3 and M4 monetary aggregates.

Commercial Banks

A **commercial bank** is a financial institution which performs the **functions** of accepting deposits from the general public and giving loans for investment with the aim of earning profit.

Commercial banks are the most important components of the whole banking system. A commercial bank is a profit-based financial institution that grants loans, accepts deposits, and offers other financial services, such as overdraft facilities and electronic transfer of funds.

According to Culbertson,

"Commercial Banks are the institutions that make short make short term bans to business and in the process create money."

In other words, commercial banks are financial institutions that accept demand deposits from the general public, transfer funds from the bank to another, and earn profit. Commercial banks play a significant role in fulfilling the short-term and medium- term financial requirements of industries. They do not provide, long-term credit, so that liquidity of assets should be maintained. The funds of commercial banks belong to the general public and are withdrawn at a short notice; therefore, commercial banks prefers to provide credit for a short period of time backed by tangible and easily marketable securities. Commercial banks, while providing loans to businesses, consider various factors, such as nature and size of business, financial status and profitability of the business, and its ability to repay loans.

Commercial banks are of three types, which are as follows:

(a) Public Sector Banks:

Refer to a type of commercial banks that are nationalized by the government of a country. In public sector banks, the major stake is held by the government. In India, public sector banks operate under the guidelines of Reserve Bank of India (RBI), which is the central bank. Some of the Indian public sector banks are State Bank of India (SBI), Corporation Bank, Bank of Baroda, Dena Bank, and Punjab National Bank.

(b) Private Sector Banks:

Refer to a kind of commercial banks in which major part of share capital is held by private businesses and individuals. These banks are registered as companies with limited liability. Some of the Indian private sector banks are Vysya Bank, Industrial Credit and Investment Corporation of India (ICICI) Bank, and Housing Development Finance Corporation (HDFC) Bank.

(c) Foreign Banks:

Refer to commercial banks that are headquartered in a foreign country, but operate branches in different countries. Some of the foreign banks operating in India are Hong Kong and Shanghai Banking Corporation (HSBC), Citibank, American Express Bank, Standard & Chartered Bank, and Grindlay's Bank. In India, since financial reforms of 1991, there is a rapid increase in the number of foreign banks. Commercial banks mark significant importance in the economic development of a country as well as serving the financial requirements of the general public.

Functions of Commercial Banks:

Commercial banks are institutions that conduct business for profit motive by accepting public deposits for various investment purposes.

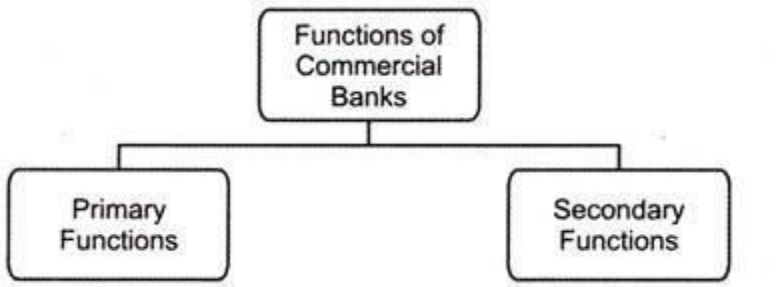


Figure-1: Functions of Commercial Banks

(a) Primary Functions:

Refer to the basic functions of commercial banks that include the following:

(i) Accepting Deposits:

Implies that commercial banks are mainly dependent on public deposits.

(1) Demand Deposits:

Refer to kind of deposits that can be easily withdrawn by individuals without any prior notice to the bank. In other words, the owners of these deposits are allowed to withdraw money anytime by simply writing a check. These deposits are the part of money supply as they are used as a means for the payment of goods and services as well as debts. Receiving these deposits is the main function of commercial banks.

(2) Time Deposits:

Refer to deposits that are for certain period of time. Banks pay higher interest on rime deposits. These deposits can be withdrawn only after a specific time period is completed by providing a written notice to the bank.

(3) Advancing Loans:

Refers to one of the important functions of commercial banks. The public deposits are used by commercial banks for the purpose of granting loans to individuals and businesses. Commercial banks grant loans in the form of overdraft, cash credit, and discounting bills of exchange.

(b) Secondary Functions:

Refer to crucial functions of commercial banks. The secondary functions can be classified under three heads, namely, agency functions, general utility functions, and other functions.

(1) Agency Functions:

(i) Collecting Checks:

Refer to one of the important functions of commercial banks. The banks collect checks and bills of exchange on the behalf of their customers through clearing house facilities provided by the central bank.

(ii) Collecting Income:

Constitute another major function of commercial banks. Commercial banks collect dividends, pension, salaries, rents, and interests on investments on behalf of their customers. A credit voucher is sent to customers for information when any income is collected by the bank.

(iii) Paying Expenses:

Implies that commercial banks make the payments of various obligations of customers, such as telephone bills, insurance premium, school fees, and rents. Similar to credit voucher, a debit voucher is sent to customers for information when expenses are paid by the bank.

(2) General Utility Functions:

(i) Providing Locker Facilities:

Implies that commercial banks provide locker facilities to its customers for safe keeping of jewellery, shares, debentures, and other valuable items. This minimizes the risk of loss due to theft at homes.

(ii) Issuing Traveler's Checks:

Implies that banks issue traveler's checks to individuals for traveling outside the country. Traveler's checks are the safe and easy way to protect money while traveling.

(iii) Dealing in Foreign Exchange:

Implies that commercial banks help in providing foreign exchange to businessmen dealing in exports and imports. However, commercial banks need to take the permission of the central bank for dealing in foreign exchange.

(iv) Transferring Funds:

Refers to transferring of funds from one bank to another. Funds are transferred by means of draft, telephonic transfer, and electronic transfer.

(3) Other Functions:

(i) Creating Money:

Refers to one of the important functions of commercial banks that help in increasing money supply. For instance, a bank lends Rs. 5 lakh to an individual and opens a demand deposit in the name of that individual. Bank makes a credit entry of Rs. 5 lakh in that account. This leads to creation of demand deposits in that account. The point to be noted here is that there is no payment in cash. Thus, without printing additional money, the supply of money is increased.

(ii) Electronic Banking:

Include services, such as debit cards, credit cards, and Internet banking.

Types of Credit Offered by Commercial Banks:

A commercial bank offers short-term loans to individuals and organizations in the form of bank credit, which is a secured loan carrying a certain rate of interest.

There are various types of bank credit provided by a commercial bank, as shown in Figure-2:

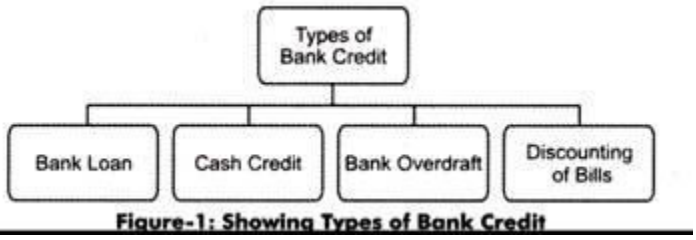


Figure-1: Showing Types of Bank Credit

Bank Loan:

Bank loan may be defined as the amount of money granted by the bank at a specified rate of interest for a fixed period of time. The commercial bank needs to follow certain guidelines to extend bank loans to a client. For example the bank requires the copy of identity and income proofs of the client and a guarantor to sanction bank loan. The banks grant loan to clients against the security of assets so that, in case of default, they can recover the loan amount. The securities used against the bank loan may be tangible or intangible, such as goodwill, assets, inventory, and documents of title of goods.

The advantages of the bank loan are as follows:

a. Grants loan at low rate of interest

b. Involves very simple process of loan granting

c. Requires minimum document and legal formalities to pass the loan

d. Involves good customer relationship management

e. Consumes less time because of modern techniques and computerization

f. Provides door-to-door facilities

In addition to advantages, the bank loan suffers from various imitations, which are as follows:

a. Imposes heavy penalty and legal action in case of default of loan

b. Charges high rate of interest, if the party fails to pay the loan amount in the allotted time

c. Adds extra burden on the borrower, who needs to incur cost in preparing legal documents for procuring loans

d. Affects the goodwill of the organization, in case of delay in payment

Cash Credit:

Cash credit can be defined as an arrangement made by the bank for the clients to withdraw cash exceeding their account limit. The cash credit facility is generally sanctioned for one year but it may extend up to three years in some cases. In case of special request by the client, the time limit can be further extended by the bank.

The extension of the allotted time depends on the consent of the bank and past performance of the client. The rate of interest charged by the bank on cash credit depends on the time duration for which the cash has been withdrawn and the amount of cash.

The advantages of the cash credit are as follows:

a. Involves very less time in the approval of credit

b. Involves flexibility as the cash credit can be extended for more time to fulfill the need of the customers.

c. Helps in fulfilling the current liabilities of the organization

d. Charges interest only on the amount withdrawn by the customer. The interest on cash credit is charged only on the amount of cash withdrawn from the bank, not on the total amount of credit sanctioned.

The cash credit is one of the most important instruments of short-term financing but it has some limitations.

These limitations are mentioned in the following points:

a. Requires more security for the approval of cash

b. Imposes very high rate of interest

c. Depends on the consent of the bank to extend the credit amount and the time limit

Bank Overdraft:

Bank overdraft is the quickest means of the short-term financing provided by the bank. It is a facility in which the bank allows the current account holders to overdraw their current accounts by a specified

limit. The clients generally avail the bank overdraft facility to meet urgent and emergency requirements. Bank overdraft is the most popular form of borrowing and do not require any written formalities. The bank charges very low rate of interest on bank overdraft up to a certain time.

The advantages of the bank overdraft are as follows:

a. Involves no documentation for the extension of overdraft amount

b. Imposes nominal interest on the overdraft amount

c. Charges fee only on the amount exceeding the account limit

The disadvantages of the bank overdraft are as follows:

a. Incurs high cost for the clients, if they fail to pay the amount of overdraft for a longer period of time

b. Hampers the reputation of the organization, if it fails to pay the amount of overdraft on time

c. Allows the bank to deduct overdraft amount from the customers' accounts without their permission

Discounting of Bill:

Discounting of bill is a process of settling the bill of exchange by the bank at a value less than the face value before maturity date. According to Sec. 126 of Negotiable Instruments, "a bill of exchange is an unconditional order in writing addressed by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand or at fixed or determinable future time a sum certain in money to order or to bearer." The facility of discounting of bill is used by the organizations to meet their immediate need of cash for settling down current liabilities.

Conditions laid down by the bank for discounting of bill are as follows:

a. Must be intended to specific purpose

b. Must be enclosed with the signature of the two persons (company, bank or reputed person)

c. Must be less than the face value

d. Must be produced before the maturity period.

Central Bank and It's Functions.

A **central bank** plays an important role in monetary and **banking** system of a country. It is responsible for maintaining financial sovereignty and economic stability of a country, especially in underdeveloped countries. A central bank plays an important role in monetary and banking system of

a country. It is responsible for maintaining financial sovereignty and economic stability of a country, especially in underdeveloped countries.

"A Central Bank is the bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country"-Bank of International Settlement.

It issues currency, regulates money supply, and controls different interest rates in a country. Apart from this, the central bank controls and regulates the activities of all commercial banks in a country.

Some of the management experts have defined central bank in different ways, which are as follows:

According to Samuelson, "Every Central Bank has one function. It operates to control economy, supply of money and credit." According to Vera Smith, "The primary definition of Central Bank is the banking system in which a single bank has either a complete or residuary monopoly of note issue." According to Kent, "Central Bank may be defined as an institution which is charged with the responsibility of managing the expansion and contraction of the volume of money in the interest of general public welfare."

According to Bank of International Settlement, "A Central Bank is the bank in any country to which has been entrusted the duty of regulating the volume of currency and credit in that country." Bank of England was the world's first effective central bank that was established in 1694. As per the resolution passed in Brussels Financial Conference, 1920, all the countries should establish a central bank for interest of world cooperation. Thus, since 1920, central banks are formed in almost every country of the world. In India, RBI operates as a central bank.

Central banks differ from the commercial banks in various ways, which are shown in Table-2:

Table-2: Differences between a Central Bank and Commercial Bank

Central Bank	Commercial Bank
Works for the public welfare and economic development of a country. A central bank is governed by the government of a country.	Operates for profit motive. The majority of stake is held by the government as well as the private sector.

Table-2: Differences between a Central Bank and Commercial Bank

Central Bank	Commercial Bank
Controls and regulates the entire banking system of a country.	Operates under the direct control and supervision of the central bank. In India, all the commercial banks work under the guidelines issued by RBI.
Does not deal directly with the public. It issues guidelines to commercial banks for the economic development of a country.	Deals directly with the public. It serves the financial requirements of the general public by providing short and medium-term loans and depositing and securing money that can be drawn on demand.
Issues currency and controls the supply of money in the market	Does not issue currency, but only adds to the money supply by creating demand deposits.
Acts as a state owned institution.	Acts as a state or private owned institution.
Acts as a custodian of foreign exchange of the country.	Performs foreign exchange business only on the approval of the central bank.
Acts as a banker to the government.	Acts as agents of the central bank.
Controls credit creation in economy, thus, acts as a clearing house of other banks.	Acts as a clearing house only as an agent of the central bank.

Functions of Central Bank:

The central bank does not deal with the general public directly. It performs its functions with the help of commercial banks. The central bank is accountable for protecting the financial stability and economic development of a country.

Apart from this, the central bank also plays a significant part in avoiding the cyclical fluctuations by controlling money supply in the market. As per the view of Hawtrey, a central bank should primarily be the "lender of last resort."

On the other hand, Kisch and Elkins believed that "the maintenance of the stability of the monetary standard" as the essential function of central bank. The functions of central bank are broadly divided into two parts, namely, traditional functions and developmental functions.

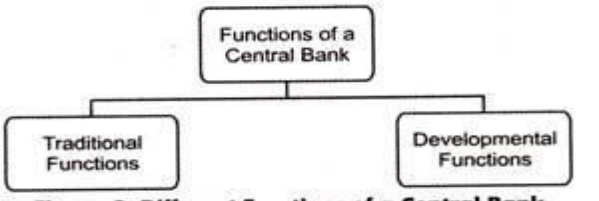


Figure-3: Different Functions of a Central Bank

(a) Traditional Functions:

Refer to functions that are common to all central banks in the world.

The traditional functions of the central bank include the following:

(i) Bank of issue:

Possesses an exclusive right to issue notes (currency) in every country of the world. In the initial years of banking, every bank enjoyed the right of issuing notes. However, this led to a number

of problems, such as notes were over-issued and the currency system became disorganized. Therefore, the governments of different countries authorized central banks to issue notes. The issue of notes by one bank has led to uniformity in note circulation and balance in money supply.

(ii) Government's banker, agent, and advisor:

Implies that a central bank performs different functions for the government. As a banker, the central bank performs banking functions for the government as commercial banks performs for the public by accepting the government deposits and granting loans to the government. As an agent, the central bank manages the public debt, undertakes the payment of interest on this debt, and provides all other services related to the debt.

As an advisor, the central bank gives advice to the government regarding economic policy matters, money market, capital market, and government loans. Apart from this, the central bank formulates and implements fiscal and monetary policies to regulate the supply of money in the market and control inflation.

(iii) Custodian of cash reserves of commercial banks:

Implies that the central bank takes care of the cash reserves of commercial banks. Commercial banks are required to keep certain amount of public deposits as cash reserve, with the central bank, and other part is kept with commercial banks themselves. The percentage of cash reserves is deeded by the central bank! A certain part of these reserves is kept with the central bank for the purpose of granting loans to commercial banks Therefore, the central bank is also called banker's bank.

(iv) Custodian of international currency:

Implies that the central bank maintains a minimum reserve of international currency. The main aim of this reserve is to meet emergency requirements of foreign exchange and overcome adverse requirements of deficit in balance of payments.

(v) Bank of rediscount:

Serve the cash requirements of individuals and businesses by rediscounting the bills of exchange through commercial banks. This is an indirect way of lending money to commercial banks by the central bank. Discounting a bill of exchange implies acquiring the bill by purchasing it for the sum less than its face value.

Rediscounting implies discounting a bill of exchange that was previously discounted. When owners of bill of exchange are in need of cash they approach the commercial bank to discount these

bills. If commercial banks are themselves in need of cash they approach the central bank to rediscount the bills.

(vi) Lender of last resort:

Refer to the most crucial function of the central bank. The central bank also lends money to commercial banks. Instead of rediscounting of bills, the central bank provides loans against treasury bills, government securities, and bills of exchange.

(vii) Bank of central clearance, settlement, and transfer:

Implies that the central bank helps in settling mutual indebtness between commercial banks. Depositors of banks give checks and demand drafts drawn on other banks. In such a case, it is not possible for banks to approach each other for clearance, settlement, or transfer of deposits. The central bank makes this process easy by setting a clearing house under it. The clearing house acts as an institution where mutual indebtness between banks is settled. The representatives of different banks meet in the clearing house to settle inter-bank payments. This helps the central bank to know the liquidity state of the commercial banks.

(viii) Controller of Credit:

I mplies that the central bank has power to regulate the credit creation by commercial banks. The credit creation depends upon the amount of deposits, cash reserves, and rate of interest given by commercial banks. All these are directly or indirectly controlled by the central bank. For instance, the central bank can influence the deposits of commercial banks by performing open market operations and making changes in CRR to control various economic conditions.

(b) Developmental Functions:

Refer to the functions that are related to the promotion of banking system and economic development of the country. These are not compulsory functions of the central bank.

These are discussed as follows:

(i) Developing specialized financial institutions:

Refer to the primary functions of the central bank for the economic development of a country. The central bank establishes institutions that serve credit requirements of the agriculture sector and other rural businesses. Some of these financial institutions include Industrial Development Bank of India (IDBI) and National Bank for Agriculture and Rural Development (NABARD). These are called specialized institutions as they serve the specific sectors of the economy.

(ii) Influencing money market and capital market:

Implies that central bank helps in controlling the financial markets Money market deals in short term credit and capital market deals in long term credit. The central bank maintains the country's economic growth by controlling the activities of these markets.

(iii) Collecting statistical data:

Gathers and analyzes data related to banking, currency, and foreign exchange position of a country. The data is quite helpful for researchers, policymakers, and economists. For instance, the Reserve Bank of India publishes a magazine called Reserve Bank of India Bulletin, whose data is useful for formulating different policies and making macro-level decisions.

Process of Credit Creation and Money supply

Credit creation or **money creation** refers to the power of the banks to expand or contract demand deposits through the **process** of more **loans**, advances and investments. Some writers express the view that a bank could never lend more than the amount deposited by the depositors; this may be partially true.

(a) By giving a loan, and

(b) By purchase of securities.

(a) By giving a loan:

Let us assume an isolated community having no foreign trade relations and only one bank where everybody keeps an account; further no cash circulates and transactions are settled by cheques. Bankers know that all the currency that depositors withdraw soon returns to the bank. They also know that all depositors will not withdraw all deposits at the same time. From experience they have learnt that if they just keep about 20% of their total demand deposits in cash reserves, they will have enough to meet all demands for cash.

Suppose an ordinary borrower goes to the bank for a loan of Rs. 1,000. After being convinced of the solvency of the borrower and the safety of the loan in his hands, the bank will advance a loan of Rs. 1,000 not by handing over cash or gold to the borrower, but by opening an account in his name. If the borrower, already has an account, he will be allowed an overdraft to the extent of Rs. 1,000.

Thus, the most usual method of making a loan is merely to credit the account of the borrower with Rs. 1,000. The borrower will then draw cheques on the bank while making purchases. Those

who receive the cheques deposit them with the banks in their own accounts. Therefore, a bank loan of Rs. 1,000 has resulted in deposits of Rs. 1,000. The point to be noted and understand is that loans are made by creating a deposit.

When a person deposits Rs. 1,000 with a bank, the bank does not keep the entire cash but only a certain percentage (say 20%) of it to meet the day-to-day cash obligations. Thus, the bank keeps Rs. 200 and lends to another person B, Rs. 800 by opening a credit account in his name. Again, keeping 20% to meet B's obligations, the bank advances the rest Rs. 640 to C ; further keeping 20% to meet C's obligations the bank advances Rs. 512 to D and so on, till Rs. 1,000 are completely exhausted.

Thus, an original deposit of Rs. 1,000 leads to additional deposits of Rs. 800 plus Rs. 640 plus Rs. 512 plus Rs. 409, plus Rs. 328 and so on. By adding up all the deposits we get total Rs. 5,000. It is clear, therefore, that the total amount of credit creation will be the reverse of the cash reserve ratio. Here cash reserve ratio has been assumed to be 20% or 1/2, therefore, the credit is Rs. 5,000 i.e., live times the original deposit of Rs. 1,000. Although, we have assumed one bank, yet the credit creation will take place when there are many banks.

It is clear that the main limitation on credit creation is the reserve ratio of cash to credit. Therefore, the amount of credit that a system of banking can create depends upon the reserve ratio. The banks can multiply a given amount of cash to many times of credit. If the public would demand no cash, credit would go on expanding indefinitely. But the reserve ratio is a sort of leakage from the Stream of credit creation.

We can, thus, think of a credit creation multiplier. The higher the reserve ratio, the smaller is the credit creation multiplier. In our example above, with an original deposit of Rs. 1,000 the bank was in a position to create credit of Rs. 5,000. The credit creation multiplier is obviously 5(Rs 5,000/Rs,1,000).

In general, the credit creation multiplier is related to the reserve ratio in the following way:

1/1-(1-reserve ratio) = 1/reserve ratio

If the reserve ratio is 1/3, credit creation multiplier is 3 a reserve ratio of 1/5 will give us a higher value 5.

(b) By purchase of securities:

Making loan is not the only way in which deposits can be created. Sometimes, banks buy securities at the Stock Exchange and also buy real assets. When the bank does so, it does not pay the sellers in

cash, rather it credits the amount of the price of the security or assets to the accounts of the sellers. The bank, therefore, creates a deposit with it.

It does not matter whether the seller of securities or property is a customer of the purchasing bank or not, as the seller is bound to deposit the cheques he receives in one of the banks. The purchase of security by any banker is bound to increase the deposits either of his own bank or of some other bank, in any case, the deposits of the banking system as a whole.

High Powered Money

Monetary base. Sum of the **currency** held by the public and reserves held by financial institutions with the Federal Reserve Banks. ... Also called **High Powered Money** because the effect of changes in **monetary** base on **money** supply is magnified by the **money** multiplier.

Here is a term paper on 'High Powered Money' especially written for school and banking students.

High powered money or powerful money refers to that currency that has been issued by the Government and Reserve Bank of India. Some portion of this currency is kept along with the public while rest is kept as funds in Reserve Bank. Thus, we get the equation as:

$H = C + R$

Where H = High Powered Money

C = Currency with the public (Paper money + coins)

R = Government and bank deposits with RBI

Thus the sum total of money deposited with the public and the funds of banks is termed as powerful money. It is mainly created by the central bank. Since funds of commercial banks play an important role in the creation of credit, so it is very important to study about funds.

Reserve Fund is of two types:

(i) Statutory Reserve Funds of banks which is with the central bank (RR), and

(ii) Extra Reserve Fund(ER).

Thus $H = C + RR + ER$

High powered money is also known as secured money (RM) because banks keep with them Reserve Fund(R) and on the bases of this Demand deposits (DD) are created. Since the bases of creation of credit is Reserve Fund (R) and R is obtained as a part of high powered money (H) Security fund so high powered money is termed as Base money.

Components of High Powered Money:

1. Currency with the public
2. Other Deposits with RBI
3. Cash with Banks
4. Banker's Deposits with RBI.

High powered Money (H) includes currency with Public (C), important reserves of Commercial banks and other reserve (ER).

Thus we get the equation:

H = C + RR + ER

Supply of money (M) includes bank deposits (D) and currency with public (C).

Thus,

M = C + D

Dividing both the equations, we get:

$$\frac{M}{H} = \frac{C + D}{C + RR + ER}$$

Now, dividing the numerator and the denominator by D we get:

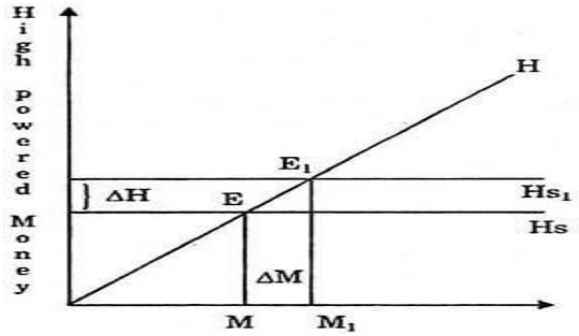
$$\frac{M}{H} = \frac{\frac{C}{D} + \frac{D}{D}}{\frac{C}{D} + \frac{RR}{D} + \frac{ER}{D}}$$

$$\frac{M}{H} = \frac{1 + \frac{C}{D}}{\frac{C}{D} + \frac{RR}{D} + \frac{ER}{D}}$$

Now if necessary reserve ratio is RRr and necessary reserves of deposits ratio is RR/D and extra reserve ratio is ERr then revised equation will be:

$$\frac{M}{H} = \frac{1 + ER}{Cr + RRr + Er}$$

$$H = \frac{Cr + RRr + ERr}{1 + Cr} \times M$$



Enclosed figure clears that if supply of high powered money increases ΔH then Hs_1 curve jumps up to Hs_1 demand and supply of high powered money is in equilibrium condition on E. supply of money is ON when supply of high powered money goes to Hs_1 then new point of equilibrium is E_1 and supply of money in these two OM_1. From the enclosed figure it is also clear that when high powered money increases ΔH then supply of money increases to ΔM.

3. Sources of High Powered Money:

(1) Claims of Reserve Bank of India:

Reserve Bank also provides loans to the government. This loan is in the form of investment in government securities by the Reserve Bank. After deducting the deposits of government from quantity of loan of Reserve Bank quantity of net bank credit to government is calculated. It is also a source of High Powered Money.

(2) Net Foreign Exchange Assets of Reserve Bank:

It is the work of Reserve Bank to make arrangement for foreign exchange funds. When, Reserve Bank purchases foreign securities by paying the money of the country, then the quantity of foreign exchange increases which increases high powered money.

(3) Government's Currency Liabilities to the Public:

Finance Ministry of the Indian Government is responsible for printing one rupee note and also for coinage. This function is done through the government for completing money related responsibilities towards the public. Thus with the increase in these liabilities, quantity of supply of money will increase and the quantity of High Powered money will also increase.

(4) Net Non-Monetary Liabilities of Reserve Bank:

The non-monetary liability of Reserve Bank is in the form of capital introduced in national fund and statutory fund. Its main items are-Paid-up Capital, Reserve Fund, Provided Fund and pension fund of the employees of Reserve Bank of India.

Non-monetary liabilities of Reserve Bank are inversely proportional to high Powered Money i.e. with the increase in non-monetary liabilities, there will be a decrease in the quantity of new high powered money.

Thus, H = 1 + 2 + 3 – 4

From the above discussion we get information about the source of High Powered Money but it is also necessary to know that with the changes in these sources or factors, what changes takes place in the supply of money etc. In fact supply of money is the result of H. Size of H depends upon the ratio between reserve fund and deposits, and the ratio between time deposits and demand deposit.

4. Importance of High Powered Money:

(1) Base Money:

Deposit of Public in a bank and expansion of credit is the base of supply of money. That is why some economists considered it as base money.

(2) Source of Changes:

The direction in which change in the high power money takes place is powered to the direction of change in the supply of money. Thus from this point of view High Powered Money is also important.

(3) Money Multiplier:

What will be money multiplier (M) is declared in economy on the bases of High Powered Money because supply of money is far more than high power money.

(4) Monetary Control:

A Special attention is paid by the central bank of any country on High Powered Money at the time of monetary control. Because, it is a big part of total supply of money in a country.

Money multiplier

Definition of **Money Multiplier**. The **money multiplier**is the amount of **money** that banks generate with each dollar of reserves. Reserves is the amount of deposits that the Federal Reserve requires banks to hold and not lend. Banking reserves is the ratio of reserves to the total amount of deposits.

Money Multiplier and Reserve Ratio

$$\text{Money Multiplier} = \frac{\text{Change in total money supply}}{\text{Change in monetary base (reserves)}}$$

The Money Multiplier refers to how an initial deposit can lead to a bigger final increase in the total money supply. For example, if the commercial banks gain deposits of £1 million and this leads to a final money supply of £10 million. The money multiplier is 10. The money multiplier is a key element of the fractional banking system.

1. There is an initial increase in bank deposits (monetary base)
2. The bank holds a fraction of this deposit in reserves and then lends out the rest.
3. This bank loan will, in turn, be re-deposited in banks allowing a further increase in bank lending and a further increase in the money supply.

The Reserve Ratio

The reserve ratio is the % of deposits that banks keep in liquid reserves.

For example 10% or 20%

Formula for money multiplier

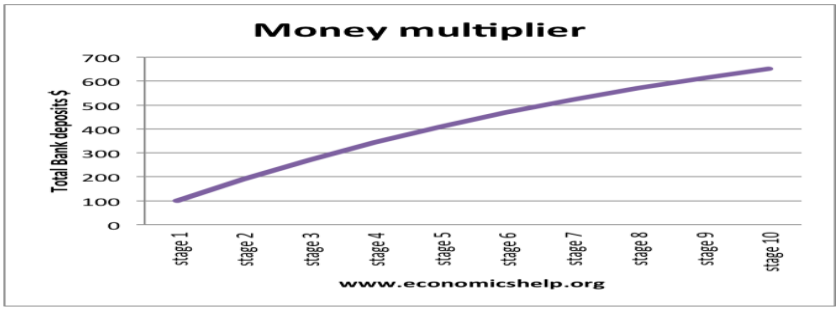
$$\text{Money Multiplier} = \frac{1}{\text{Reserve Ratio}}$$

In theory, we can predict the size of the money multiplier by knowing the reserve ratio.

- If you had a reserve ratio of 5%. You would expect a money multiplier of 1/0.05 = 20
- This is because if you have deposits of £1 million and a reserve ratio of 5%. You can effectively lend out £20 million.

Example of money multiplier

- Suppose banks keep a reserve ratio of 10%. (0.1)
- Therefore, if someone deposits $100, the bank will keep $10 as reserves and lend out $90.
- However, because $90 has been lent out – other banks will see future deposits of $90.
- Therefore, the process of lending out deposits can start again.



- If allowed to repeat for an infinite number of times, the final total deposits would be $1,000
- Money multiplier = 1/0.1 = 10.
- Final increase in money supply = 10 x $100 = $1,000

Using the Reserve ratio to influence monetary policy

In theory, if a Central Bank demands a higher reserve ratio – it should have the effect of acting like deflationary monetary policy. A higher reserve ratio should reduce bank lending and therefore reduce the money supply.

Money Multiplier in the real world

In a simple theory of the money multiplier, it is assumed that if the bank lends $90 – all of this will return. However, in the real world, there are many reasons why the actual money multiplier is significantly smaller than the theoretically possible money multiplier.

1. **Import spending.** If consumers buy imports the money leaves the economy
2. **Taxes**. A percentage of income will be taken in taxes.
3. **Savings**. Not all money is spent and circulated, a significant percentage will be saved
4. **Currency Drain Ratio.** This is the % of banknotes that individual consumers keep in cash, rather than depositing in banks. If consumers deposited all their cash in banks, there would be a bigger money multiplier. But, if people keep funds in cash then the banks cannot lend more
5. **Bad loans**. A bank may lend out $90 but the company goes bankrupt and so this is never deposited bank into the banking system.
6. **Safety reserve ratio.** This is the % of deposits a bank may like to keep above the statutory reserve ratio. i.e. the required reserve ratio may be 5%, but banks may like to keep 5.2%.
7. **It might not be possible to lend more money out**. Just because banks could lend 95% of their deposits doesn't mean they can, even if they wanted to. In a recession, people may not want to borrow, but they prefer to save.
8. Banks may not want to lend Also, at various times, the banks may not want to lend, e.g. during a recession they feel firms and individuals more likely to default. Therefore, the banks end up with a higher reserve ratio. Therefore, due to these factors, the reserve ratio and money multiplier are theoretical.

However, in practice, this didn't occur. The money supply didn't increase because banks were not keen to lend any extra money.

Also, banks were trying to improve their reserves following the credit crunch and their previous over-extension of loans.

Money and Interest rate

If you hold **money**, your opportunity cost is that income you get from bond or in other words, the **interest rate**. So, when **interest rate** increases, you want to hold more bond and less **money** and vica versa. Thus, **money** demand and **interest rate** has an inverse relationship.

Theories of Interest

Productivity **Theory of Interest** 2. Abstinence or Waiting**Theory of Interest** 3. The Austrian or Agio **Theory of Interest** or Bohm-Bawerk's "The Time- Preference **Theory**" 4. ... Classical **Theory of Interest** or Demand and Supply of Capital **Theory of Interest** and others.

The theories are: 1. Productivity Theory of Interest 2. Abstinence or Waiting Theory of Interest 3. The Austrian or Agio Theory of Interest or Bohm-Bawerk's "The Time- Preference Theory" 4. Prof. Fisher's Time Preference Theory 5. Classical Theory of Interest or Demand and Supply of Capital Theory of Interest and others.

POSSIBLE QUESTIONS : PART – B

1. State the meaning of the term Monetary Policy .
2. What is meant by Deficit Budget?
3. Define the term 'Money supply'.
4. Define the term 'Interest Rate'.
5. Give short note on Credit creation.
6. What is meant by Disequilibrium of BOP?
7. What are the characteristics Instruments of Monetary Policy?
8. List out the types of Fiscal policy.
9. What are the effects Money multiplier?
10. What do you mean by Deficit Budget?
11. Define the term Balance of Trade.
12. Give short note on Monetary Policy.
13. State the meaning of the term Balance of Payments.
14. What do you mean by High Powered Money?
15. Define the term 'Fiscal Policy'.

***CIA – 3 X 2 = 6 Marks**
****ESE – 5 X 2 = 10 Marks**

PART – C

1. Determine the objectives and types of Monetary Policy.
2. Distinguish between the Monetary Policy and Fiscal Policy.
3. Describe the level of Balance of Trade and Balance of Payments
4. Define 'Fiscal Policy' and discuss the objectives and instruments of 'Fiscal Policy'.
5. Elaborate the Current Account and Capital Account of BOP?
6. Elucidate the process of Credit creation and Money supply.
7. Explain the various Functions of Commercial Banks?
8. Describe the importance of Budget and how to prepare the budget?
9. Determine the significance and functions of Central Banks.
10. Discuss the concepts of Theories of Interest with suitable example.

***CIA – 3 X 8 = 24 Marks (EITHER OR TYPE)**
****ESE – 5 X 6 = 30 Marks (EITHER OR TYPE)**

KARPAGAM ACADEMY OF HIGHER EDUCATION

(Deemed to be University)

(Established Under Sec 3 of UGC Act, 1956)

DEPARTMENT OF MANAGEMENT

UNIT V - MANAGERIAL ECONOMICS - Multiple Choice Questions- Each Question carries ONE Mark

S.No.	Question	Option - 1	Option - 2	Option - 3	Option - 4	Answer
1	_____ is the father of modem Economics	Robinson	Adam Smith,	Alfred Marshall	A.C. Pigou	Adam Smith,
2	Smith's definition is known as_____ definition	man-kind	social	science	wealth	wealth
3	Economics is _____	an art	Science	Art as well as Science	History	Art as well as Science
4	Scarcity definition is given by _____	Robinson	Adam Smith,	Alfred Marshall	A.C. Pigou.	Robinson
5	Economics may be of Micro and _____	Mycro	Macro	Maacro	Mecro	Macro
6	Macroeconomics is otherwise called _____Economics	Aggregative	Reggressive	Individual	Social	Aggregative
7	Micro Economics is concerned with specific _____	Social Unit	Science Unit	Economic Unit	Collection Unit	Economic Unit
8	Economics is Positive Science as well as _____	Collective science	Negative science	Narrow science	Normative Science	Normative Science
9	Economics is an _____	art	idea	action	emotion	art
10	_____ deals with the use of economic modes of thought to analyse business situation	Economics	Micro Economics	Business economics	Macro Economics	Business economics
11	Which one is not the field of traditional economics?	Welfare economics	Agricultural economics	Labour economics	Production economics	Production economics
12	The emphasis of business economics is on _____	bonus theory	system theory	Normative theory	Positive theory	Normative theory

13	_____ economics is concerned with questions	Macro	Micro	Normative	Social	Normative
14	Short run is a time period not enough for _____and producers to adjust completely to any new situation	Consumers	Customers	Farmers	Traders	Consumers
15	A long run is a planning horizon in which consumers and _____can adjust to any new situation.	Consumers	Customers	Producers	Traders	Producers
16	_____is a state of balance that can occur in model	Equilibrium	Marginal	Agricultural	Social	Equilibrium
17	_____cost is the benefit forgone from the next best alternative that is not selected	Explicit	Marginal	Opportunity	Social	Opportunity
18	Human wants are _____	Limited	Unlimited	Over	Very few	Unlimited
19	Human capacity to satisfy the wants are limited.	Limited	Unlimited	Over	Very few	Limited
20	The subject of economics is a _____ science.	Physical	Exact	Natural	Social	Social
21	The most important aspects of decision sciences that are used in managerial economics include all of these except _____	Explicit	Marginal	Opportunity	Social	Opportunity
22	The state in which all the industries in an economy are in equilibrium is of _____equilibrium	General	Specific	Marginal	Social	General

23	All of the following are sources of growth except growth of _____	Labour	Capital	Currency	Technology	Currency
24	The Problem with the marginal concept is that changes in variables may not be in _____	Bulk Unity	Single Unit	Whole Unit	Groups of Unit	Single Unit
25	The assumptions behind production possibilities curve include full _____of economy	Employment	Market	Rights	Concept	Employment
26	Economics is neutral between ends is said by_____	Adam smith	lionel robbins	Alfred Marshall	samuelson	lionel robbins
27	which branch of economics studies about unemployment, illiteracy, National income tax?	Micro economics	Wealth economics	Macro economics	fiscal economics	Macro economics
28	when we go form particular to general, this method is called as _____	Inductive method	General method	Deductive method	Partial method	Inductive method
29	The subject of economics is _____	A natural science	A social science	A political Science	A physical Science	A social science
30	Micro economics is also known as _____	price theory	process theory	product theory	projection theory	price theory
31	The business economic theory is concerned with the management technique to achieve_____	Maximization of total revenue from sales	minimization of cost of production	maximize profit from the business unit	Maximization of total revenue from sales and minimization of cost of production	Maximization of total revenue from sales and minimization of cost of production

32	Which is not included in the welfare goal to the society by the firm?	building of roads	charitable hospitals	living wages	maintaining parks	living wages
33	which is not the assumption of production possibility curve?	amount of resources are given	prices of factors fluctuates	resources are not specific	Technology remains constant	prices of factors fluctuates
34	A decision is not profitable if _____	it increases revenue more than costs.	it decreases some cost more than it increases others.	it increases costs more than revenue	it increases some revenues more than it decreases others	it increases costs more than revenue
35	Organizational efficiency does not include_____	administrative efficiency	entrepreneurial efficiency	managerial efficiency	technical efficiency	technical efficiency
36	What type of relationship exists between the price and quantity demanded?	indirect	Inverse	Positive	indirect and iverse	indirect and iverse
37	_____represents the tabular form of quantity demanded of a particular product during a given period of time	Law of demand	Demand Curve	Demand schedule	Cross demand	Demand schedule
38	Extension and contraction of demand for a good occurs as a result of _____	Change in the quality of good	Change in the price of a good	Availability of cheaper substitutes	Increases in Income	Change in the price of a good
39	In the case of a Giffen good, a fall in its price tends to _____	Demand remain constant	demand increases	Reduce the demand	Abnormal change in demand.	Reduce the demand
40	An exceptional demand curve is one that moves_____	upward to the right	downward to the right	horizontally	upward to the left	upward to the right

41	What would be the value of elasticity of demand, if the demand for the good is perfectly inelastic?	Zero	one	infinity	less than Zero	Zero
42	The demand for necessities is usually_____	highly elastic	highly inelastic	unit elasticity	relatively inelastic	highly inelastic
43	The responsiveness of demand to	Price elasticity of demand	cross elasticity of demand	income elasticity of demand	Supply	income elasticity of demand
44	Which one of the following is not a determinantof elasticity of demand?	price	supply	Income	savings	supply
45	which of the following statements regarding cross elasticity holds good?	it is always negative	it can be either positive or negative	it is always positive	it always lies between 0 and 1	it can be either positive or negative
46	Demand forecasting can be categorized on the basis of	the level of forecasti	Time period	nature of goods	level of forecasting, time period and nature of goods	level of forecasting, time period and nature of goods
47	Which is not a statistical method in forecasting?	Trend analysis	consumer survey	Regression method	least square method	consumer survey
48	In economic decision every variable influences every other variable in underlying assumption of _____	Delphi techniques	Multi collinearity	Simultaneous equation method	correlation	Simultaneous equation method
49	A time series can be calculated through_____	leading series	coincident series	logging series	leading series,coincident series and logging series	leading series,coincident series and logging series
50						

51	A simultaneous equation model may consists of all the following except_____	Endogenous variables	Undefined equation	Exogenous variables	Structural equations	Undefined equation
52	The law which studies the direct relationship between price and quantity supplied of a commodity is _____	Law of demand	Law of variable proportion	Law of supply	demand only	Law of Supply
53	When price rises, quantity supplied_____	expands	falls	increases	unchanged	expands
54	When price decreases, quantity supplied_____	expands	rises	increases	decreases	decreases
55	In case of perfectly inelastic supply the supply curve will be _____	rising	vertical	horizontal	falling	vertical
56	When a percentage in price results in equal change in quantity supplied, it is called,_____	elastic supply	perfectly inelastic	elasticity of supply	unitary elastic supply	unitary elastic supply
57	when supply of a commodity decreases on a fall in its price, its is called_____	Expansion of supply	Increase in supply	Contraction in supply	Decrease in supply	Contraction in supply
58	which utility approach suggests that utility can be measured and quantified?	ordinal	Cardinal	both a &b	diminishing marginal	Cardinal
59	_____ of a commodity is the additional utility derived by a consumer, by consuming one more unit of that commodity.	Marginal utility	Total Utility	Average Utility	Maximum utility	Marginal utility

60	At what point does total utility starts diminishing?	when marginal utility is positive	when it remains constant	when marginal utility is increasing	when marginal utility is negative	when marginal utility is negative

Register No.: …….

[18BAU102]

KARPAGAM ACADEMY OF HIGHER EDUCATION

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(Established Under Section 3 of UGC Act, 1956)

COIMBATORE – 641021

First Internal Examination, July - 2018

I BBA – I Semester

MANAGERIAL ECONOMICS

Date : **Time: 2Hours**

Session : **Maximum: 50 Marks**

PART – A (20 X 1 = 20 Marks)

Answer All the Questions

1. _____ is the process of transformation of inputs into goods and services of utility to consumers and producers

   a. Production b. Sales c. Purchases d. Costs

2. There are _____ factors of production

   a. four b. two c. three d. five

3. Scarcity definition is given by _____

   a. Robinson b. Adam Smith c. Alfred Marshall d. A.C. Pigou

4. Macro economics is otherwise called _____Economics

   a. Aggregative b. Regressive c. Individual d. Social

5. Micro Economics is concerned with specific _____

   a. Social Unit b. Science Unit c. Economic Unit d. Collection Unit

6. Law of demand establishes qualitative or directional relationship between _____

   a. demand and price b. demand and supply c. cost and price d. cost and income

7. If the demand curve is rectangular hyperbola, the elasticity is_____

   a. Relatively elastic b. Perfectively Inelastic c. Relatively Inelastic d. Unity

8. In a typical demand schedule, quantity demanded varies _____

   a. directly with price b. proportion with price c. inversely with price

   d. dependant with price

9. Which one is not a type of demand?

   a. Price demand b. Derived demand c. Joint demand d. Supply demand

10. A table indicating various levels of demand at various prices is termed as _____
a. demand chart b. demand schedule c. demand table d. price table

11. Who introduced the concept of elasticity of demand?
a. Adam Smith b. Robinson c. Marshall d. Joel Dean

12. The law of demand is a _____ statement
a. Indicative b. qualitative c. Selective d. illustrative

13. Which is not the type of elasticity of demand?
a. Price elasticity b. Income elasticity c. Cross elasticity d. Supply elasticity

14. The Cross elasticity of demand may be Substitute or _____
a. Positive b. Negative c. Normative d. Complementary

15. Price elasticity of demand for luxury goods will be _____ elastic
a. Infinitively b. relatively c. perfectively d. zero

16. A commodity demanded for its own sake by the final consumer is known as_____ goods.
a. Consumer b. Producer c. Industrial d. Shopping

17. A final _____ is one who derives satisfaction from a good without any further value addition.
a. Customers b. Traders c. Consumer d. Producers

18. Goods which create joint demand are _____ goods.
a. Consumer b. Producer c. Industrial d. Complementary

19. Goods that compete with each other to satisfy any particular want are called _____
a. Substitutes b. Producer c. Industrial d. Complementary

20. An _____ is the locus of all technically efficient combinations for producing a given level of output
a. Isoquant b. Income c. Idea d. Isocost

PART – B (3 X 2 = 6Marks)
Answer All the Questions

21. Define the term Managerial Economics.
22. What is meant by Market Equilibrium?
23. Who is called as producer?

PART – C (3 X 8 = 24 Marks)
Answer All the Questions

24. a. Define the term Managerial Economics and explain the Nature and scope and Features of Managerial Economics?

(or)

b. Determine the law of diminishing marginal productivity?

25. a. Enumerate the price elasticity of Demand?

(or)

b. Define the term supply, and explain the Law of supply with suitable examples??

26. a Determine the aspects of Law of Demand with suitable example ?

(or)

b. Elaborate the properties of Isoquant curves?

Register No.: …….

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KARPAGAM ACADEMY OF HIGHER EDUCATION
(Deemed to be University)
(Established Under Section 3 of UGC Act, 1956)
COIMBATORE – 641 021
Second Internal Examination - August, 2018

I BBA – First Semester
MANAGERIAL ECONOMICS

Date : 16.08.2018 **Time: 2 Hours**
Session : FN **Maximum: 50 Marks**

PART – A (20 X 1 = 20 Marks)
Answer All the Questions

1. _____ Product is total product per unit of variable input.
   a. Minimum b. Average c. Maximum d. Marginal

2. _____ Product is the addition in total output per unit change in variable input
   a. Minimum b. Average c. Maximum d. Marginal

3. A perfectly competitive firm can sell all the following features Except _____
   a. Price taker b. Quantity adjuster c. perfectly informed d. Price discriminator

4. In a perfectly competitive market a firm in the long run operates at _____
   a. AC = MC b. AR = MR c. MR = MC d. P = AR = MR = AC = MC

5. _____ is a market situation in which there is only one seller of a product.
   a. Monopoly b. Monopolistic c. Perfect d. Oligopoly

6. Supply curve of a perfectly competitive firm _____
   a. does not exist b. is upward sloping c. is horizontal in shape
   d. is downward sloping

7. Long run consists of many _____ runs
   a. Long b. short c. too many d. very few

8. There is no definite supply curve for a _____
   a. monopolist b. monopsony c. duopsony d. oligopoly

9. Production function is a relationship between physical _____ and physical outputs over a given period of time.
   a. Cost b. Income c. inputs d. Expenditure

10. There is substitutability between the factors of _____, but the factors are not perfect substitutes
    a. marketing b. costing c. production d. sales

11. _____is the decrease in value of an asset due to its usage and wearing out
    a. Amalgamation b. Depreciation c. Revaluation d. Re estimation

12. The process of savings being converted into investment is known as _____

a. Income b. Savings c. Formation d. Capital formation

13. Land, Labour, Capital, Enterprise and _____ are the factors of production

a. Finance b. Organization c. Expenditure d. Income

14. Economies of _____mean reduction in costs of production by way of producing in bulk

a. Cost b. income c. production d. scale

15. There is no definite supply curve for a _____

a. monopolist b. monopsony c. duopsony d. oligopoly

16. A profit maximizing monopolist produces a quantity corresponding to _____

a. MR = MC b. P = MC c. P = MR d. P = AR = MR = MC

17. _____ revenue (TR) is the multiplicative product of the price and the quantity sold.

a. Nominal b. Marginal c. Average d. Total

18. The market demand curve for the industry is a standard _____sloping curve

a. Downward b. upward c. Straight d. Narrow

19. _____ Revenue is the total revenue earned divided by the total quantity produced

a. Nominal b. Marginal c. Average d. Above average

20. Demand for an individual consumer is called _____ demand.

a. Social b. Individual c. Industrial d. General

PART – B (3 X 2 = 6 Marks)
Answer All the Questions

21. Define the term Oligopoly.

22. Write any two difference between Short - run cost and Long – run cost?

23. List out the different types of price discrimination?

PART – C (3 X 8 = 24 Marks)
Answer All the Questions

24. a. Elaborate the term Law of Returns to scale with suitable diagram.

(Or)

b. Describe the essential features and significance of perfect competition.

25. a. Determine the various classification of cost with suitable example.

(Or)

b. Explain the features of price determination under various Market situation.

26. a. Enumerate the characteristics of Break – Even Analysis?

(Or)

b. Explain the Pricing under Monopolistic competition?

Reg. No.....

[15BAU304A]

KARPAGAM UNIVERSITY
Karpagam Academy of Higher Education
(Established Under Section 3 of UGC Act 1956)
COIMBATORE – 641 021
(For the candidates admitted from 2015 onwards)

BBA DEGREE EXAMINATION, NOVEMBER 2016
Third Semester

BUSINESS ADMINISTRATION

BUSINESS ECONOMICS

Time: 3 hours Maximum : 60 marks

PART – A (20 x 1 = 20 Marks) (30 Minutes)
(Question Nos. 1 to 20 Online Examinations)

PART B (5 x 8 = 40 Marks) (2 ½ Hours)
Answer ALL the Questions

21. a. Describe the various responsibilities of a General Manager?
Or
b. Determine the social responsibilities towards various business persons?

22. a. Define the term Supply and enumerate the factors influencing supply?
Or
b. Analyze the significance of Price elasticity of demand?

23. a. Determine the production function with two variable inputs?
Or
b. Explain the significance of different types of production function?

24. a. Enumerate the classification of market structure under various fields?
Or
b. Describe the features and significance of perfect competition?

25. a. How far is National Income a reliable index of Economic Welfare?
Or
b. Determine the Causes of Inflation and explain the measures to control Inflation?

Reg. No.....

[16BAU201]

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COIMBATORE – 641 021
(For the candidates admitted from 2016 onwards)

BBA DEGREE EXAMINATION, APRIL 2017
Second Semester

BUSINESS ADMINISTRATION

MANAGERIAL ECONOMICS

Time: 3 hours Maximum : 60 marks

PART – A (20 x 1 = 20 Marks) (30 Minutes)
(Question Nos. 1 to 20 Online Examinations)

PART B (5 x 2 = 10 Marks) (2 ½ Hours)
Answer ALL the Questions

21. Write short note on income elasticity of demand.
22. Describe the concept of Geometry of product curve.
23. State the features of perfect market.
24. Discuss the factors determinants for a demand.
25. Define Business cycle, list out its characteristic features.

PART C (5 x 6 = 30 Marks)
Answer ALL the Questions

26. a. Explain the types of elasticity of demand.
(or)
b. Explain the Ordinal Utility theory.

27. a. Explain the law of diminishing marginal productivity.
(or)
b. Explain the various economies of scale.

28. a. Explain the types of oligopoly.
(or)
b. Explain the various types of price discrimination.

29. a. Describe the market supply of labour.
(or)
b. Explain the factor market equilibrium

30. a. Discuss the Approaches To Calculate National Income:
(or)
b. Discuss the causes and control measures of the inflation.

Reg. No.....

[14BAU202]

KARPAGAM UNIVERSITY
(Under Section 3 of UGC Act 1956)
COIMBATORE - 641 021
(For the candidates admitted from 2014 onwards)

BBA DEGREE EXAMINATION, APRIL 2015
Second Semester

BUSINESS ADMINISTRATION

BUSINESS ECONOMICS

Time: 3 hours Maximum : 60 marks

PART – A (10 x 2 = 20 Marks)
Answer any TEN Questions

1. Define the term Social Responsibility.
2. List out the significance of business economics?
3. Write a short note on economic cost of using resources?
4. What is meant by demand forecasting?
5. State the meaning of Producer demand.
6. List out the Factors affecting elasticity of supply?
7. Mention the various types of costs?
8. What do you mean by Opportunity cost?
9. Give the meaning for the term Cost output relationship.
10. What factors determine the size of the market?
11. What is meant by Duopoly?
12. Define the term Perfect Competition.
13. Write a short note on National Income?
14. What is meant by Monetary Policies?
15. State the meaning of Net National Product (NNP).

PART B (5 X 8= 40 Marks)
Answer ALL the Questions

16. a. Explain the nature, scope, need and importance of Business Economics?

Or

b. Indicate the different economic concepts that are used in business decisions?

17. a. Briefly explain the elasticity of Supply with suitable examples.

Or

b. Elaborate the factors determining the elasticity of demand?

18 a. How Prices are fixed under short term and long term in Perfect competition with suitable examples ?

Or

b. Explain the Pricing under Oligopoly of Kinked Demand Curve Model.

19. a. "Trade Cycle is purely a monetary phenomenon"- Discuss it.

Or

b. Determine the concepts involved in Keynesian Theory.

20. **Compulsory** : -

Explain the assumptions of Law of Diminishing Marginal Utility with suitable diagram.

Reg. No.....

[12BAU103]

KARPAGAM UNIVERSITY

(Under Section 3 of UGC Act 1956)
COIMBATORE – 641 021
(For the candidates admitted from 2012 onwards)

BBA DEGREE EXAMINATION, NOVEMBER 2012

First Semester

BUSINESS ADMINISTRATION

BUSINESS ECONOMICS

Time: 3 hours Maximum : 100 marks

PART A (15 X 2= 30 Marks)
Answer ALL the Questions

1. Define 'Economics' in the words of Marshall?
2. Explain the features of Business Economics?
3. What are the Objectives of Business Firms?
4. Define the term Demand?
5. What do you mean by the Law of Demand?
6. Explain the term market equilibrium?
7. What are the factors of production?
8. State about Isoquant Curves in production function?
9. List out the various types of costs?
10. What factors determine the size of the market?
11. What are the different types of price discrimination?
12. Illustrate how a monopoly firm fixes the price for its commodity?
13. What Factors determine National Income?
14. Illustrate the causes of Trade Cycle?
15. What do you mean by Fiscal policy of Macro Economics?

PART B (5 x 14 = 70 Marks)
Answer ALL the Questions

16. a. Define Business Economics and point out the Nature of Economics?

(Or)

b. Assess the role and responsibilities of Business Economists?

17. a. Analyze the term Demand Distinctions?

(Or)

b. Determine the significance of price elasticity of demand?

18. a. Define the Law of Diminishing Returns and illustrate the concept?

(Or)

b. Explain about the short run and long run cost of production?

19. a. Analyse the different forms of Market based on competitions?

(Or)

b. 'Under perfect competition the Firm is a price-taker and not price-maker' - Discuss

20. a. Define 'National Income' and explain the various components of National Income Accounting

(Or)

b. Determine the theories of Inflation and explain its controlling techniques?

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COIMBATORE – 21
DEPARTMENT OF MANAGEMENT
I BBA - FIRST SEMESTER
MANAGERIAL ECONOMICS - (18BAU102)
ASSIGNMENT - I – TITLES

Sl. No.	Register No.	Name of the Candidate	Assignment Title
1	18BAU001	ABIESH A	Consumer's Equilibrium
2	18BAU002	ADITYA RAVI	Difference between Groups and Teams
3	18BAU003	AGATHIYAN M C **(27.06.2018)**	Perfect Competition
4	18BAU004	AGATHIYAN M	Concept of Demand
5	18BAU005	AKASH S	Basic Concepts in Production
6	18BAU006	ANNAPOORANI K	Price Elasticity of Demand
7	18BAU007	ARAVINDHKUMAR B	Fiscal Policy
8	18BAU008	ARJUN K **(28.06.2018)**	Short-run and Lont-run Equilibrium
9	18BAU009	ARUMUGAM M	Price Discrimination
10	18BAU010	ASHOK KANNAN M	Consumer's Equilibrium
11	18BAU011	ASHOKAN S	Objectives of Monetary Policy
12	18BAU012	BALAJIE R	Balance of Trade and Balance of Payments
13	18BAU013	BHARATHIMEENA G	Elasticity of Supply
14	18BAU014	CHANDRALEKHA T **(09.07.2018)**	Nature and Scope of Managerial Economics
15	18BAU015	DAYANITHI S R	Difference between Resident and Non-Resident
16	18BAU016	ENBARASAN E **(27.06.2018)**	Phases of Business
17	18BAU017	ESAI VALAVAN S **(16.07.2018)**	Short-run and Long-run Equilibrium
18	18BAU018	HARI HARAN R	Inflation and its Control
19	18BAU019	HARIS C	Break-Even Analysis
20	18BAU020	JEEVA S	Gross and Net Concepts of Income and Product
21	18BAU021	KABILESH B	Causes of Cyclical Movements
22	18BAU022	KALESWARAN M	Price Movements in Business Cycle
23	18BAU023	KANISHKAR C	Surplus and Deficit Budget
24	18BAU024	KARTHIKEYAN K	Instruments of Fiscal Policy

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26	18BAU026	KEERTHANA K	Cross Elasticity of Demand
27	18BAU027	KRISHNAKUMAR M	Measurement of National Income – Production Method
28	18BAU028	LAVIN KUMAR. C **(10.07.2018)**	Money and Interest Rate
29	18BAU029	LEVIS R	Process of Credit Creation and Money Supply
30	18BAU030	LINGKESHWARAN T	National Income Aggregates
31	18BAU031	LOKESHKANNAN M	Law of Diminishing Marginal Utility
32	18BAU032	MAHENDRA PRABHU S **(17.07.2018)**	Inflation
33	18BAU033	MANIKANDA MANOJ PRABHU M	Supply Function
34	18BAU034	MANIKANDAN J **(28.06.2018)**	Cost Concepts and Classification
35	18BAU035	MANIVENDHAN T **(06.07.2018 – AN)**	Theories of Interest
36	18BAU036	MOHAMMED RAFSIN A	Money Multiplier
37	18BAU037	MOHAMMED RISVAN	Monopoly Competition
38	18BAU038	NIHAD M N	Oligopoly Competition
39	18BAU039	PRABU M	Budget Preparation
40	18BAU040	PRADEEP KUMAR S	Causes of Cyclical Movements
41	18BAU041	PRAKASH RAJ D **(26.07.2018)**	Duopoly Market – Features
42	18BAU042	PRAVEEN KUMAR M (**27.06.2018**)	Price Leadership
43	18BAU043	RAJA PRABHU. A **(09.07.2018)**	General Introduction to Economics
44	18BAU044	RAJADURAI S	Instruments of Monetary Policy
45	18BAU045	REVANTH R	Measurement of National Income – Expenditure Method
46	18BAU046	ROSHINI J	Law of Demand
47	18BAU047	RUBAN V	Perfect Competition – Features
48	18BAU048	SABARESH S	Economies and Diseconomies of Scale
49	18BAU049	SADHAM K M	Forms of Market
50	18BAU050	SAKTHI SARAVANAN V	Market Equilibrium
51	18BAU051	SARATH M **(02.07.2018)**	Total Revenue and Marginal Revenue
52	18BAU052	SARATH KUMAR A	Production Function
53	18BAU053	SENTHIL KUMAAR M	Deflation

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55	18BAU055	SOWFEQ AHAMED A	Fixed and Variable Costs
56	18BAU056	SOWMIYA M	Demand Function
57	18BAU057	SREE DHARSHINI D G	Income Elasticity of Demand
58	18BAU058	SRIDHAR K	Product Differentiation
59	18BAU059	SRIDHAR S	Firm's Fixed and Variable factors
60	18BAU060	SURESH V	Monetary Policy
61	18BAU061	SURIYA KUMAR S	Monopolistic Competition
62	18BAU062	THIRUGNANASAMBANDAR T	Factor and Transfer Payments
63	18BAU063	VAISHNAVI R	Production Function
64	18BAU064	VASANTH K K	National Income Analysis
65	18BAU065	VENKATRAJ M	Measurement of National Income
66	18BAU066	VIGNESHWAR. V	High Powered Money
67	18BAU067	VIJAY KRISHNAN. P **(02.07.2018)**	Disequilibrium in BOP
68	18BAU068	YOGESHWARAN S	Concepts and Classification of Cost

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