Economics

Q.No. 1. Explain Wealth, Welfare and Scarcity definitions of Economy?

Ans : The welfare definition of economics: The Wealth definition of Adam Smith and other classical writers made economics the subject of ridicule and condemnation. Prof. Marshall gave a new definition. He shifted the emphasis from wealth to welfare. He defined economics as follows:

> "Political economy or economics is a study of man kind 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 man.

Features & Merits of Marshall's & other welfare definitions:

1. Economics is concerned with man's ordinary business of life. It is concerned with man's wealth getting & wealth – using activates.
2. Economics does not regard wealth as the end of all economic activities. Wealth is sought only to promote welfare.
3. While the classical writers emphasized only on wealth, Marshall has given emphasis both to man and wealth.
4. Economics is concerned with the economic aspects of social.

Criticism:

1. Restricts the scope to material things only : It is wrong to exclude non-material goods & Services like the services of teachers, lawyers, actors etc. are not material but they have an economic aspect.
2. Welfare cannot be measured. It is a vague & relative concept.
3. Welfare definition is not analytical. It is classificatory. It classifies activities into economic & non-economic. Robbins said that every activity has an economic aspect when it is influenced by scarcity.

   Thus, welfare definition is objected to & rejected by some economists like Lionel Robbins. However, we should not say that economics has nothing to do with welfare. Many feel that an economist must state what politics increase human welfare.

Wealth definition of economics:

Adam Smith – A Scottish Philosopher – became famous for his book "The wealth of Nations".

Adam Smith published his famous book – "An enquiry into the nature & causes of wealth of nations" in the year 1776, in which the defined economics as a "Study of Wealth".

He is regarded as the father of economics as he is the first person to give a precise definition of economics and separate this study from other social sciences. Some other economists like J.B. Say J.S. Mill, Walker and others.

In the words of J.B. Say "Economics is the science which treats of wealth". Professor Walker defines it as "that body of knowledge which relates to wealth". According to Adam Smith's definition acquisition of wealth is considered as the main objective of human activity. While discussing wealth only material things are taken into account and the role of services has not been emphasized economists are expected to suggest ways and means to increase the wealth of individuals and the nation.

This wealth definition says that human beings are always guided by the selfish motive.

Criticism:

1. As Marshall pointed out wealth is only a means to an end, but not an end in itself. Without man, wealth is of no use and man and his welfare must be the primary objective of any economic activity.
2. In Adam Smith's definition, wealth was considered to consist of only material things and services are not included. But for the well being of the people both money and services are equally important.
3. Wealth definition mainly concentrated on the activities of men and women who are engaged in distribution aspect is not taken care of as there distribution of wealth.

3. Scarcity Definition:

Lord Lionel Robbins – A British economist. He published his famous book "Nature and Significance of Economic Science; in the year 1932, in which he provided a more scientific definition of economics.

According to him, "Economics is the study of scarcity and choice". His main emphasis is on the practical problem of scarcity of resources. In his own word, "economics is the science which studies

human behaviour as a relationship b/w ends and scarce means which have alternative uses".

Scarcity definition based on the following facts:

1. Unlimited ends
2. Limited means
3. Alternative uses.

1. **Unlimited ends:**

Robbin's definition is based on the fact that human wants are unlimited and means to satisfy them are limited. These are the two important causes for the economic problem to arise. In his definition ends refer to wants and means are resources. When one want is satisfied another crops up. Hence complete satisfaction of human wants is not possible.

2. Limited Means:

If the means are also unlimited like our wants economic problem does not arise. But the resources like natural productive resources, man made consumption and capital goods and time to satisfy our wants etc. are strictly limited.

3. Alternative uses of resources:

Resources are not only limited, but they can be put to several use. For example, a piece of land can be used to grow sugarcane or vegetables. Similarly steel is used in the construction of bridges, railways, houses etc. If a scarce factor is used for the satisfaction of one want, less of it is available for other wants.

From the above discussion, economic problem arises mainly because resources are not only scare but also capable of alternative applications.

Q.No. 2. Discuss merits and demerits of deductive and inductive methods.

Ans : Deductive Method:

Deductive method is also known as supported by classical economists, which is strongly supported by classical economists. The deductive method proceeds from general to particular i.e., we start from a few indisputable facts about human nature and draw inferences from them about concrete individual cases. For example, the law of diminishing marginal utility says that as a person goes on consuming more units of a particular commodity, the additional utility

which he derives from the consumption of that commodity goes on diminishing. We can draw inferences fro this self evident truth through deductive reasoning.

According to the law of diminishing marginal utility, if the stock of a commodity is more, less will be the utility. The process or reasoning from the general to particular or from the universal to individual. There are four steps involved in drawing inference through deductive method. They are :

1. Selecting the problem
2. Formulating assumptions
3. Formulating hypothesis
4. Verifying the hypothesis

Often, one important merit of deductive method is that it often uses mathematical tools and techniques to derive the conclusions. As a result economic generations tend to be more exact and precise.

Inductive Method:

Inductive method is also known as statistical and historical method. This process proceeds from particulars to universal propositions, that is, it refers to a process where facts are collected, arranged and then general conclusions are drawn. The law of diminishing returns is the best example of inductive reasoning. An economist observed such instances in case of different other farms and he arrived at the economic generalization that is known as the law of diminishing returns. The Malthusian theory of population also derived from the inductive reasoning. A well known proposition derived from inductive reasoning, that is proposition based on analysis of data without any prior theory is Philips curve. The curve explains the inverse relationship between the rate of inflation and rate of unemployment, in short run. There are four steps involved in deriving economic generalization through inductive method. They are:

1. Selection of the problem
2. Collection of data
3. Observation
4. Generalization

Thus inductive method is the process in which one can arrive generalizations on the basis of observed facts. The inductive method is realistic because it is based on the facts. It is widely used in modern economics mainly because of the development of information technology.

Q.No. 3. Distinguish between Micro and Macro Economics.

Ans: Professor Ragnar Frisch of Oslo University was the first person to develop these Micro economics concept in the year 1933. Micro economics studies the behaviour of individual units.

The term "Micro economics" is derived from the Greek word "Micros" which means small. Thus micro economics deals with the analysis of a particular economic unit and considers in detail the behaviour of that particular unit. In other words, micro economics is the microscopic study of the economy. Here we study the behaviour of individual units such as households, firms & industries.

Microeconomics is the study of economic actions of individuals or group of individuals.

Scope of Micro Economics:

Professor Marshall popularized Micro economics. His famous book "Principles of economics" is considered as the best example of micro economic analysis. Micro economics mainly based on the assumption of "full employment" and "Marginal analysis". These two are the main two pillars of Micro economics. The theory of consumer's behaviour which is explained by the law of diminishing Marginal utility and law of equi-marginal utility are derived directly from marginal analysis.

Micro economics also "examines whether the resources are efficiently allocated to individual consumers and producers in the economy. It is related to the study of welfare economics. The scope of micro economics can be explained with the help of following diagram.

Figure –

Important of Micro Economics:

Micro economics provides the basis for understanding the operation of the economy as a whole. In order to understand the problems of the economy, it is necessary to study the problems of individual units. This study is useful to the government for the efficient use of scarce resources to achieve growth and stability.

Micro economics can be used to examine the conditions of economic welfare and it suggests ways and means to bring about maximum social welfare. This study is also applicable to the field of international trade in the determination of exchange rates.

Macro Economics:

Professor Raynar Frisch of Oslo University was the first person to develop these macro economics concept in the year 1933. Macro economics is the study of aggregates.

Macro economics is derived from the Greek word "Macros" which means large. Macro economics is the study of economic system as a whole. It is not concerned with the individual units but all such units combined together. Thus macro economics is a study of aggregates like national income, total consumption, total saving, total investment and total employment. Most of the modern economics is "macro economics".

According to K.E. Boulding, macro economics studies national income, not individual income, general price level instead of individual prices and national output instead of individual output.

Scope of macro economics:

J.M. Keynes popularized macro economics. Macro economics is also known as "income and employment theory, as its main concern is to explain the theory of income, output and employment.

Macro economics deals with the general price level and its fluctuations overtime instead of dealing with relative prices of goods and services. The problem of rising prices i.e., inflation is the major problem of many countries in the world. Macro economics studies the causes of inflation and suggest measures to control it.

The scope of macro economics can explained with the help of following chart.

Figure

Importance of Macro economics:

Macro economics study is very much useful for the formulation and execution of government policies. The main objective of the government is to achieve maximum social benefit. For that it has to deal with all the citizens of the country, but not an individual.

Macro economics helps in understanding the problems of unemployment, inflation etc., It is very important in evaluating the overall performance of the economy in terms of national income.

Q.No.4. Write about circular flow of economic activities?

Ans : We now learn the nature of flows that take place between different sectors. The flows are also presented in the form of the following figure:

Figure 3

1. Flows from and to the Production Units:

(a) They buy factor services from households (real inflow). In return they make factor payments in the form of wages, rent, interest and profits (money outflows)
(b) They deposit savings in the capital sector (money outflow)
(c) They exports goods and services (real outflow) and in return they get payments for the exports (money inflow)
(d) They pay taxes to the general government (money outflow)
(e) They sell goods and services to the households and general government (real outflow). In return they get payments from households (private consumption expenditure) and general government (government consumption expenditure) (money inflows).
(f) They receive subsidies from government (money inflow)
(g) They borrow from the capital sector (money inflow)

2. Flows from and to the Households:

(a) They buy goods and services from the production units (real inflow) and in return make payments (consumption expenditure) (a money outflow)

(b) They pay personal taxes to the general government (money outflow)
(c) They deposit savings in the capital sector (money outflow)
(d) They sell factor services to the enterprises (real outflow) and in return get factor incomes (money inflow)
(e) They get free services (real inflow) and transfer payments (money inflow) from general government.

3. Flows from and to the General Government:

(a) It purchase goods and services from production units (real inflow) and in return makes payments i.e. government consumption expenditure.
(b) It pays subsidies to the production units (money outflow)
(c) It provides free services to the households (real outflow) and makes transfer payments (money outflow).
(d) It deposits savings in the capital sector (money flow)
(e) It receives taxes from production units (money inflow)
(f) It receives personal taxes fro households (money inflow)

4. Flows from and to the Capital Sector:

(a) It lends capital to the production units (money outflow)
(b) It receives savings from production units, households and general government (money inflows).

5. Flows from and to the Rest of the World:

(a) Goods and services are exported to the rest of the world (real inflow) and in return payments are received (money outflow).
(b) Goods and services are imported from rest of the world (a real outflow) and in return payments are made (money inflow).

Q.No.5. Explain the law of diminishing marginal utility?

Ans : A German economist Grosse was the first to explain the law. Alfred Marshall gave a precise explanation to the law.

The law is based on the common experience of every man. It points out that there is a limit to each want. When we are hungry we eat food and be satisfied. We cannot take another dish of food immediately. When we are thirsty one or two glasses of water quenches our thirst. Wants are thus satiable. If we consume more & more units of a good, the additional units yield diminishing satisfaction.

Let us suppose that one is fond of apples. The first one would taste delicious. The second gives less satisfaction. The third still less

and so on. He will reach a point where eating one more apple will not give him any satisfaction. He has reached the point of satiety.

After that stage, additional apples, instead of giving satisfaction cause dissatisfaction. We successive apples is diminishing.

No. of apples	**M.U.**	**T.U**
1	10	10
2	8	18
3	5	23
4	1	24
5	0	24
6	-2	22

It is clear from the above table that as the good is consumed, each succeeding unit gives less satisfaction than the preceding one. When the person takes five apples he is completely satisfied. The sixth one gives him dissatisfaction or disutility.

Total Utility and Marginal Utility:

T.U. is the aggregate utility of the stock possessed by a person. It is obtained by adding the utilities of the units concerned. For example, when only one apple is bought the total utility is 10. When the 2nd one is also bought it is 18 i.e., 10 + 8. The T.U. increases with every increase in the stock of the commodity but not as fast as stock grows. AS the stock increases at a uniform rate, total utility increases at a diminishing rate.

One unit of the commodity possess some utility. To units possess more, 3 units still more, so on. M.U. of any member is the T.U. of that number minus the T.U. of one less. Thus M.U. of n=TU of n-TU of (n-1). The M.U of the 4th unit = TU of Units – TU of 3 units. M.U. declines as supply increases.

Figure

M.U. depends upon supply. The greater the supply less is the M.U. If the supply of a commodity increases it is put to less important it is used as food. If the supply increases, the additional supply may be sued for rearing poultry. The figure shows the relation b/w T.U. & M.U.

For the law to hold good, certain conditions must exist (1) the units of a commodity must be relatively defined. The law holds good for a pair of shoes, but not for a single shoe. If the units of vacation are defined as days, it might happen that the second day has more utility than the first. Hence there would be increasing marginal utility for the second & perhaps the third day. But from the fourth day onwards, additional days would be less and less satisfying.

(2) Secondly, the law assumes that tastes of a consumer remain unchanged. If tastes change, so that he like a commodity more, than the M.U. of that commodity rises.

(3) Thirdly, the utilities of commodities are interdependent. The utility we derive from a care depending also on the availability of petrol. The M.U. of a commodity depends on the availability of complemented. The M.U. of coffee rise if tea is not available. If petrol becomes scarce the M.U. of cars will decline.

(4) Fourthly, the units must be consumed in quick succession. If there is a long interval b/w the consumption of two units, the M.U. may not decline for instance, the dinner will give as much, if not more, satisfaction as the lunch.

Q.No.6 Explain the law of equi-marginal utility?

Ans : Law of equi-marginal utility is an important law of consumption. It is called "Crossen's second law". As its formulation is associated with the name of H.H. Crossen. The law of diminishing marginal utility explains the consumer's behaviour, consuming only one commodity. The law of equi-marginal utility explains how the consumer obtains maximum satisfaction with his limited income. Therefore this law is known as "law of maximum satisfaction".

According to this law the consumer has to distribute his money income on different uses in such a manner that the last rupee spent on each commodity gives him the same marginal utility. In the words of marshall, "If a person has a thing which can be put to several uses, he will distribute it among these uses in such a way that it has the same marginal utility in all".

For example, consumer wants to spend his money on two goods namely, apple and organge. The consumer derives 20 utils of utility from one unit of orange whose price is one rupee. Suppose by sending one rupee on apple, he gets more than 20 utils of utility then the consumer substitutes apples for oranges. This process goes on till the consumer gets same marginal utility for the last rupee from both the commodities. Then the consumer gets maximum satisfaction. Therefore, this law is also known as the "law of substitution".

Consumer's equilibrium:

The law of equi-marginal utility explains consumer's equilibrium. Equilibrium is a state of balance. It refers to a situation where in the consumer gets maximum satisfaction with his limited income. This law says that the consumer attains equilibrium position when marginal utility of money spent on each commodity is the same.

Explanation of the law :

This can be explained with the help of an example, let us assume that the consumer is income is 5/- and he wants to spend it on two commodities namely A & B. Further it is assumed that the price of each commodity is one rupee only.

Table – Explanation:

Units of Money (in rupees)	**M.U. of expdr. on A**	**M.U. of Expdr. on B**
1	15 (1)	14 (3)
2	14 (2)	13 (5)
3	13 (4)	12
4	12	11
5	11	10
Total Utility	**65**	**60**

The consumer spends three rupees on commodity A & two rupees on commodity B, so that he can maximize his total utility. Here the marginal utility of expenditure on both the commodities is same i.e., 13. By spending 3 rupees on commodity A, the consumer is obtaining a total utility of 15+14+13=42, the total utility derived from B is equal to 14+13=27. Therefore by spending rupees 5 on both A & B, the consumer is able to get the total utility of 69 (42 + 27).

$$\text{Here, } \frac{MV_A}{P_A} = \frac{MV_B}{P_B} = 13.$$

Diagramatic explanation:

The law of equi-marginal utility can be explained with the help of a diagram:

Fig Note Q.No.2 graph

In the above diagram, money expenditure is measured on x-axis and the marginal utility of money on the y-axis. AA is the marginal utility curve of A and BB is the marginal utility curve of B CC_1

represents the expenditure i.e., 3 rupees on A_1, DD_1, expenditure on B i.e., 2 rupees. By spending 3 rupees on A and 2 rupees on B the consumer derives the same marginal utility i.e., 13, from both the commodities.

The law of equi-marginal utility says that the consumer gets maximum satisfaction if he spends his limited income on different uses in such a way, that the last rupee spent on each commodity gives him the same marginal utility.

Q.No.7 Critically examine the concept of Consumer's Surplus:

Ans : Consumer Surplus : Dupit originated the concept of consumer's surplus. But it was Marshall who popularized it by presenting it in a most refined way.

The concept of consumer's surplus has been introduced to indicate the consumer's gin from the goods he purchases in the market economy. Marshall averred that when a consumer buys a commodity, his satisfaction derived from it may be in excess of the dissatisfaction derived from it may be in excess of the dissatisfaction he has experienced in parting with money for paying its price. This excess of satisfaction is called "Consumer's Surplus".

Definition:

Consumer's Surplus is the difference between the total amount of money the consumer would have been willing to pay for a quantity of a commodity and the amount he actually had to pay for it.

Measurement:

Consumer's surplus = total utility (PXQ).

Alternatively,

Consumer's surplus = Price prepared to pay – Actual price paid

Units of Commodity (x)	M.U.	Market Price	C.S. = M.P.
1	35	10	25
2	30	10	20
3	22	10	0
4	10	10	0
	97	**40**	**57**

The table follows that a fall in price will cause an increase in consumer's surplus and a rise in price, a fall there in.

The consumer's surplus is a relative concept, because utility is a relative term. The consumer's surplus of the same commodity may vary from person to person and from time to time. Consumer's surplus also differs from commodity to commodity. For example, milk, coffee, salt etc..

It OP is price, OQ is the unit purchased.
M.U. of OQ = Price of OP
Total money paid = OP x OQ
Price paid = OPQR
T.U. = OMRQ (Price prepared to pay) **figure notes Q.No.7**
OMRQ – OPRO – MRP

Assumptions:

1. Cardinal measurement of utility
2. Diminishing marginal utility
3. Constant marginal utility of money
4. Existence of no substitutes
5. Specificity of utility

Criticisms:

1. Unrealistic assumption
2. Measurement impossible
3. Meaningless concept in certain cases
4. Hypothetical & Illusory concept
5. No Empirical test.
6. Impractical concept

Important of concept:

1. It clarifies the paradox of value.
2. Conjunctural Advantage
3. Importance to the monopolist
4. Importance in taxation policy
5. Importance in welfare economics
6. Importance in International trade

Q.No.8 What is law of demand? What are its exceptions.

Ans : Law of Demand:

This law is also known as the "first law of purchase" of all Neo-classical contributions, Alfred Marshall's theory of demand occupies a very important place in the economic theory.

Alfred Marshall is a dominant figure in British Economics. His famous work is "Principles of Economics" (1842-1924).

The law of demand tells us the functional relationship between the price of a commodity & its quantity demanded in the market.

According to this law, people demand larger quantity of goods & services only at a lower price than at a higher price. In simple terms the price is higher, lesser quantity will be demanded and lower the price greater will be the quantity demanded.

In the words of Alfred Marshall, "other things remaining constant, the amount demanded increases with a fall in price & diminishes with a rise in price". The law of demand shows the inverse relationship between the price & quantity demanded.

The following is an imaginary demand schedule for mangoes.

Price of Mangoes	Quantity demand
9	1
8	2
7	3
6	4
5	5
4	6
3	7
2	8

The above table tells how a consumer in the market purchases different quantities at different prices. When the price of mango is 9/-, he is buying only 1 unit & demands 8 units as the price falls to 2/-. Thus clear, that price & quantity demand have an inverse relationship.

There exists an inverse relationship between the price of a good & the quantity demand.

Diagramatic Explanation:

On the basis of the above table, we can draw a demand curve.

Figure

In the diagram, the prices of mangoes are shown on OY-axis and the quantities demanded of mangoes on OX-axis with the help of the above individual demand schedule, how a consumer varies his purchases at different prices are shown by points A, B, C, D, E, F, G,

H. The demand curve is obtained by joining all the points. 'DD' is the individual demand curve.

The normal demand curve falls from left to right downwards or it is convex to the origin. We can show a demand curve in the form of straight line or a curve.

Exceptions:

1. Griffin's Paradox:

According to the law of demand, when the price of a commodity increases, its demand must decrease. But in some rare occasions, people may buy more when the prices are high. This type of situation was first discovered by the British Economist sir Robert Giffen (1837-1910). Goods of this type are known as Giffen's goods. Most of the goods like jowar, bajra and necessaries of life used by the lower income groups come under this category.

2. Prestigious goods:

Theorstein Veblen is a nowrwegian – American sociologist & Economist. He is most famous for his book "The theory of the leisure class" (1899).

A commodity is some times bought not because it has any intrinsic worth, but because its possession confers a social status. For example, Diamonds, precious stones, gold etc.. This exception is associated with the name of theorstein Veblen (1857-1929).

3. Speculation:

Some times the price of a commodity might be increasing & it is expected to increase still further. The consumers will buy more of the commodity at the higher price than they did at the lower price. Thus an increase in price may not be accompanied by a decrease in its demand which is contrary to the law of demand.

Q.No.9 What is elasticity of demand? How do you measure price elasticity of demand?

Ans: Generally price elasticity of demand is estimated with the help of following methods.

i) Proportionate or percentage method
ii) Total outlay method
iii) Point method
iv) Arc method

i) Proportionate or percentage method:

Under this method, we examine percentage change in demand due to a percentage change in price or proportionate change in demand due to a proportionate change in price. Here the formula is :

$E_P = \frac{\Delta Q}{Q} \cdot \frac{P}{\Delta P}$ or $\frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$

ii) Total expenditure method:

This method is explained by Alfred Marshall. In this method we examine the price elasticity of demand with respect to the change in total expenditure of the consumer as a result of change in the price. Marshall, said that, here the elasticity of demand is of three types, viz: greater than unity, equal to unity and less than unity.

a) In case of elasticity is greater than 1, an increase in price leads to a decrease in total expenditure and a decrease particular point on the demand curve and p, q respectively price and quantity at the time.
b) Inc case of elasticity is equal to 1, either an increase or decrease in price, do not effect the total expenditure, it remains the same.
c) In case of elasticity is less than 1, an increase in price leads to an increase in total expenditure and a decrease in price leads to decrease in total expenditure, i.e. there exists direct relationship between price and total expenditure.

(iii) Point method:

This method is also introduced by marshall. This method is also called as Geometric Method or Mathematical Method. It is used to find elasticity at a particular point on the demand curve. It used the principles of derivatives to know the changes in price and demand.

Here, $E_P = \frac{dq}{d} \cdot \frac{P}{Q}$

When demand curve is linear :- When demand curve is linear

$$E_P = \frac{Lowersegement}{uppersegment} = \frac{EB}{EA}$$

iv) Arc Method:

The gap between two points on demand curve can be called as an Arc. In the figure point AB exhibits Arc.

$$E_P = \frac{\text{New Demand – old demand}}{\text{New Demand + old demand}} + \frac{\text{New Price – Old Price}}{\text{New Price + Old Price}}$$

$$=\frac{OQ_1-OQ}{OQ_1-OQ}\div\frac{OP_1-OP}{OP_1-OP}$$

$$=\frac{\Delta Q}{OQ_1-OQ}\div\frac{\Delta P}{OP_1-OP}$$

$$E_P=\frac{\Delta Q}{\Delta P}.\frac{OP_1+OP}{OQ_1-OQ}$$

The concept of Arc elasticity is relevant in case when Arc is involved is small. That is this formula should be used when the change in price is not very large.

Q.No.11 Discuss consumer's equilibrium with the help of indifference curves analysis.

Ans : Consumer's equilibrium:

A consumer is said to be in equilibrium when given his tastes and prices of the tow goods, he spends a given money income on the purchase of two goods in such a way as to get the maximum satisfaction.

Assumptions:

The following assumptions are made for explaining, how a consumer reaches equilibrium position.

1. The consumer has an "indifference map" showing his "scale of preferences" that will remain constant throughout the explanation.
2. There will be no change in the money income of the consumer.
3. The prices of the two goods will also remain unchanged.
4. There is no change in the tastes and habits of the consumer.
5. Goods are homogeneous and divisible.
6. The consumer's is rational and thus maximizes his satisfaction from the purchases of two goods.

Conditions:

The consumer is said to be in equilibrium. When he maximizes his satisfaction with given income and prices of two goods. Two conditions must be satisfied for the consumer to be in equilibrium. They are :

1. The budget or price line must be tangent to the indifference curve.
2. The equality between the consumer's MRS and the price-ratio i.e, $MRS_{XY} = \frac{P_x}{P_Y}$.

Illustration of consumer's equilibrium:

Given the indifference map of the consumer and the budget/price line, the equilibrium is defined as a position from which the consumer does not want to move, other things being equal.

The point where the consumer gets maximum possible satisfaction, where the budget/price line is tangent to the indifference curve, and the MRS is equal to the price ratio of the two goods will be defined as equilibrium of the consumer.

The following diagram explains the above aspects.

Fig notes Q.P. 4

In the above diagram, 'AB' is the consumer's budget/price line. IC_1, IC_2, IC_3 a set of indifference curves. With the help of these, we notice the following:

1. Of the three IC_1, IC_2, IC_3 indifference curves, our consumer can reach IC_2, with the given income.
2. His budget line 'AB' restricts him to IC_2.
3. 't' lies on the highest possible indifference curve IC2 and yields maximum possible satisfaction and therefore the consumer will be in equilibrium at point 't'.
4. At 't' the budget line 'AB' is tangent to IC_2.
5. Here, there is also equality between the MRS_{XY} and the ratio of prices of X & Y.
6. The points otherthan 't' that is P & Q are not considered as equilibrium points, because at both the points the 'AB' budget line is not tangential, but intersecting the IC_1.
7. Moreover, the consumer being rational would like to reach a higher indifference curve (IC_2) than a lower indifference curve (IC_1) with the given income and price of two goods.
8. It is also clear from the diagram that the consumer cannot reach IC_3, with his limited money income i.e., AB.

Conclusion:

We conclude that only at point E, the consumer is in equilibrium because at the point the budget/price line is tangent to the indifference curve and the MRS of good 'X' for good 'Y' must be equal to the ration between the prices of two goods.

Q.No.12 Write about the law of variable proportions?

Ans : Law of variable proportions:

When the quantity of a variable input is increased in equal doses keeping the quantities of other input constant, the total average and marginal products will increase initially, and later there will reach their maximum levels at different points & after that, first marginal product, then the average product and finally the total product will diminish.

Assumptions:

1. It is possible to vary the proportions of various factors.
2. Only labour is variable factor and others are constant.
3. Variable factor is homogeneous.
4. There is no change in technology. If there is any change in techniques of production, the product curves will be shifted accordingly but the law will operate.
5. It is a short-run situation.
6. The product is measured in physical units.

The above law is explained with the help of a table where the fixed input is land, while the labour units are taken as variable factors. As the land is fixed factor, it is not shown in the table.

The average product (AP) per worker is obtained by dividing total product (TP) with corresponding no. of workers (Q) i.e., $AP = \frac{TP}{Q}$.

The marginal product (MP) is the addition to total product by employing an extra worker i.e., $MP = TP_n - TP_{n-1}$ (TP_n = present t.u); (TP_{n-1} =previous T.P.). In another way, $MP = \frac{dTP}{dQ}$ (dTP = change in total production, dQ=change in no. of workers).

No. of workers	T.P.	A.P.	M.P
1	8	8	8
2	20	10	12
3	36	12	16
4	48	12	12
5	55	11	7
6	60	10	5
7	60	8.6	0
8	56	7	-4

The above table shown that the total, average and marginal products increase at first, reach a maximum and then start declining. The total product is increasing at increasing rate at first and after that it is increasing at decreasing rate. The total product reaches its maximum when 7 workers are used and then it declines. The average product rises continuously till the 3rd unit of worker and reaches its maximum at 4th unit and after that it is declining. When the AP is maximum, it is also equal to MP. The marginal product rises till the 3rd unit of worker, and reaches its maximum level there only and then it falls. While it is falling it reaches to zero level at 7th unit of worker where TP is maximum and after that MP goes negative when TP is decreasing. The point of falling output is not the same for total, average & marginal product. The marginal product starts declining first, the average product following it & the total product is the last to fall.

Diagramatic explanation:

FIG

In the above diagram, the tp first rise at an increasing rate up to point A where its slope is the highest from point A upwards, the total production increases at a diminishing rate till it reaches its highest point C and then it starts falling. The marginal product curve (MP) and the average product curve (AP) also rise with TP. The MP curve reaches its maximum point D. When the slope of the TP curve is the maximum at point A. The maximum point on the AP curve is t where it coincides with point B on the TP curve from where the total product starts a gradual rise. When the TP curve reaches its maximum point C, the MP becomes zero at point Q_1. When TP starts declining, the MP becomes negative. It is traditional to classify the stage of production into three as determined by the law of variable proportions.

Conclusion:

This law's useful to the producer for planning his production in the short period of the three stages in production, first and second are rational, practicable for the producer. He will not move into the third stage as employment of additional labourers is of no use in increasing output.

Q.No.13 What do you mean by returns to scale? Distinguish between law of variable proportions and returns to scale.

Ans : The law of variable proportions is applicable in short periods. In the short period, same factor remain fixed and it is not possible to vary their an output can be increased by varying other factors.

In the long run, all factors including plant machinery are variable. A firm can expand its scale of operations. It means that the firm expands product by increasing all inputs i.e., more equipment, more labour, more space etc.. If the increase in output is proportional to the increase in quantities of the inputs, returns to scale are said to be constant. A doubling of factors or inputs, returns to scale are said to be constant, causes doubling to output. If the increase in output is more than the proportioned returns to scale in increasing. If the increasing in output is less than proportional returns to scale are decreasing.

When a firm expands its scale, it first passes through a phase of increasing returns to scale, than a phase of constant returns, and finally a phase of diminishing returns to scale.

Increasing returns to scale:

When an increased amount of any factor of production is devoted to a certain use, it is often the case that improvements in organization can be introduced which will make natural units of the factor (men, acres, or money capital) more efficient, so that an increase in output does not require a proportionate increase in the physical amount of the factors. Sometimes an increase in factors will lead to improvements in efficiency and some times it will not.

How do increasing returns arise:

From the above definition, it is clear that increasing returns arise because of improvements in efficiency of factors of production. Efficiency of factors will increase because of the following reasons:

1. Indivisibility of factors:

First, they arise because factors of production often consist of indivisible units. The indivisible units may be a machine, a worker or the entrepreneur, all the factors for technical reasons must be of certain size. It is on account of this indivisibility a large-scale firm commands an advantage over a small scale firm. Hard each factor of production been perfectly divisible like sand it would be possible to produce even a single unit of a commodity with all the advantages of large-scale production. But for technical reasons, it is not possible to divide factors into small particles as sand. An industry is therefore

not able to equip it self to produce one unit of a commodity with out providing capacity to produce more than one unit.

2. Dimentional Relations:

Increasing returns arise with the increase in dimensions. It is cheaper to construct bigger machines. It is also cheaper to operate them for example, the cost of construction of double-decker bus is not double to that of an ordinary bus. Its operation costs are also not double. But it can carry double the no. of passengers. Thus with an increased, roads have to be widened and bridges have to be strengthened. Thicker material has to be used for construction of the bus. Increasing returns thus arise only upto a certain stage.

3. Specialisaiton:

The possibility of increasing returns is reinforced by the introduction of a scheme of specialization or division of labour. The advantages of specialisation are well known and need no repetition here the maximum rate of increasing returns would exist when each unit of the factor was completely specialized and capable of performing only one task.

Increasing returns could occur through the specialization of firms is of two types. They are : Lateral disintegration, vertical disintegration. Lateral disintegration is the process by which firms, each for merly producing a no. of different commodities or types of commodity, gradually specialize upon narrower range of a single commodity vertical disintegration is the separation of an industry into a series of processes, each carried on by separate firms. These also account for increasing returns.

4. External Economics:

Increasing returns are sometimes also due to external economies. External economics are those that are dependent on the general development of the industry. Internal economics are dependent on the resources of the individual houses of business a engaged on it, on their organization and the efficiency of their management. The simplest example of external economics is the one where the machinery is supplied more cheaply when the industry in question increases the market for machines making industry.

The law of diminishing returns begins to operate, when dis economics of large scale production out-weight economics.

It can be explained with the help of the following hypothetical example.

Here it is assumed that there are two factors namely labour and capital.

Tabular explanation:

Combinations	TP	AP
1:2	4	4
2:4	9	5
3:6	15	6
4:8	21	6
5:10	26	5
6:12	30	4

Diagramatic explanation:

Fig.

From the above diagram, increasing returns occurs in the first phase because of certain advantages available to a firm. As output is increased further, certain dis-economics enter into production and lead to constant returns. Beyond this, any increase in output causes more dis-economic and results in decreasing returns.

Thus in the first stage, as inputs are increased in the first part marginal returns curve is rising i.e., there are increasing returns to the producer.

Q.No.14 Write about various costs with the help of diagrams.

Ans : Costs are very important in business economics producer determines price of his goods based on the cost of production. Moreover, the costs are useful in taking business divisions. Producer utilize various factors of production, land, labour, capital and organization and pay remuneration to all factors in money terms. The remuneration or prices of factors which are paid by the producer in money terms, are called costs or cost of production. In other words costs means expenditure of goods and services.

Analysis of cost of production of a firm:

Cost of production of a firm is divided into two types. They are:

1. Fixed Costs and
2. Variable Costs

Fixed Costs: The expenditure incurred on fixed factors of production is called fixed cost. Fixed costs remain the same whatever the level of output. They have to be incurred even where the firm stops production temporarily. Fixed costs includes wages and salaries of permanent staff, rent, interest, insurance, depreciation charges etc. Fixed costs are distributed among all the factors of production. Hence, it is called over head costs. Quality of production does not depends on these costs directly. Hence, they are also called as supplementary costs.

Cost incurred on to that fixed factors of production to produce some quantity of goods is called total fixed cost (TFC). Average fixed cost is obtained by dividing the total fixed cost by number of goods produced. Technically

$$\text{Average fixed cost (AFC)} = \frac{\text{Total fixed cost}}{\text{No. of goods}} = \frac{\text{TFC}}{\text{Q}}$$

Variable Costs : Variable costs vary with the output. These costs vary with the every change in output. They includes wages of equal and temporary workers, payments for raw materials, fuel, power, transport, etc. These are also known as direct costs.

Costs which are incurred on all variable factors of production to produce some quantity of goods is called Total Variable Cost (TVC). Average variable cost is obtained by dividing the total variable cost by number of goods. Technically,

$$\text{Average variable cost (AVC)} = \frac{\text{Total variable cost}}{\text{No. of goods}} = \frac{\text{TVC}}{\text{Q}}$$

Total, Average and Marginal Costs : Fixed and variable costs are included in totals cost. Hence, the total cost is obtained by adding the total fixed cost and totals variable cost. In other words, total money cost that is incurred on all factors of production to produce goods is called total cost. For example, if a firm decides to produce soaps and amount incurred on buildings, land, raw material, machinery, wages of employers etc are called total costs.

Average cost in the last of each good. The average cost is obtained by dividing the total cost with number of units produced. Technically

$$\text{Average Cost (AC)} = \frac{\text{Total variable cost}}{\text{No. of goods}} = \frac{TC}{Q}$$

$$= \frac{TVC + TFC}{Q} = \frac{TVC}{Q} + \frac{TFC}{Q}$$

$$= = AVC + AFC$$

$$\text{Marginal Cost (AC)} = \frac{\text{Change in total cost}}{\text{Change in number of goods}} = \frac{\Delta TC}{\Delta Q}$$

Marginal cost = Total cost of production of 'n' units – Total cost of production (n-1) units.

$$= TC_n - TC_{n-1}$$

COST OF PRODUCTION OF A FIRM IN SHORT-RUN:

The following table shows various costs of a firm in the short-run period:

Production In Units	Total fixed costs(TFC)	Total variable cost(TVC)	Total cost (TC)	Average fixed (AFC)	Average variable (AVC)	Average total (AC)	Marginal cost (MC)
0	100	--	100	100	--	--	--
1	100	30	130	100	30	130	30
2	100	48	148	50	24	74	18
3	100	62.5	162.5	33.3	20.8	54.1	14.5
4	100	76	176	25	19	44	13.5
5	100	90	190	20	18	39	14.0
6	100	109	209	16.7	18.1	34.8	19
7	100	150	250	14.3	21.4	35.7	41

It is observed from the above table that the total production is 7 units. It can be observed that the total fixed cost is remain the same even output increases. While the total variable cost is increasing. The average foxed cost is decreasing when the production increase. Average variable cost and average total costs are decreasing upto 5^{th} unit of production and then after increasing Marginal cost decrease upto 4^{th} unit and later increasing. However, increase in marginal is greater than increase in total variable cost and average cost.

SHORT-RUN COST CURVES:

The total cost curves are analysed in the diagram (A). The total fixed cost curve is parallel to X – axis as the TFC remain fixed even the production increase or decrease. The total variable cost is zero if the firm is not produced any thing. The TVC curve is increasing with decreasing trend and later rising with increasing trend. Hence, the TVC cure starts from the origin. The total cost curve starts firm Y-axis as shown in the diagram and rises with increasing rate and later on rises with increasing rate.

Average and marginal cost curves are shown in the diagram – (B). In the diagram, the average fixed cost curve AFC is decreasing with a result in output. Because the total fixed cost remain the same with a rise in output. Hence the AFC is distributed among various units of production. Therefore the AFC curve slopes downward to the right and is a rectangular hyperbola. The AVC curve is gradually decreasing, beyond a stage; it is increasing. Hence, the AVC will be 'U' shaped. The AC curve is also 'U' shaped. The AC curve is also 'U' shaped as AVC. But it is behind AVC. The marginal cost curve (MC) falls at first and then it slopes upward as further output additions to the output interfere with the most efficient use of the variable factors.

These are explained in the following diagrams.

Diagram – (A) Diagram – (B)

Figure –

Q.No.15 What is elasticity of supply? How it is measured?

Ans : Elasticity of Supply: As elasticity of demand is very importance in business economics, elasticity of supply is also an important item in economics. The concept elasticity of supply, shows the relationship between changes in price and changes in supply. When the things being equal, the elasticity supply shows changes in supply as a result of changes in prices. The following equation is used for the calculation elasticity of supply.

$$\text{Elasticity of supply } (n_s) = \frac{\text{Proportionate change in supply}}{\text{Proportionate change in price}}$$

$$\text{Proportionate change in supply} = \frac{\text{Change in supply}}{\text{First Supply}} = \frac{\Delta Q}{Q}$$

$$\text{Proportionate change in Price} = \frac{\text{Change in Price}}{\text{First Price}} = \frac{\Delta P}{P}$$

$$\therefore n_s = \frac{\Delta Q}{Q} \div \frac{\Delta P}{P}$$

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

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

Types of Elasticity of Supply:

The elasticity of supply is five types. They are as under follows:

Different elasticity of supply curves:

DIAGRAM 8.5 CDE

1. **Perfectly Inelasticity of supply :** There is no change is supply for a change in price is called perfectly inelasticity of supply. The value of perfectly elasticity of supply is zero. The perfectly inelasticity of supply curve slopes vertical as shown in the diagram (A). It is observed fro the diagram that the supply of commodity is ob at oa price level. If the price increase from oa to oa', the supply does not change.

2. **Perfectly Elasticity of supply :** There is a infinity change in supply for no change in price is called perfectly elasticity of supply is infinitive (∞). The perfectly elasticity of supply curve is a horizontal straight line parallel to OX-axis as shown in the diagram – (B). It is observed from the diagram that the supply is increased from ob to ob' for no change in price.

3. **Unitary Elasticity of supply :** Unitary elasticity of supply is unity when the change in the amount supplied is an exact proportion to the change in the price. The value of unitary elasticity of supply is are ($n_s = 0$). As shown in the diagram – (C), the curve SS is a 45^0 line represents unit elasticity of supply

change in supply is bb' for a change in price aa'. Hence, change in supply is equal to change in price.

4. **Relative Inelasticity of supply :** When a given change in price, leads to less proportionate change in the amount supplied is called relative inelasticity of supply. The value of relative inelasticity of supply is less than one $(n_s < 1)$. As shown in the diagram (D) aa' is the change in price and bb' is the change in supply. Hence, the change in supply bb' is less than for a change in price aa'. It is called relatively inelasticity of supply.

5. **Relative Elasticity of Supply:** When a given change in price leads to greater proportional change in the amount supplied is called relative elasticity of supply. The value of relative elasticity of supply is greater than one. $(n_s > 1)$. As shown in the diagram (E), aa' is the change in price and bb' is the change in supply. Hence the change in supply bb' is greater than for a change in price aa'.

Q.No.16 : Explain the significance of time period in Price determination.

Ans : Importance of time element in price determination:

Generally the prices are determined with the help of demand and supply forces. But according to Marshall the time element is also playing an important role in price determination along with demand and supply forces. Marshall broadly divided the time into four periods-1. Very short period, 2. Short Period, 3. Long Period, 4. Very Long Period.

1. **Very Short Period :** Very short period is also known as market period. In this period supply in not changing in accordance with demand. The supply more or less remains constant due to no changes in both fixed cost and variable cost. Market period depends on the nature of commodities. The supply and demand curves are as follows in the very short period.

DIAGRAM

In the above diagram on X-axis the output and on Y-axis the price are determined. In this diagram MPS is the E and therefore, the price is determined as OP and output as OM. The market period supply curve i.e. MPS is constant. The demand curve is slufted from DD to D_1D_1. Therefore, the price is increased from OP to OP_1 and later decreased from OP to OP_2 with the decrease for demand from DD to D_2D_2.

2. Short Period: In this period due to change in the variable cost, the supply of goods can be adjusted to some extent. We can know this thing with the help of following diagram.

DIAGRAM

In the diagram SRS in the short run supply curve. The market period supply curve (MPS) and the increased demand curve (D_1D_1) are equal at point E_1. So the price is determined as OP_1. In the short period the supply curve is changed from MPS to SRS. Now the short run supply curve and increased demand curve D_1D_1 both are equal at point E_2. Therefore, the output is increased from OM_1 to OM_2 and the price is decreased from OP_1 to OP_2. Short period price (OP_2) is less than the price of very short period (OP_1) and the short period output (OM_2) is more than the output of very short period (OM_1).

3. Long Period : Long period price is also known as normal price. In this long period both fixed cost and variable cost can be changed. Therefore it is possible to increase the supply of goods to a great extent. We can a realyse the price determination in the long period in different cost situations.

(a) **Long period price and increasing costs :** When all the firms in the industry are experiencing diminishing returns to scale, then the additional output is secured only at the increasing costs. This can be explained in the following way with the help of diagram.

DIAGRAM

In the above diagram the long run supply curve LRS and the increased demand curve D_1D_1 are equal at point E_3. So the price is determined as OP_3 and the output as OM_3. The long period price (OP_3) is less then the short period price (OP_2) and the very short period price (OP_1). The long period output (OM_3) is more than the short period output (OM_2) and very short period output (OM_1).

b) Long period price and diminishing costs : At the time of diminishing costs, the net external economics are so powerful and therefore, the normal price will be less than the original market price. This can be explained with the help of following diagram.

DIAGRAM

In the diagram OP is the original market price and OM1 is the output. In the long period the price falls to OP3. Since the industry is subject to increasing returns to scale, the net external economics cause te cost per unit to decline. As a result the long run normal price i.e. OP3 is lower than even te original market price i.e. OP.

(b) **Long period price and constant cost :** The industry which experiences constant returns to scale is called constant cost industry. The price determination under constant cost is explained in the following diagram.

DIAGRAM

In the diagram at OP original market price the quantity output is OM_1. In the long period the quantity of output is increased to OM_3 and the price falls from OP_2 to OP. Therefore, the long period normal price is equal to the original market price i.e., OP.

4. Very Long period : In very long period, the economic factors like size of population, supply of raw materials, general conditions of capital supply etc. have been changed very rapidly. The demand supply of the goods will be changed rapidly and frequently in this period. Therefore, it is not possible to determine the price and out. We can call this very long period as secular period.

Q.No.17 Explain the features of Perfect Competition? How price is determined in this market.

Ans : Perfect competition has the following features:

1. There will be large number of buyers or sellers. No single buyer or seller can change the market price by his action.

2. The buyers & sellers will have perfect knowledge of the commodity sold & the price prevailing in the market.

3. The commodity sold is homogeneous & identical in all respects.

4. The firms can freely enter or leave the industry.

5. There is perfect marketing mobility of factors of production.

6. There are no transport costs.

7. Transactions take place on the basis of price only. No personal or other considerations enter sale or purchase.

8. There is no government control or restrictions on supply, prices etc.,

Equilibrium Price:

Price is determined by demand and supply forces. Demand for a commodity is a schedule of various quantities purchased in a given market in a given period of time at different prices. The law of demand states demand will be more at a lower price. When the price falls demand extends & when the price rises demand contracts. Supply is the schedule of different quantities of a commodity offered for sale at different prices. According to the law of supply when the price falls supply will fall and when the price rises, supply will increase. Thus demand and supply are opposite factors. When the price falls, demand extends but supply falls. Similarly, when price rises, demand falls but supply increases. The price that brings into equality the amount supplied and the amount demanded is called "Equilibrium Price". It is the equilibrium price that will settle down in the market making demand and supply equal. An example is given below:

Price (Rs.)	Quantity demanded (in kilo's)	Quantity d (in kilo's)	
3	10,000	40,000	
2	20,000	20,000	eq price
1	40,000	10,000	

In the above example, at a price of 3/-, the Q.d is 10,000 kilo's while the quantity offered for sale is 40,000 kilo's - supply is more than the demand at that price. Therefore, the price will fall. At the price of 1/-, the q.d. is 40,000 kilo's - demand is more than the supply. Therefore, the price will rise. Thus neither the price of 3/- or 1/- can prevail the market. At the price of 2/-, the q.d. is 20,000 kilo's and the quantity offered for sale is also 20,000 kilo's - supply & demand are equal at the price. Therefore, that price has no tendency either to rise or to fall. It is "Equilibrium price".

Diagramatic representation:

Equilibrium price determination is shown in the diagram.

DIAGRAM

DD is the demand curve. It slopes downwards because demand extends as the price falls. SS is the supply curve. It slopes upwards because supply falls as the price falls. Supply & demand curves are in opposite directions.

At the point t supply and demand curves intersect when the price is OP. It means that at the price OP, demand and supply are equal. OP is the equilibrium price, OM is the quantity sold and bought.

Changes in demand and supply :

If there is a change in the demand or in the supply, the equilibrium price will also change. It is shown in the diagram below:

DIAGRAM

In the diagram A, the effect of changes in demand on the equilibrium price is shown, supply being constant. SS is the supply curve and DD is the demand curve. OP is the first equilibrium, when demand has increased to D_1D_1, the new equilibrium price is OP_1. When demand has decreased to D_2D_2, the new equilibrium price is OP_2.

In diagram B, the effect of changes in supply is shown, demand being constant. When supply has increased from SS to S_2S_2, the new equilibrium price has decreased from OP to OP_2.

When supply has decreased from SS to S_1S_1, the new equilibrium price has increased OP to OP_1.

Q.No.18 How firm and industry attain equilibrium under perfect competition.

Ans : Every firm attempts to maximize its profit or minimize the losses. A firm is said to be in equilibrium when it gets maximum profits or minimizes its losses.

While analyzing the equilibrium of a firm, the following assumptions are made.

1. The firm wants to maximize its profits.
2. The firm knows the position by which it can maximize profits.
3. It is producing only one product.

Equilibrium of firm under perfect competition condition:

Conditions of equilibrium :

A firm under perfect competition reaches equilibrium under the following conditions.

(1) Marginal cost must be equal to Marginal Revenue:

(MC = MR) and must cut MR from below:

Marginal cost is the extra cost of producing an extra unit. Marginal revenue is the extra revenue got by selling the extra unit produced. If the marginal revenue is less than the marginal cost, the firm gets loss. Therefore, the firm will increase output until marginal cost is equal to marginal revenue.

In other words, the firm stops output when MC cuts MR from below:

DIAGRAM

(2) Equality between MR, AR, MC and AC :

The simple rule marginal cost should be equal to marginal revenue does not tell us whether the firm is getting loss or abnormal profits or normal profits at that output. To know the profit or loss position, the marginal and average revenue has to be compared with marginal and average costs.

(i) When MR and MC are equal, but MR is higher than AC (average cost), the firm gets abnormal profits.
(ii) If MR and MC are equal, but MR is less than AC, the firm gets losses.

Short-Period Equilibrium:

Under perfect competition abnormal profits or losses cannot exist in the long period. But in short period, until such time that the firms can leave the industry or new firms enter the industry, a firm, even under perfect competition may be in equilibrium either making abnormal profit or minimum losses. The short period equilibrium is shown in the diagram below:

DIAGRAM

At output OM, marginal revenue MR, AR are equal to marginal cost MC. MR cuts MC at L where output is OM. But at that output OM, Average cost is R as indicated on the Ac curve. MR is therefore higher than AC by the distance between the points R & L. PLRS are the abnormal profits for the output OM. The firm is in equilibrium in the short period getting abnormal profits.

At output OM_1, MR & AR are equal (as indicated in diagram $AR_2 = MR_2$) to MC. MC cuts MR at point K. The firm stops output there, but at that output, AC is N as indicated by the AC curve. MR is lower than AC. K is less than N as seen in the diagram. Therefore, the area P_1. KNT are the minimum loses of the firm for the output OM_1. But the firm is in equilibrium in the short period, even though it is getting loses.

Long Period Equilibrium :

Abnormal profits or losses cannot exist in the long period under perfect competition. If there are abnormal profits, new firms enter the industry. Production will increase price will fall. This will go on until price is equal to AC and there are no abnormal profits. If there are losses, some firms will leave the industry. Production will fall, price will rise. This will go on until the price is again equal to AC & there are no losses. Thus in the long period, the firm will be in equilibrium making normal profit only the long period equilibrium is shown in the diagram below:

DIAGRAM

In the above diagram, MC is the long period, marginal cost curve & AC is the long period average cost curve. At output 'Q, MR & AR are equal to MC, but higher than AC i.e., point K. There will be abnormal profits. New firms enter the industry. That position cannot remain. AT output S, AR & MR are equal to MC, but less than ie., point U. There will be losses. Firms leave the industry. Therefore, that position also cannot remain. An output OM, AR, MR, MC & AC are equal. The firm gets normal profits. Since there are normal profits new firms are not attracted to the industry, nor the existing firm leave the industry. Therefore OM output where AR, MR, MC, AC are equal is the long period equilibrium of the firm.

Q.No.19 Explain with the help of suitable diagrams how price is determined under monopoly.

Ans : Monopoly is the opposite of perfect competition under monopoly there will be only one producer seller. There is no competition for him. There is no near or close substitute for his product. He controls the whole supply of the product. But there will be many buyers.

Under monopoly there is not distinction b/w the firm and industry. Since there is only one firm, firm and industry are same. If there is no substitute at all for the product produced by the monopolist, it is called pure monopoly. But pure monopoly is very rare. In the real world, we find a monopoly situation where there is no near substitute for the product.

Foundations of monopoly power :

Monopoly arises due to the following reasons:

1. Legal Monopolies : They arise due to copy right, patent right etc.
2. Artificial Monopolies : They arise due to combination of firms, agreements etc.
3. Natural Monopolies : They arise due to exclusive possession of some commodities, given by nature. For example, diamonds in Africa.
4. Social or state monopolies : They arise when the government takes over public utility industries or other industries.
5. Heavy investment: When the industry requires, heavy investment, only one or few firms may undertake it. It may give rise to monopoly.
6. Control over supply of raw materials: When a firm owns all the sources of raw material supply new firms cannot enter the industry, monopoly arises.
7. Good Will :- Due to good will earned by a firm, it may get monopoly power.

   Thus it is the obstacles for the enter of any other firm into the industry that gives rises to monopoly power.

Price determination under monopoly: The aim of the monopolist is to get maximum net monopoly revenue or maximum monopoly profit. Therefore, the monopolist chooses that price & quantity which gives him maximum profits.

The following are the principles of monopoly price determination.

1. Stops output when MC-MF:

The monopolist stops output when marginal cost is equal to marginal revenue. So long as MC is lower than MR, he can increase his profits by producing more. If MC is higher than MR, he gets loss. Therefore, he will not produce that output thus MC = MR is the fundamental rule to stop output, whether it is monopoly or perfect competition.

2. MC will be in 'v' shape & AC will be in "U' Shape:

MC falls rapidly & rises rapidly. It has 'v' shape. AC falls slowly & rises slowly. It has 'U' shape. The nature of AC & MC are same whether it is monopoly or perfect competition.

3. MR & AR will fall as output increases:

The monopolist has to reduce the price to sell more output since there is only one firm under monopoly when the firm increases output, price will fall. Therefore, MR & AR will fall.

4. MR will be less than AR :

The price falls as the monopoly firm increases output. The loses on the previous unit as well as the marginal units. Therefore ,MR will be less than AR.

5. AR will be equal to price – it is demand curve of the monopolist:

Average Revenue (AR) = TR ÷ No. of units sold.

TR = Price x No. of units sold.

∴ AR = Price. AR therefore shows different quantities sold at different prices. Thus AR is the demand curve facing the monopolist. It slopes downwards.

The monopolist stops output when MC = MR & sells that output at the demand curve AR. The difference b/w AC at that output and AR (Price) is the maximum net monopoly revenue or maximum profits. Monopoly price fixation is shown in the diagram below:

Diagram :

MC is the marginal cat curve & AC is the average cost curve. AR is the average revenue curve & MR is the marginal revenue curve. Both AR & MR slopes downwards as the price falls when output is increased. MR curve lies below AR because MR will be less than AR.

DIAGRAM

The Monopolist stops output at OM because at the output. MC & MR are equal MC cuts MR at point 'S'. Therefore, at OM, MC = MR. He sells the output OM at the price P^1 on the demand curve AR. AR is the demand curve also. At the output OM, average cost is L on the AC curve. Price P^1 is above AC. The shaded area PP^1 LT are the supernormal profits of the monopolist. It is the maximum profit position. No other price & output will give him such maximum profits.

Limitations on monopoly power :

1. Government may interfere and fix price if the monopoly price is very high.
2. Consumers may boycott the product if the price is very high.
3. Substitutes for his product may be found out if the price is very high.
4. Imports may be made.
5. Government may abolish monopoly.

These limitations prevent monopoly price to be very high.

Price discrimination by the monopolist :

The monopolist may not charge the same price in all the markets. He may fix a lower price in the market where demand is elastic and a higher price in the market where demand is inelastic. Such price discrimination brings him maximum not monopoly revenue.

Q.No.20. How do you determine price under discriminating monopoly.

Ans. "price discrimination" means charging different prices for the same commodity to different buyers are different prices in different market's at the same time. The monopolist practices price discrimination because it brings him maximum profit or maximum net revenue than what he gets, it he changes the same price. When the monopolist practices price-discrimination it is called "Discriminating monopoly".

Types of price discrimination:

There are different kinds of price-discrimination.

1. **Personal discrimination:** When different prices are charged to different persons, it is called personal discrimination. For example, a doctor may charge 100/- to a poor man & 500/- to the rich man for the same operation. "Prof. Pigou" distinguishes 3 kinds of personal discrimination – (a) charging different price to different buyers. So that there is no consumer's surplus at

all. He calls discrimination of the first degree, (b) charging different prices to different buyers leaving some consumer surplus. This is discrimination of the second degree, (c) charging different prices to different groups of buyers according to their income etc. Generally price discrimination will be of this type as for example the doctor charging 100/- to the poor and 500/- to the rich. This is discrimination of the third degree.

2. **Place discrimination:** Different prices may be charged to different places.

3. **Discrimination according to time and use :**

   A telephone company, for example may charge higher rates for duty time and lower rates for night trunk calls. This is price discrimination on the basis of time of use. An electricity company may charge lower rates for industrial use of electricity and higher rates for domestic or household lighting. This is price discrimination according to type of use. Use discrimination is also called "Trade discrimination".

4. **Nature of the product:**

   Price discrimination may be based on the nature of the product. For example, paper back editions are cheaper than the deluxe editions of the same book.

5. **Age, Sex and Status:**

   Price discrimination may be related to age, sex and status. For example, certain cinema halls charge lower rates to women. Military persons in uniform are charged lower rates in certain cinema halls. Barbers charge lower rates to children.

Conditions for discriminating monopoly:

The monopolist cannot practice price discrimination in all cases. Price discrimination is possible only if the following conditions are fulfilled.

Essential Conditions:

1. There should be two are more markets or groups of buyers for the commodities.
2. Elasticity of demand in these markets should be different. The elasticity of demand in one market should be low& in the other market it should be high.
3. The monopolist should keep the different markets separate. So that the commodity is not resold from the low-priced market to the high priced – Market. If people can buy in the market where

price is high, there can never be two prices for the same commodity.

4. Demand that is proper to one market cannot be transferred to another market. For example, a cinema hall can change a lower rate to women because man cannot become women for the sake of lower price. Similarly, Railways can charge different rates for the transport of coal & copper because coal cannot be transported as copper or copper as coal.

Circumstances when discrimination is possible:

The above are the essential conditions for price discrimination. Price discrimination is also possible under following circumstances.

1. Ignorance of buyers :

If individual buyers are not in a position to know the charged to others, price discrimination is possible.

2. Agreement b/w rival sellers :

For example, if the doctors in a place come to an agreement to charge lower rates to the poor & higher rates to the rich. Price discrimination becomes possible.

3. Geographical or Tariff barriers:

A monopolist can change a higher price in the foreign market and a lower price in the home country if the commodity sold in the foreign market can be prevented from coming to the home country by tariffs etc. This kind of discrimination is known as “dumping”.

4. Market imperfections:

Discrimination is possible when there are market imperfections like restrictions on mobility intertia etc.

5. Price discrimination is very easy in the case of direct personnel services which cannot be resold. For example, a doctor can change a lower rate to the poor because doctor’s services cannot be resold by the man who receives them.

Determination of price under discrimination:

The aim of the monopolist in practicing price discrimination is to maximize his profits. The following are the principles on which discriminatory prices are determined.

1. The total output is determined at the point where the aggregate marginal revenue is equal to the marginal cost of production of output.
2. He divides the markets according to the elasticities of demand, high elasticity markets and low elasticity markets.
3. He charges lower price in the market where elasticity of demand is high. High elasticity means a small reduction in price heads to a great expansion of demand. Therefore, it is more profitable to charge a lower price.

   In the market, where elasticity of demand is low, he charges higher price. Low elasticity means even if the price is higher, demand will not fall very much. So, a higher price is more profitable.

4. The marginal revenue in each market should be equal to the marginal cost of production of the total output.
5. The marginal revenue in all the markets should be same.
6. The combined marginal revenue of all the markets should be equal to the marginal cost of the total output.

   The maximum profit position of discriminating monopoly equilibrium is when $MR_1 = MR_2 = MC$.

   (MR_1 stands for marginal revenue in market one;
   MR_2 stands for marginal revenue in market two;
   MC stands for marginal cost of the total production)

In the below diagram, the monopolist is shown selling, his output in two submarkets A & B. In market A demand is inelastic or low elasticity. In the total output diagram, total output OM is in the total output diagram, total output OM is determined at the point where MC is equal to total MR TMR. TMR = MR_1 + MR_2 in market A the output,

DIAGRAM

He sells is determined at the point where MC of the total output is equal to MR1 in that market. He sells at price P1 on the demand curve D1 which is AR curve.

In market B, the quantity he sells is also determined at the point where MC is equal to MR_2 in that Market. He sells that quantity at price P_2 on the demand curve D_2 which is AR curve.

So, $OM_1 OM_2 = OM$.

Price P_1 in market A is higher than price P_2 in market B, because demand is inelastic in market A; while demand is elastic in market B. That means he sells more output for less price in market A & less output for high price in market B.

Q.No.21 What are the reasons for price rigidity under Oligopoly.

Ans : Oligopoly is a situation where are only a few sellers producing a homogeneous or differentiated products. It is combination among the few because only a few big firms will be producing and competing in the market.

Price determination under oligopoly can be of different types.

1. Independent Pricing:

(a) If there is product differentiation, each firm has a monopoly element. Therefore, it can fix its price as under monopoly aiming at maximum monopoly profits.

(b) If there is no product differentiation and all firms produce homogeneous product no definite solution can be stated for independent pricing. There may be price-war each firm trying to fix lower price and undersell the other. OP, after arriving at a reasonable price, they may not change it.

But independent pricing does not continue for long under oligopoly. Firms collude to remove uncertainties of cut throat competition.

2. Collusive Pricing:

The firms may form a cartel to regulate prices & output of all firms and avoid competition. If it is a perfect carter, board of control will determine the output and the price to be charged by each firm. If it is a loose cartel, the firms divide the market among themselves and agree to charge a uniform price. Each firm gets profits on its sales in the market allocated to it.

But collusive pricing may not continue for long.

3. Price Leadership:

The firms agree to sell at a price set by the leader of the industry. Price leadership is of various types.

(i) One firm with the wisest entrepreneur announces a price change and the other firms follows – this is known as barometric price leadership.

(ii) One big firm and largest in the industry sets the profit maximization price and others follow it. This is called "Dominant price leadership".

(iii) One firm that dominates the market fixes the price which forces the others to accept or leave the industry. This is called aggressive or exploitative price leadership.

(iv) When there are a few firms with same cost conditions is less elastic demand, a price may be agreed upon by all the firms to avoid competition among them. This is called "Effective Price Leadership".

Rigidity of price and oligopoly – Kinky demand curve theory:

To explain "price-rigidity" or "Stick Prices" under oligopoly Prof. Sweezy used the "Kinky demand curve" model. If the firm under oligopoly increase its price, it believes that other firms will not increase their price, its sales will fall. Therefore, it does not like to increase the present price. If it reduces the price, therefore, the firm cannot estimate what its demand would be if price is reduced by it. There will be uncertainty. Therefore, it does not like to reduce the price. Thus the firm sticks on to the present price. This uncertainty in the demand when its price is reduced is called discontinuity or kink in the demand curve.

DIAGRAM

DD is the demand curve or AR. MR is the marginal revenue curve. After 'P' there is a kink or discontinuity in the demand. Therefore, from points T to S in the MR curve, there is uncertainty as shown by the dotted line. Under this market, equilibrium will be attained at any point b/w T & S.

Q.No.22 Discuss how price is determined under monopolistic competition.

Ans : It was Prof. Chamberlin who was mainly responsible for the development of monopolistic competition theory. He developed the theory in his famous books. "The theory of monopolistic competition", in 1933.

Monopolistic competition is a blending or combination of both monopoly and competition. Each firm will be in a monopoly position but at the same time. It will have to face competition from similar monopoly firms, which produce close substitute products.

Features of monopolistic competition:

The following are the features of monopolistic competition:

1. Large no. of sellers :

There will be large no. of sellers under monopolistic competition. But no one controls a major portion of the total output. Every firm acts independently regarding its price and output policies without considering the reactions of the rival firms.

2. Product differentiation:

It is the most important feature of monopolistic competition. All the firms produce a product that satisfies the same demand but the product produced by each firm is in same ways different form the other. These differences may be real or imaginary. Take for example, tooth paste, we have different varieties in the market, colgate, signal, neem etc., each firm creates an impression that's its product is superior to others and attracts a group of customers to its product who always like to purchase it. The products are close substitute but not perfect substitutes. Such product differentiation is created by changing the quality of the product by advertisement & propaganda, by patent rights and trade mark etc.

3. Freedom of entry and exit:

Under monopolistic competition, firms can freely enter or leave.

Price & Output determination under monopolistic competition:

Price and output equilibrium under monopolistic competition can be divided into short and long period equilibrium.

Short period equilibrium:

Each firm under monopolistic competition has a group of customers for itself who like to purchase its product even if the price is a little high. In other words, each firm has its own market. Therefore each firm has monopoly power. Just an in-monopoly, each firm under monopolistic competition aims at monopoly profits.

The demand curve facing a firm under monopolistic competition is highly elastic. If a firm increases its price, it may lose its customers because they may prefer to buy other varieties of the product which are cheaper. Similarly, if it reduces the price, it can attract some more customers. Therefore, the demand curve-facing the firm slopes downwards form left to right. AR & MR slope downward & MR will be less than AR just as in monopoly, MC & AC curves will be in their usual shape. They first slope downwards and rise after a point.

Diagram:

Just as in monopoly, the firm under monopolistic competition also stops output when MC is equal to MR and sells that output at the price on the demand curve AR. When the price is higher than AC, the firm gets abnormal profits.

But it should not be thought that all firms will be earning abnormal profits only. Efficiency, cost condition, elasticity of demand may differ from firm to firm. Therefore, some firms may be getting abnormal profits, some firms normal profits and some firms losses also. Firms which have been in the field for a long time and have earned good name may be earning abnormal profits. New firms may prefer to fix a lower price and be satisfied with normal profits, some firms may be working under losses also because cost and demand conditions are not favourable to them. This situation is shown in the diagram below:

DIAGRAM

In the above diagram, firm A is making abnormal profits, price P is higher than AC as indicated by the point R on the AC curve. PP^1RR^1 are the abnormal profits at the output OM.

Firm B is making normal profits, price P is equal to average total cost (ATC) at the output OQ when MC is equal to MR. Firm C is making losses. Price R on the demand curve AR is equal to average cost (AC) only. Price R at the output OB is less than average total cost (ATC) as indicated by the point P on the TC curve. Since price R is less than average total, cost P^1PRs are the losses.

Long period equilibrium:

In the long period, there cannot be abnormal profits or losses. The firm will be making normal profits only. Under monopolistic competition new firms can enter or the existing firms can leave. Therefore, if there are abnormal profits new firms will enter the field. Prices will fall due to three reasons:

(a) When new firms enter production will increases. Larger production results in lower price.
(b) The firms may fix a lower price to build up their sales.
(c) The existing firms may be forced to reduce their prices to prevent any decline in their sales.

LMC is the long period marginal cost curve. LAC is the long period average cost curve. LAR is the long period average revenue curve. LMR is the long period marginal revenue curve. The firm stops output at OQ because LMR & LMC are equal at that output as indicated by the point B. He sells the output at the price on the long run demand curve LAR. But the long period price P is equal to the long period average cost LAC. Therefore, there are no abnormal profits. The firm earns only normal profits.

DIAGRAM

But when the firm earns normal profits, AC will not be at the maximum point. AC is the falling even if output is expanded beyond OQ. Thus the firm has stopped output even before it got all the advantages of large scale production and reached lowest AC. It is not producing optimum output. There is excess or unutilized capacity.

Q.No.23 Discuss how factor prices will be determined with the help of marginal productivity theory of distribution.

Ans : Marginal Productivity theory :

National income is distributed to the factors of production land, labour, capital and organization. Labour gets wages. Land gets rent. Capital gets interest and organization gets profits. This is called "functional theory of distribution". The services of these factors of production are evaluated was put forward by "J.B. Clark". According to him an entrepreneur buys the services of factors of production he employs. As the aim of the producer is profit maximisaiton, he will prefer to pay a price which works out to be economical.

Marginal productivity theory is the resultant increase in output due to an increase in the use of the factor. When we multiply the increase in output by the market price we get the value of the marginal product, this is the increase in the firms revenue due to an increase in output, or when we increase the use of one additional unit of the factor of production.

The following are the essential points of the marginal productivity theory of distribution.

1. Factors of production contribute to production.
2. The reward paid to each factor will be equal to its marginal product. Marginal revenue product is its marginal physical product multiplied by the price.
3. The marginal productivity of a factor diminishes when more of it is employed keeping other factors constant due to the law of diminishing returns.
4. The reward paid to a factor will tend to be equal in all the employments in which it is used. If for example, the reward paid to a factor in industry 'A' is higher than in industry 'B' it will more from industry B to industry A. This mobility will continue until its marginal productivity is equal in all employments.
5. The marginal productivity divided by price ratio of all the factors employed will be equal. The employer aims at the maximum profits. Therefore he substitutes cheaper factor in the place of costlier factor. He compares the marginal productivity of a factor and the price to be paid for it.
6. Under perfect competition, the reward paid to a factor will be equal not only to its marginal product but also to its average product in the long period.
7. No employer who aims at the maximum profits will pay rewards which are more than the value of the marginal product under perfect competition.

An example is given below taking incase of labour.

Labour	Marginal product (Units)	price (Rs.)	Marginal revenue Product (Rs.)
1	10	2	20 (10 x 2)
2	5	2	10
3	2	2	4

In the above example, when 3 labourers are employed the marginal product of the last labourer is 2 units. The marginal product is diminishing due to the law of diminishing returns. The price per unit of production is taken as 2/-. It remains constant under perfect competition. MR productivity is equal to marginal product x price. The marginal revenue product of the last labourer employed is 2 x 2 = 4/-. He will be the paid a wage of 4/-. It is assumed that all the labourers are of equal efficiency. Therefore, what is paid to the last labourer will be paid to others also. Thus wages are determined by marginal productivity of labour. Similarly in the case of all factors of production the reward paid to them is determined by their marginal productivity.

DIAGRAM

Assumptions:

The marginal productivity theory is based on the following assumptions:

1. There is perfect competition.
2. There is perfect mobility of factors of production.
3. All the units of a factor are alike. In other words, they are homogeneous.
4. There is perfect substitutability. One factor can be substituted for the other.
5. All factor units are divisible so that the employment of a factor can be increased or decreased in small units.
6. The law of diminishing returns operates.
7. There is full employment.
8. The technique of production remains same.
9. The proportions of the factors are variable.

10. The employer aims at maximum factors of profits.
11. It is applicable to the short period.

Criticism:

Marginal productivity theory has been criticised by a large number of economists. It cannot be exactly measured and its sum is greater than total product. It doesn't apply to all the factors. This theory later was developed by Jevons, Wicksteed, Marshall etc.

Q.No.24 Critically analyse Recordian Theory of rent.

Ans : The term 'Rent' is used in different senses. In ordinary language, rent is understood as the hiring charges that we pay for a house, or a machine or land. This is known as "Contract Rent". But in economics, rent has a different meaning. Economic rent also is defined in several ways. The classical view as stated by "Recardo' is that rent is a land of surplus above costs and it is a payment for the use of land. According to modern opinion, rent is the payment to any factor over & above its transfer earnings.

Ricardian theory of rent:

David Ricardo was a nineteenth century economist of England. The theory of rent stated by him is known as the Ricardian theory of rent.

1. Rent is payment for the use of land:

Land is a free gift of nature. It has original and indestructible powers in the form of fertility. Rent is a payment made to the landlord for the use of these powers of the soil. He paid that "Rent is that portion of the produce of the earth paid to the landlord for the use of the original and indestructible powers of the soil".

2. Rent arises due to differences in fertility of land:

Fertility differs from land to land. Some lands are more fertile, while some lands are less fertile. Suppose that there are 3 grades of land in a country A, B, C. A grade land is the most fertile. B grade lands are less fertile and C grade lands are least fertile. When population is small, enough food can be produced by cultivating A grade lands only. When population increases, B and C grade lands also will be cultivated to grow enough food for the growing population. Thus, as population and the demand for food increases, cultivation expands from the more fertile to the less and least fertile lands also. But the cost of production, will be more on the less fertile lands than on the more fertile lands.

3. Rent is a differential surplus:

Rent according to Ricardo is a differential surplus. It arises due to differences in the fertility of land.

4. Rent in intensive cultivation:

When the same land is cultivated more intensively, there will be rent on the intra-marginal units of production. The cost of production of marginal output increase due to diminishing returns after a point.

5. Rent does not enter into price :

According to Ricardo rent, does not enter into price. It is not price determining, price is equal to the marginal cost which does not contain rent. Rent is a surplus measured after the price is determined. Price of food grains is high not because high rent is paid. On the other hand rents are high because the price of food grains has increased.

6. Rent arises on land only:

According to Ricardo, rent arises on land only because it is a free gift of nature. It has original and indestructible powers and its supply is fixed.

It can be shown with the help of an example.

Land Grades	Cost of production	Output in bags	Rent or physical	surplus value in rupees
A	600/-	25	10 bags	400/-
B	600/-	20	5 bags	200/-
C	600/-	15		

Modern approaches:

Modern theories of rent do not confine the term rent, as a reward for the services of land only. Rent according to them is a surplus payment in excess of transfer earnings of any factor. Benham, Marshall, Boulding and Joan Robinson have extended the theory of modern economic rent.

DIAGRAM

Conclusion:

1. There is no 'rent' on marginal lands.
2. cost of production on 'no rent' lands determines the different grades of land.
3. Rent which is a surplus arises due to differences in land fertility.
4. Law of diminishing returns to scale will operate in agricultural sector.
5. Land has no alternative uses except cultivation.

Q.No.25 How modern theory of rent is superior than Ricardian theory of rent.

Ans : The Ricardian notion of "Rent" has been closely associated with the conception of free gifts of nature with particular emphasis on land. One acquires the impression that rent is a special feature of land only, and that other factors of production cannot get it. In recent times the conception of rent is extended and applied to other factors of production. Modern economics question the validity of confining rent to land alone when differences in the degree of productivity are equally evident in the case of factors of production other than land. For example, the productive capacity of one worker may be superior to another so that there is a possibility of the former enjoying a supplementary gain of the nature of pure differential surplus akin to land rent. "The extra gains which any producer or dealer obtains through superior talents for business or superior business arrangements are very much of a kind similar to rent" –Marshall.

Transfer earnings & Rent:

Mrs. John Robinson has given a clear exposition of the modern theory of rent. The conception of rent is the "Conception of a surplus earned by a particular factor of production over and above the minimum earnings necessary to induce it to do its work". Whenever any unit of a factor of production is receiving a greater income that the minimum amount necessary to induce it that factor to remain in its present occupation, the surplus of receipts over tits minimum supply price may be called economic rent. Rent may be therefore be defined from the point of view of any industry more accurately as a payment in excess of its transfer earnings.

Rent = Actual earning – Transfer earnings.

= Market price of a factor – supply price.

Rent arises only when the supply of a factor of production is less than perfectly elastic. Let us explain the emergence of rent when the supply of a factor is [i] perfectly in elastic [ii] perfectly elastic, and [iii] less than perfectly elastic.

1. **Perfectly Inelastic supply:**

If the supply of a factor is perfectly inelastic, its supply price is zero. When the demand for the products of that factor increased this is explained with the help of a diagram

Diagram

In the diagram, SS is the supply curve of the factor in Rent question. Its supply OS is fixed. Hence the supply curve is perfectly P1 inelastic. In the demand curve is DD, it intersects the supply curve at point E. The price is Op. Since the supply price of the factor is zero, the whole earning are rent. When the demand curve shirts upward to D_1D_1 the price increases to Op_1. It becomes OP_1E_1S.

2. Perfectly Elastic Supply:

If the supply of land or any other factor of production is perfectly elastic, it is quite obvious that the factor will not earn rent. If supply is perfectly elastic, we can get any amount of that factor at the given price of it. Its market price is equal to its transfer price. So, no rent will acerue. This is shown in the diagram.

DIAGRAM

PS is the supply curve which is perfectly elastic. At OP price, any amount of Rent the factor is forth coming. If the demand curve is DD. OM units of that factor will be employed. If demand curve shifts upward to D_1D_1, OM_1 quantity of the factor is employed at OP price.

The factor can not earn any surplus income the supply of a factor may at times be elastic to a particular industry.

3. Less than perfectly elastic supply:

Normally the supply of any factor to any particular use is less than perfectly elastic. This is because of factor of competition can be put to different uses and demanded by different industries. When the supply of a factor is less than perfectly elastic, the units of the factor which have the lowest supply rice will be used first. So long as only these units are there can be no rent. As soon as demand increases as to call fourth the employment of high price units of the factor, rent will arise on those units of the factor whose supply price is lower since in a competitive market all units are paid a like. Rent is thus the difference between market price & supply price of a factor of production. It can be explained with a diagram.

DIAGRAM

The supply curve SS has a positive slope. It means that the additional units of the factor can be obtained only at higher prices. Suppose that the demand curve is DD. It intersects the supply curve at point E. The market price becomes OP. The number of factor units (land) employed is OM. At this stage surplus earnings (rent) are SPE.

If the demand curve shifts upward to D_1D_1, it intersects the supply curve at point E_1. The price of a unit of a factor (land) will arise to OP1. Now the surplus earnings (market price) and transfer earnings is rent. This is shown by the shaded area.

The explanation is applicable to all factors of production. As a matter of fact, the supply of any factor to a particular use is less than perfectly elastic. Hence any factor can earn rent if the market price exceeds its transfer price.

Q.No.26 Explain Lonable funds theory of Interest?

Ans : Lonable funds theory of interest:

The Lonable funds theory of interest was formulated by the famous Swedish economic wicksell. Mydral, Lindhal, onin and Robertson made further refinements to the theory. The theory integrates monetary and non-monetary aspects of interest. The

classical theory ran in real terms and did not take into amount the fact that the demand for cash might also arise from desire to board. The lonable fund theory recognizes, besides savings and investment, the role of boards in determining the rate of interest. The rate interest is a function of four variables savings, investment, the desire to board and the quantity demand of money. According to this theory, interest is the price paid for the use of lonable funds, and as such, is determined by the demand for and the supply of lonable funds.

Supply of lonable funds:

The supply of lonable funds is derived from four sources – savings, dis-boarding, bank of credit and disinvestment.

1. Savings:

Savings by individuals and households constitute the most important source of supply of lonable funds. Savings may be looked in either of the two ways. Ex: expost i.e., saving planned by individuals at the beginning of a period in the hope of expected income & anticipated consumption expenditure or savings as the difference between the income of the preceding period and consumption of the present period.

2. Dishoarding:

Dishoarding is another source of lonable funds. Savings which are kept in idle form may be released into the market. If the rate of interest rises, more money will be dishoarded.

3. Bank Money:

Banking system provides lonable funds in the process of manufacture of money. Money created by banks adds greatly to the supply of lonable fudns. Generally, speaking banks lend more money at higher rates of interest than at lower rates, other things remaining the same.

4. Disinvestment:

It is said to take place when the stock of existing machines is allowed to wear out without being replaced or when the inventories are drawn below the level of the previous period.

Demand for lonable funds:

The demand for lonable funds comes mainly from 3 sources, investment, consumption and hoarding.

1. Investment demand:

The demand for lonable funds for investment purposes by business houses is the most important constituent of total demand. Business houses demand lonable funds upto the point at which expected net rate of return on capital goods becomes equal to the rate of interest. The demand for lonable funds for investment purposes is interest elastic and varies inversely with the rate of interest. The demand for lonable funds for investment purposes is interest elastic and varies inversely with the rate of interest.

2. Consumption demand:

Individuals and households demand lonable funds when they wish to make purchases in excess of their current income and cash reserves. Consumers generally demand lonable funds for buying durable consumer goods. Low rate of interest encourages consumers to borrow more funds. Lastly, the demand for lonable funds comes from these who want to hold money, i.e., to satisfy liquidity preference.

3. Demand for hoarding:

Hoarding implies keeping idle cash balances. It is important to note that the same people who are hoarding cash balance are also the suppliers of lonable cash balance are also the suppliers of lonable funds. The demand for hoarding is interest elastic and the curve; slope downward to the right. At a higher rate of interest people hard less money.

Determination of rent of Interest:

The rate of interest is determined by the equilibrium between total demand for lonable funds slopes downward where as the supply curve of such funds slopes upward. The point of intersection between the two curves indicates the rate of intersect with the help of a diagram.

DIAGRAM

In diagram, DM, DS, I curver (left hand side) shows the demand for hoarding, for this saving (Consumption demand) and demand for investment respectively. All these curves slopes downward from left to right indicating that with a fall in the rate of interest the demand for

lonable funds will increase. By the lateral summation of these three curves. We get the, total demand for lonable funds such total demand is shown by DL curve OA the right hand side.

The total supply curve of lonable funds (SL) is obtained by the horizontal summation of DH, Ds, S & BM curves. These curves slope upwards indicating that more funds are supplied with every increase in the rate of interest.

The total demand curve and total supply curve of lonable funds; intersect each other at point E. The equilibrium rate of interest is OR.

The role of given to hoarding in the supply of money, according to Keynes, is wrong. Keynes thinks that hoarding cannot increase or decrease as long as the money supply remains constant the theory treats demand and supply schedules independent of each other. Infact, the supply schedule for lonable funds. The theory like the classical theory does not provide a determinate solution for the rate of interest unless other factors are known savings are an important source of lonable funds. The theory assumes full employment of resources. It is said that it is in applicable to the situations of less than full employment.

Q.No. Explain Liquidity theory of J.M. Keynes.

Ans : Dissatisfied with the savings and investment theory of interest. Keynes formulated his own theory of interest. The theory of Keynes is known as the "liquidity preference theory of interest". In the classical system, the rate of interest is real phenomenon determined by thriftness (savings) and productivity of capital. In the Keynesian system, it is a monetary phenomenon-determined by demand and supply of money. Keynes formulated his liquidity preference theory of interest in his book "The General theory of employment, interest and money". Interest is the price paid for money. It is therefore determined by the demand for and supply of money.

The supply of money is determined by the central bank working on the banking system. Money supply is a policy variable. It varies according depending on the policy of the banking system. Keynes assumed that money supply is an autonomous variable and is fixed. Given the money supply. The rate of interest is determined by the demand for money.

Demand for Money:

The demand for money is the demand to hold liquid cash. Why do people hold their assets in the form of cash when they can get interest by lending such resources? The desire to hold ready money arises out of three motives ; (i) The transaction motive
(ii) The precautionary motive

(iii) The speculative motive

(i) The transaction motive:

People receive income weekly, monthly or yearly. But their expenditure is continuous. No doubt same payments are made at periodic intervals like rent, electricity, telephone bills etc. But many payments are made almost daily. Individuals receive their income at discrete intervals, but they spend continuously. They, therefore, need a stock of money all the time to carry out transactions. Holding of money provides convenience.

(ii) The precautionary motive:

It is the desire to hold some money balances to meet unforeseen emergencies or contingencies. It is the money held to provide against the danger of unemployment sickness, accident and other more uncertain perils. Keynes argues that the amount of money held under precautionary motive performs, broadly speaking, the function of a store of value. "It is possible to like the amount of money held under the transactions motive to water in a tank".

(iii) Speculative motive:

The third motive for holding money is the speculative motive; which is typically a keynesian idea. Money held under this motive constitutes a store of value a liquid asset the holder intends to use to make gains. The money held on this motive will be invested in bonds and securities at the opportune time. If prices of bonds are expected to rise. People buy bonds in order to make gains. The money held on this motive will be invested in bonds and securities at the opportune time. If prices of bonds are expected to rise. People buy bonds in order to make prices are expected to fall. People sell bonds to avoid losses. The amount of money held under this motive will depend on the rate of interest. But it is difficult to know that the rate of interest will be in future.

Determination of rate of interest:

The demand for money together with the supply of money determines the rate of interest. By supply of money determines the rate of interest. By supply of money we mean that part of the total supply of money which is used to satisfy speculative demand. The determination of rate of interest is illustrated by the diagram given below:

DIAGRAM

Money supply is shown by a vertical straight line SM. It is determined by the banking system. It is assumed to be fixed. The demand curve for money (CPC) intersects the supply curve of money at point E. The equilibrium rate of interestisor. If the rate of interest is or the supply of money of rQ exceeds the demand for money rP. The rate of interest falls. At or_2, the demand for money. The rate of interest will settle at or where demand for and supply of money are equal.

According to Keynes, the rate of interest is determined by the demand for speculative purpose together with the supply of money. Keynes criticized the classical and lonable funds theories on the ground that they do not provide determinate solutions. The same criticism applies to Keynes theory. The rate of interest is indeterminate unless other factors are also taken into account. Unless there are savings there can be no liquidity to surrender. Keynes did not consider interest as an inducement for saving or waiting.

Q.No.28 What is National Income? What are the various concepts of it?

Ans : National Income – Definitions :

The definitions of national income can be grouped into two classes. One, the traditional definitions advanced by Marshal, Pigou and Fisher; and two, modern definitions.

The Marshallian Definition:

According to Marshall – "The labour and capital of a country acting on its natural resources produce annually a certain net aggregate of commodities, material and immaterial including services of all kinds. This is the true net annual income or revenue of the country or national dividend". In this definition, the word 'net' refers to deductions from the gross national income in respect of depreciation and wearing out of machines. And to this must be added income from abroad.

The Pigovian Definition :

Marshall's follower, A.C. Pigou, has in his definition of national income included that income which canbe measured in terms of money. In the words of Pigou, "National income is that part of objective income of the community, including of course income derived from abroad which can be measured in money". This definition is better than that of Marshallian definition. It has proved to be more practical also. While calculating the national income now a days, estimates are prepared in accordance with the two criteria laid down in this definition. First, avoiding double counting, the goods

and services which can be measured in money are included in a national income. Second, income received on account of investment in foreign countries is included in national income.

Fisher's Definition:

Fisher adopted 'consumption' as the criterion of national income whereas Marshall and Pigou regarded it to be production. According to Fisher, "The national divided or income consists solely of services as received by ultimate consumers, whether from their material or from their human environments. Thus, a piano, or an overcoat made for me this year is not a part of this year's income, but an addition to the capital. Only the services rendered to me during this year by these things are income". Fisher's definition is considered to be better than that of Marshall or Pigou, because Fisher's definition provides an adequate concept of economic welfare which is dependent on consumption and consumption represents our standard of living.

From the modern point of view, Simon Kuznets has defiend national income as "the net output of commodities and services following during the year from the country's productive system in the hands of the ultimate consumers", whereas, in one of the reports of United Nations, national income has been defined on the basis of the systems of estimating national income, as net national product, as addition to the shares of different factors, and as net national expenditure in a country in a year's time. In practice, while estimating national income, any of these three definitions may be adopted, because the same national income would be derived, if different items were correctly included in the estimate.

Components of National Income:

The various components of the National income are:

1. Consumption (C)
2. Gross Domestic Investment (I)
3. Government Expenditure (G)
4. Net Foreign Investment or Net Investment abroad (X – M).

Consumption : By consumption, we mean the expenditure made on good and services which directly satisfy our wants. e.g., cloth, food products, education and health services etc. A major portion of the national income comprises only consumption goods and services. Consumption of households and firms, which are not for making profit forms the private consumption demand.

Gross Domestic Investment: The expenditure made on producer goods by the firms to produce goods and services is the investment expenditure. e.g. machinery and tools etc. They satisfy the wants

indirectly. These goods can produce other producer goods or consumer goods. Producer goods are not essential for the growth in national income.

Government Expenditure : The expenditure incurred on various goods and services by the government is the public expenditure. Government provides roads, schools, medical facilties, irrigation, electricity, infrastructure facilities etc. to the society. It also provides administrative services, defence services etc.

Net Foreign Investment : If the value of exports is more than the value of imports, other countries are indebted to our country. So, it must be added to national income. If the value of imports is more than exports, that difference must be deducted form national income.

Exports – Imports = Net Foreign Investment

Y = C + I + G + (X – M) where

Y = National Income (If the value of exports is more than the value of imports, other countries are indebted to our country. So, it must be added to national income. If the value of imports is more than exports, that difference must be deducted form national income.

Exports – Imports = Net Foreign Investment

Y = C + I + G + (X – M) where

Y = National Income (Y)
C = Private consumption or national consumption
I = National Investment or Aggregate domestic investment
G = Public expenditure or Government Consumptions
X – M = Net foreign investment

Q.No.29 What is national income? Explain various methods of measuring it

Ans: Methods of measuring national income:

Production and sale of goods and services and the generation of income which accompanies these activities are processes that go on continuously. Production gives rise to income; income gives rise to demand for goods and services; and demand in turn gives to expenditure; again expenditure leads to further production. The circular flow of production, income and expenditure represents three related phases, namely, production, distribution and disposition. These three phases enable us to look at national income in three ways – as a flow of goods and services, as a flow of incomes or as a flow of expenditure on goods and services. To measure it at each phase, we require different data and methods. If we want to measure it at the phase of production, we have to find out the sum of net values added

by all the producing enterprises of the country. If we want to measure it at the phase of income distributed, we have to find out the total income generated in the production of goods and services. Finally, if we want to measure it at the phase of disposition, we have to know the sum of expenditures of the three spending units in the economy, namely, government, consumer households, and producing enterprises.

Corresponding to the three phases, there are three methods of measuring national income.

They are:

1.Value added method (alternatively know as Product Method);
2. Income method; and
3. Expenditure Method.

1. **Value added method:** Value added method measures the contribution of each producing in the domestic territory of the country. This method involves the following steps:

a. Identifying the producing enterprise and classifying them into industrial sectors according to their activities.
b. Estimating net value added by each producing enterprise as well as each industrial sector and adding up the net value added by all the sectors.

All the producing enterprises are broadly classified into three main sectors namely: (1) Primary sector which includes agriculture and allied activities; (2) Secondary sector which includes manufacturing units and (3) Tertiary sector which include services like banking, insurance, transport and communications trade and professions. These sectors are further divided into sub-sectors and each sub-sector is further divided into commodity group or service-group.

For calculating the product of the industrial sector we need to know about gross output of the sector, the raw materials and intermediate goods and services used by the sector and the amount of depreciation. For an individual unit, we subtract from the value of its gross output, the value of the raw material and intermediate goods and services used by it and, from this, we subtract the amount of depreciation to get net product or value added by each unit. Adding value-added by all the units in one sub-sector, we get value-added by the sub-sector. Again adding value-added or net products of all the sub-sectors of a sector we get value-added or net product of that sector. For the economy as a whole, we add net products contributed by each sector to get Net Domestic Product. For the economy as a

whole, we add net products contributed by each sector to get Net Domestic Product. If the information regarding the final output and intermediate goods is available in terms of market prices we can easily convert it in terms of factor costs by subtracting (or adding as the case may be) net indirect taxes to it. If we add or subtract net income from abroad we get Net National Product at factor cost which is nothing but National Income.

Case should be taken to include the value of the following items:

(a) Own account production of fixed assets by government, enterprises and households.
(b) Production for self-consumption.
(c) Imputed rent of owner occupied houses.

Care should also be taken not to include sale of second-hand machines because they were counted as a part of production in the year in which they were produced. However, brokerage and commission earned by the dealers of second-hand goods are a part of production and hence included while calculating total value-added.

Moreover, large areas of production activities are excluded for varying reasons. Their net products cannot be valued either because there is no acceptable way of valuing them (which is true in the case of services of housewives or self-services in homes or services of friends) or because of the difficulty of securing data of the subsistence producing units particularly in underdeveloped countries.

Similarly, adequate data regarding output, raw materials etc. are not often available from many proprietorships, partnerships, nonprofit institutions and governments. Lack of adequate and reliable data is a serious problem in the measurement of the national incomes of under developed countries.

The product method thus gives information about the industrial origins of national income. Additionally net income from abroad should also be included or subtracted to get a true picture of national income.

II. INCOME METHOD: Different factors of production pool their services for carrying out production activities. These factors of production, in return, are paid for their services in the form of factor incomes. Thus labour gets wages, land gets rent, capital gets interest and entrepreneur gets profits. In other words, whatever is produced by a producing unit is distributed among the factors of production of all the producing units from the subject matter of calculation of national income by income method.

Only incomes earned by owners of primary factors of production are included in national income. Transfer incomes are excluded from

national income. Thus, while wages of labourers will be included, pensions of retired workers will be excluded from national income.

Labour income includes, apart from wages and salaries, bonus, commission, employers' contribution to provident fund and compensations in kind. Non-labour income includes dividends, undistributed profits of corporations before taxes, interest, rent, royalties, profits and unincorporated enterprises and of government enterprises.

However, normally, it is difficult to separate labour income from capital income because in many instances people provide both labour and capital services. Such is the case with self-employed people like lawyers, engineers, traders, proprietors etc. in economics where subsistence production and small commodity production is dominant most of the incomes of people would be of mixed type. In sectors such as agriculture, trade, transport etc. in underdeveloped countries (including India), it is difficult to differentiate between labour element and capital element of income of the people. In order to overcome this difficulty a new category of incomes, called mixed income is introduced which includes all those incomes which are difficult to separate.

Care has to be taken to see that transfer income do not get included in national income. In this context it is worthwhile to note that personal income which is income of household sector should not be confused with national income. While personal income includes transfer payments, national income does not. Similarly, illegal income, windfall gains, death duties, gift tax and sale proceeds of second hand goods are not included while calculating national income.

Net income from abroad need not be added separately since the incomes received by people include net foreign incomes as well. But if national income is calculated not from incomes received by the people but from data regarding incomes paid out by producers then net income from abroad would have to be added separately because incomes paid by producers would total to domestic income. To arrive at national income, net income from abroad should be added to domestic income.

III. EXPENDITURE METHOD: The various sectors – household sector, business sector and government sector either spend their incomes on consumer goods and services or save a part of their incomes or we can say that they spend a part of their incomes on on-consumption goods (or capital goods).

Total expenditure in an economy consists of expenditure on financial assets, on goods produced in preceding periods, on raw materials and intermediate goods and services and on final goods and services produced in the current period.

Expenditure on financial assets which are produced and owned within the country is excluded but expenditure on financial assets of foreign countries is included in national expenditure. However, only the net expenditure i.e. the difference between expenditure on foreign financial assets by residents and expenditure on the country's financial assets by non-residents or foreigners is incorporated. This difference is also called net foreign investment. Goods produced in preceding years are also excluded form national income because they have been accounted for in the national incomes of the periods when they were produced. Similarly, expenditure on raw materials and intermediate goods and services are excluded because otherwise there would be double counting of some of the items included in the national income. Government expenditure on pensions, scholarship, unemployment allowance etc. Should be excluded because these are transfer payment.

Thus, only expenditure on final goods and service produced in the period for which national income is to be measured and net foreign investment are included in the expenditure method of calculating national income.

Expenditure on final goods and services is broadly classified into expenditure on consumer goods and service (also called consumptions expenditure) and expenditure on capital goods (also called investment expenditure). Consumption expenditure is classified into private consumption expenditure of the household sector and government consumption expenditure; and investment expenditure is classified into private investment expenditure by business sector and investment expenditure by government. To the total domestic investment we add net foreign investment in order to arrive at national investment. Thus, the aggregates resulting from the expenditure method measured at market prices are as follows:

Gross national expenditure = Consumption expenditure + net domestic investment + net foreign investment + replace expenditure (i.e., expenditure on replacement investment).

Q.No.30 Discuss classical theory of employment.

Ans : Classical theory of employment :

The classical economists held the view that, in a capitalistic economy, three is always a stable equilibrium at the full employment level in the long run under conditions of perfect competition. They consider full employment a general feature and unemployment a rare phenomenon. There would be automatic adjustment through the free play of market forces, provided there is no interference by the government. Thus the classical economists ruled out any general

unemployment in the long run. These views are broadly known as the classical theory of output and employment.

The classical theory of employment is based on

i) Say's law of markets
ii) Price flexibility
iii) Wage flexibility

This may be discussed in detail as follows:

i) Say's Law of Markets:

The Say's law of markets has been discussed elaborately in the previous paragraphs. According to the Say's law of markets, supply creates its own demand and there is no general overproducing leading to general unemployment. The classical economists agree that part of the income may be saved, but the savings is gradually spent on capital goods. The expenditure on capital goods is called investment . It is assumed equality between savings and investment is brought by the flexible rate of interest. This may be explained by the following diagram.

DIAGRAM

In the above diagram savings and investment are measured on the X axis and rate of interest is shown on the Y axis. Savings and investment are equal at *oi* rate of interest. If savings is more interest rate falls and if the investment is more interest rate rises.

ii) Price-flexibility :

The classical economists believe that the economy attains equilibrium in the long run at the level of full employment. In the event of any disequilibrium between aggregate demand and aggregate supply, equilibrium is restored automatically through the changes in the general price level. If the supply is more than the demand, the price falls till the demand increases to the level of supply. If the demand is more than the supply, the price rises till the demand falls to the level of supply. Thus the economy remains in equilibrium at full employment level provided there is no interference by the government with the functioning of the **Price-mechanism.**

iii) Wage Flexibility:

According to the classical economists, unemployment may occur in short run. This is not because the demand is not sufficient but due to increase in the wages forced by the trade unions or the interference of government. A.C. Pigou suggests that reduction in the wages will remove unemployment. This is called the wage-cut policy. Pigou and others considered the wage fund as given. With the given wage fund, reduction in the wage rate results in the increase in employment.

According to the classical theory supply of and demand for labour are determined by the real wage rate. Demand for labour is determined by the marginal productivity of labour. The labour is paid wages equivalent to their marginal productivity. The marginal productivity is reflected in the real wage earned by the labour. So it can therefore be inferred that the demand for labour falls with the increase in the real wage rate. The demand for labour is the inverse function of the real wage rate. The supply of labour is the direct function of real wage rate. It goes on increasing as the real wage rate increases. At a particular real wage rate the supply of and the demand for labour in the economy become equal and thus equilibrium is attained in the labour market. This can be explained with the help of the following diagram:

DIAGRAM

In the above diagram supply of and demand for labour is measured on the X axis. The real wage rate is measured on the Y axis. If the wage rate is OW_1 the supply of labour is more than the demand for labour. Hence the wage rate falls. If the real wage rateis OW_2 the demand for labour is more than the supply of labour. Hence the wage rate rises. At OW real wage rate the supply and demand are equal. There is equilibrium. Thus equilibrium in the labour market is attained through changes in the real wage rate. Since all those willing to work at the equilibrium wage rate get employed it can be constructed that there is full employment.

The above equilibrium can be shown in the diagram given below by drawing AD and AS curves.

DIAGRAM

According to Say's law, supply creates its own demand as prices move to balance demand with aggregate supply. Classical economists held that persistent periods of glut could not occur. If aggregate supply (AS) or aggregate demand (AD) is shifted, prices would react flexibility to ensure that full employment output was sold. In the above diagram, we can see how a decline in aggregate demand that is form AD to AD' will spur the prices to move down enough from OP to OP' to match real expenditure with full employment output.

Assumptions:

The classical theory is based on the following assumptions:

a) There is no interference of the government with the functioning of the economy.
b) There is perfect competition. There are no monopolies and restrictive trade practices.
c) Money acts as the medium of exchange and it has no role in determining the output and employment. Money is neutral.
d) There is wage flexibility
e) The savings and investment depend on the rate of interest.

Criticism of the classical theory:

The classical theory of employment came in for severe criticism from J.M. Keynes. The main points of criticism are as follows:

1. The assumption of full employment is unrealistic. It is a rare phenomenon and not a normal feature.
2. The wage-cut policy is not a practical policy in the modern times. The supply of labour is a function of money wage and not real wage. Trade unions would never accept any reduction in the money wage rate.
3. Equilibrium between saving and investment is not brought about by a flexible rate interest. In fact saving is a function of income and not of interest.
4. The process of equilibrium between supply and demand is not automatic. The experience of the Great Depression of

1930s proved that the self – adjusting mechanism does not always operate.

5. Long run approach to the problem of unemployment is also not realistic.
6. It is not correct to say that money is neutral. Money acts not only as a medium of exchange but also as a store of value. Money influences variables like consumption, investment and output.

Q.No.31 Critically examine Keynesian theory of employment.

Ans : Classical employment theory assumed that there is always full employment in the economy. It considers full employment as a 'general' situation in the long run. But John Meynard Keynes, a famous British economist of the twentieth century rejected this proposition and argued that full employment is only a 'special' case and 'in general' there is always a less than full employment equilibrium in an economy. He stated his employment theory in his famous book entitled The General Theory of Employment, Interest and Money, published in 1936.

Aggregate supply:

Generally speaking the term aggregate supply refers to the total supply of all commodities produced by all the entrepreneurs put together at a particular level of employment in an economy. The level of aggregate supply depends on the level of employment. Entrepreneurs use land and capital along with labour to produce commodities.

All the factors of production are paid for their services at the prevailing prices. The expenditure incurred by the entrepreneurs to pay the factors of production, including the normal profits they expect for their services, is called cost of production. The income they must receive from the sale of their output should not be less than the total cost of production if they should continue to produce the same level of output. This minimum amount that the entrepreneurs in the economy must obtain as price for the total output is called the aggregate supply price.

As the level of output increases with the level of employment, the aggregate supply price also increases with every increase in the level of employment. The schedule showing the aggregate supply price at different levels of employment is called the aggregate supply function. This can be explained with the help of the Table.

Aggregate Supply Function

Level of employment (in lakhs of workers)	Aggregate supply price (in crores of rupees)
10	500
11	550
12	600
13	650
14	700
15	750
16	800

Table shows different levels of employment and the aggregate supply price at each level of employment. When the level of employment is 10 lakh workers, the aggregate supply price is Rs.500 crores. It means that the entrepreneurs must receive a minimum of Rs.500 crores to continue the level of output produced by employing 10 lakh workers. If they receive less than Rs.500 crores they would reduce the level of output. If they receive more than the expected minimum which is equivalent to the total cost, they would increase the output. The table shows that the aggregate supply price increases as the level of employment increases. As the level of employment gradually increased from 10 lakhs to 16 lakhs of workers, the aggregate supply price increased from Rs.500 crores to Rs.800 crores. This can be explained with a graphic diagram also. Assuming that employment of 16 lakh workers represents full employment, there is no further increase in the aggregate supply price beyond Rs.800 crores.

DIAGRAM

In figure the aggregate supply function AS can be seen sloping upwards from left to right. It started from the origin which means that the aggregate supply is zero when the employment is nil. As employment level increases the AS curve rises to the right. ON is assumed to be full employment level. At this level, the aggregate supply function AS in parallel to Y-axis which means that the aggregate supply is perfectly inelastic. There would be no further expansion of output and employment.

Aggregate Demand:

Generally speaking the aggregate demand means the total demand for all commodities in the economy at a particular level of employment. The households receive their income in the form of rent, wages, interest and profit and they spend such income on the purchase of consumption goods as well as capital goods. The amount they spend on consumption goods is called consumption expenditure (C) and their expenditure on capital goods in called investment (I). The entrepreneurs expect that the community as a whole is willing to spend certain amount towards purchase of the total output. That **expected expenditure is termed as aggregate demand price.** From the point of vie of the entrepreneurs it is the **expected income.** This is the sum of consumption expenditure and investment. AD = C + I. From the point of view of the household sector and the business sector, it is the total expenditure.

As the level of employment rises, the total income of the community also rises and therefore the aggregate demand price also increases. The schedule showing aggregate demand price at different levels of employment in the economy is called the **aggregate demand function.**

Aggregate Demand Function

Level of employment (in lakhs of workers)	Aggregate Demand price (in crores of rupees)
17	600
18	625
19	650
20	675
21	700
22	725
23	750

It can be seen in the Table 9.2 that aggregate demand price rises as the level of employment increases. When the employment level is 10 lakhs workers the aggregate worker the aggregate demand price is Rs.600 crores. It gradually increased to Rs.750 crores with the increase in employment level to 16 lakhs.

This can be explained with the help of the following diagram also.

DIAGRAM

In the figure AD curve is the aggregate demand curve. It slopes upwards from left to right. It means that the aggregate demand rises along with the rise in employment.

Effective demand:

Every level of aggregate demand can not be called effective demand. When aggregate demand is equal to the aggregate supply the economy is in equilibrium.

Effective Demand
Aggregate Demand Function

Level of Employment (in lakhs of workers)	Aggregate Supply price (in Rs.)	Aggregate Demand Price (in crores of rupees)
10	500	600
11	550	625
12	600	650
13	650	675
14	700	700
15	750	725
16	800	750

Table shows aggregate supply price and aggregate demand price at different levels of employment. They are not equal at every level of employment. When the level of employment is 14 lakh workers, aggregate demand price is equal to aggregate supply price i.e., Rs.700 crores. So, effective demand in the above table is Rs.700 crores. At lower levels of employment aggregate demand price is more. At higher levels of employment the aggregate supply price more.

The concept of effective demand can be explained with the help of a diagram.

DIAGRAM

In the Figure the aggregate demand price curve (AD) and the aggregate supply price curve (AS) intersect each other at point E. It shows the equilibrium point. The equilibrium has been attained at

ON level of employment. Effective demand is EN. At less than ON level of employment aggregate price is more and at more than ON level of employment aggregate supply price exceeds aggregate demand price. It is assumed that ON in the above diagram does not indicate full employment.

From the above explanation, it can be easily understood that effective demand is equal to national income (Y) because it is equal to the aggregate supply price. It can be said that aggregate demand price is equal to the sum of consumption expenditure and investment.

So,

Effective Demand = National Income = Consumption expenditure + Investment

$$ED = Y = C + I$$

Q.No.32 Explain Consumption Function of Keynes.

Ans : Introduction: According to Keynes the level of employment output is determined by effective demand. Effective demand consumption demand + investment demand. Keynes analysed consumption demand. He came to the conclusion that the propensity to consume remains constant during short periods. Hence he gave importance to the level of investment in his theory. We explain the Keynesian analysis of consumption demand.

Consumption-income relationship-Keynes :

Keynes postulated two basic ideas on the relationship between consumption and income.

1. The first is that consumption depends on real income. He said that $C = f(Y_d)$. Therefore factors other than income which influence consumption expenditure. They are the distribution of income, the stock of assets held by households, the rate of interest, psychological attitudes etc. These have been classified by Keynes into subjective and objective factors. Keynes made the assumption that all these factors remain constant during short period. Hence he brought out a functional relationship between consumption and disposable income. He stated that consumption is related to real income in a systematic and dependable way. It is the level of income that determines consumption. $C = f(Y)$. We may note that the level of consumption does not determine income.

2. The second idea is that planned consumption is subject to a fundamental psychological law. Households increase their consumption when income increases. But the increase in consumption (ΔC) is less than the increase in income (ΔY).

These two basic ideas are brought together in the concept of propensity to consume. Post-Keynesian economists called it the consumption function.

The Average Propensity to consume (APC) :

We draw a distinction between consumption expenditure and propensity to consume. If the households on the average spend Rs.6 crores on consumption goods out of their income of Rs.10 crores, the consumption expenditure is Rs.6 crores. The propensity to consume is $\frac{6}{10}\left(\frac{C}{Y}\right)$ or 0.60. It is simply the consumption-income ration.

We may draw a schedule showing consumption expenditure at various levels of income. It is called the propensity to consume schedule.

Propensity to consume schedule

C	200	4000	600	800
Y	200	360	520	680
$\frac{C}{Y}$	1.00	0.90	0.87	0.85

The third row shows the average propensity to consume.

Marginal propensity to consume (MPC)

$$MPC = \frac{\Delta C}{\Delta Y}$$

In the schedule given above MPC is 0.80 or 80%. It remained constant. The propensity to consume may be shown in the form of a curve. The curve and the schedule are based on the equation

$$C = b + a \quad Y_{d.} = C = 200 + 4/5Y$$

C = Consumption. The parameter 'b' shows consumption even at zero income. In the equation 'a' is the behavioural Co-efficient, relating consumption to income. It is called the marginal propensity to consume. The value of MPC is given by the slope of the consumption function. The slope of the line is constant since $\Delta C / \Delta Y$ is constant. Hence MPC is constant.

The propensity to consume of Keynes is curved one as shown in the diagram. If the consumption function is a curved one, the MPC declines as income increases. Keynes felt that MPC declines as

income increases. But it is always more than zero and less than one MPC < | >0.

If MPC declines, the marginal propensity to save increases. It means the gap between income and consumption must be filled with investment. The richer the community, the greater is the gap. A richer community finds it difficult to fill the gap as the investment, opportunities are less.

Decline of MPC:

The marginal propensity to consume declines as income increases for two reasons. (1) A short-run rise in income does not change consumption habits immediately to make people to spend the whole increase in income. A richer community spends a small proportion of its income on consumption. As income rises, there will be greater tendency to save in order to provide for the future.

Average propensity to save and Marginal propensity to Save:

1. APS is the counter part of average propensity to save. Thus APS-APC.
2. Marginal propensity to save (MPS) is the counter part of the M.P.C.

$$MPS = 1 - MPC = \frac{\Delta S}{\Delta Y}.$$

If MPC declines as income increases MPS rises.

Increasing saving create a problem. In order to maintain a high level of employment an increasing proportion of expenditure must be devoted to investment. Since there is proportionately a smaller increase in consumption, investment becomes less profitable and more difficult to make.

Q.No.33 Write about secular consumption function.

Ans : 1. Keyne's Consumption function:

Keynes was concerned with the short-run consumption function. He said that C = f(Y). He singled out income as the most important determinant of consumption. He assumed that other factors (non-income factors) remain the same during short-periods. He came to the conclusion that changes in consumption are induced by income changes. Such changes represent in consumption are induced by income changes. Such changes represent a movement on the same curve of consumption function. Any change in non-income determinants will bring about a shift in the curve.

Keynes gave the equation for the Consumption function $c=b+a\ Y_d$. 'd' in the equation represents consumption even zero income. Thus the intercept of OB on Y-axis represents consumption at zero income. 'a' represents the marginal propensity to consume (MPC). If MPC is constant, the consumption function is a straight line. If MPC declines as income increases the consumption functions is like a curve (concave to the origin).

Keynes assumed from the study of family budgets that consumption-income ratio is non-proportional. From the studies of individual family bought, it appears that the MPC diminishes as families become richer. The doubt is whether one can aggregate data about individual as Keynes did. Further, Keynes derived the aggregate consumption with a positive vertical intercept 'b' or OB, plotting the cross sectional data. Perhaps he looked at different families with different levels of income at the same point of time. He did not look at the same family at different points of time.

Had Keynes taken a time series data he would have arrived at the consumption function which is a straight line through the origin. It means that in the long-run the consumption function appears in the form of $C = aY_d$. The post-war data confirmed this form of consumption function for long periods. Post-Keynesian economists restructured the theory by incorporating subjective and objective variables into the function. Non-income variables, it was suggested, shift the consumption function upward with time.

Long-Run Consumption Function:

Statistics of income, consumption and savings for very long periods of time show that the consumption-income ration (C/Y) is constant. It means that the consumers spend about the same proportion of income even when real income is rising. In the arithmetical sense it means that APC and MPC are not only constant but are equal. The long-run consumption function thus appears diagrammatically as a straight line starting from the origin (see the Diagram). Its slope is such that MPC and APC are the same. There are a number of theories which attempted to explain this phenomenon.

DIAGRAM

1. Smithies Idea: Arthus Smithies, an American economist, suggested (1945) that the short-run consumption may move gradually up the long-run one. In the short-period of time an increase in income would increase savings substantially say over SCF_1. Over longer period consumption bears a constant proportion (around 0.9) of income. Hence due to upward drift of SCFs we get the long-run consumption function-LCF. Thus, the short-run consumption function – LCF. Thus, the short-run consumption function such as SCF_1 shifts upward making LCF a locus of points observed from a number of short-period consumption functions SCF_1, SCF_2 and SCF_3.

2. Simon Kuznets : Simon Kuznets study suggests that in the long-run the MPC in the U.S.A. is reasonably constant and not far from 1. It is usually between 0.85 and 0.95. The long-run consumption function appeared to be in the form $C = {}_aY_d$.

3. Duesenberry-Relative Income Hypothesis:

This hypothesis was first formulated by Dorothy Brady and Rose Friedman. Duesenberry lent empirical and psychological support to it. This hypothesis rests on two ideas.

1. Consumption is not a function of current income alone (as Keyness believed it to be) but rather a function of a relationship between current income (Y_c) and the peak income (Y_{pp}) that consumers have previously enjoyed.

2. Consumer preferences are interdependent. Families base their spending not only on their tastes but also on the tastes and expenditure patterns of their neighbours. The hypothesis therefore states that the consumption expenditure depends not on the absolute level of income but on the relative level of income.

Statistical evidence suggests that families save the same proportion of income even after adjusting to changes in their income. As income rises poor families no doubt save more. But their savings do not reach the level of richer families at these income levels. The consumption function is linear rather than curved. This is because it is the income of a family relative to that of other families which determines how much it consumes and how much it saves. People base their consumption not on their tastes but on the tastes of their neighbours. Duesenberry calls it “Demonstration effect” – a factor influencing consumption. Even poor people to imitate the consumption habits of the rich.

Duesenberry also theorized that consumers like to maintain a certain standard of living. The expenditure of a consumer is not only influenced by the current income but also by the standard of living he enjoyed in the past. There is no doubt that consumption expenditure

decreases if there is a fall in income. But it does not diminish to the same extent as the consumer tries to maintain the accustomed standard. Thus if current income falls below previous peak income, consumption is related to the living standards established by the previous peak income. Hence consumption as a proportion of income goes up as income increases but does not fall in the same proportion as income falls. In other words, the consumption function is not reversible. This is what is called 'ratchet effect'.

Duesenberry therefore suggests reasons why the consumption function for the whole community may be flatter than family budget studies would suggest. If income increases, savings may not go up very much because of 'demonstration effect'. It is relative rather than absolute income that determines the size of consumption expenditure. If income falls, consumption expenditure may not fall much because of the 'ratchet effect'. People try hard to maintain their accustomed standards living.

4. Friedman-permanent income Hypothesis:

Milton Friedman put forward the permanent income hypothesis. It attempts to resolves the proportional/non-proportional relationship between consumption and disposable income. Friedman theorizes that consumption is not based on current level of disposable income. He draws a distinction between permanent income (Y_p) and transitory income (Y_t). These two are the components of current measured disposable income (Y_m). Permanent income is that which the households expect to receive over an extended number of numbers. Transitory income consists of any unexpected additions to or subtractions from permanent income.

Friedman also draws a distinction between permanent consumption (C_p) and transitory consumption (C_t). Permanent consumption represents that part of consumption expenditure which the consumer regards as permanent. The rest is transitory. Distinction is also made between durable and non-durable consumer goods. Duruble consumption is concerned with purchase of capital asset. In the case of non-durable goods, the act of consumption destroys the good itself. Ordinary consumer expenditure relates to non-durable consumption. These goods are flow items since flow of them is continuously consumed. Durable consumption, on the other hand, relates to the purchase of capital assets. Hence it is an act of investment. They are stock items.

The theory holds that permanent income determines consumption. It assumes that households consume approximately the same proportion of their permanent income. Thus, we relate permanent consumption to permanent income. We then get a fixed proportional relationship regardless of the size and distribution of

permanent income. It means that the ratio of permanent consumption to permanent income is constant. Hence in the long-run MPC is equal to APC-both for individual and aggregate. However, the APC need not be the same for all individuals and for all periods.

The ratio between permanent consumption and permanent income depends not only on the size of income but also on some other variables. Friedman gives his permanent income hypothesis in the form of three equations:

$$Y_m = Y_p + Y_t \quad \ldots\ldots (1)$$
$$C = C_p + C_t \quad \ldots\ldots (2)$$
$$C_p = K(i, w, u)\, Y_p \quad \ldots\ldots (3)$$

The third equation gives the permanent income hypothesis. It gives the relationship between permanent consumption and permanent income. It highlights the variables (i) on which the ratio between the two depends. These variables the rate of interest are (ii) the relationship between income from property (non-human wealth) and income from personal abilities (human wealth) (W); and (iii) the preferences of consumers for the immediate or transitory consumption as distinguished from additions to wealth (U). The equation means that C_p is a function of i, w, u multiplied by permanent income Y_p.

Actually, it is the size of income rather than the rate of interest which determines consumption. As for the second element human and non-human wealth, statistical evidence suggests that the size of consumption expenditure depends a great deal on the value of consumer assets. A consumer who derives considerable income from assets is likely to spend more on consumption and save a smaller amount than a person who has no such income. This shows the importance of 'U' in the equation.

Permanent income is derived both from human and non-human wealth of the consumer. The permanent income hypothesis emphasizes the role of capital assets or non-human wealth in determining the size of consumption. It shows that both income and consumption are closely linked to wealth. It is capital and wealth which affect the level of consumption rather than income. Thus we are moving to the theory of capital.

5. The life – cycle Hypothesis:

Ando, Modigliani and Brumberg hold the view that consumption is related not to the current income but to the income of the consumer over his whole life time. They argued that individual wishes to spread his life time income in such a way as to provide an optional life-time pattern of consumption. Typically, income is comparatively low

during the early and late years of life of an individual. In childhood and during study period, the consumer will be spending without earning income. He is maintained by his parents. After sometime he begins to work and earn income. During the middle life time the consumer spends a good deal on children's education, marriage etc. But on balance he will be earning more than he spends. He will accumulate savings to allow him to consume after he retires. In the final stage of the life cycle (after retirement), the consumer spends a good deal but earns little or nothing. Over the whole life-cycle, the consumer is trying to organize his uneven cash flows so that they make possible a regular pattern of expenditure.

We can build the simplest model of an economy where the average individual aims to save nothing over his life time. He saves in the middle part of his life to support him towards the end of his life. He spends the last rupee at the time of his death. Hence there will be no net savings at all over life time. But death cannot be predicted. Hence people leave some wealth than they intend. So some net savings would take place. Further, the net saving also depend upon how much people want to leave to their heirs, on the age structure and growth of population and on income.

Q.No.34 What is investment of what are the determinants of investment equilibrium?

Ans : 1. Meaning of Investment:

Income is said to be invested when it is used for increasing the real wealth of the community (i.e., for building factories, construction and installation of plants and machines, increasing stocks of materials and so on). This is gross investment. Net investment is equal to gross investment minus maintenance costs and replacement of old assets. Investment thus means the net addition made to the stock of capital goods.

The purchase of land, old bonds, shares etc. by a person is not investment. This is only a transfer of asset from one person to another. Investment is said to take place, when there is net addition to the nation's physical stock of capital like thee buildings, factories and machines as well as any addition to the stock of finished goods.

Investment may be autonomous or induced. Autonomous investment is associated with factors like the introduction of new product, new technique etc. Induced investment is the investment induced by changes in consumption demand.

Investment may be planned or unplanned. Example of planned investment is the installation of new plants and deliberate increase in the volume of stocks held. An example of unplanned investment is

where there is an increase in the stock resulting from an unexpected fall in sale.

2. Importance of Investment :

According to Keynes, employment depends upon effective demand. Effective demand comprises consumption expenditure and investment expenditure. The propensity to consume is more or less stable. Then variations in investment alone are responsible for fluctuating. Sometimes there may be too little investment leading to deflation, and unemployment.

3. Determinants of Investment:

Investment depends on (a) marginal efficiency of capital and (b) rate of interest.

Investment is undertaken when the money return from the asset is greater than the rate of interest. The yield expected from a new unit of capital is called the marginal efficiency of capital. The inducement to investment thus depends on the marginal efficiency of capital on the one hand, and the rate of interest on the other.

1. Marginal Efficiency of Capital:

A firm buys a new capital asset when it expects to earn a series of prospective returns from the sale of the output produced by the asset. Input costs are deducted from these prospective yield of the asst. There is the supply price of the asset. There is the supply price of the asset. It is the cost of construction of a new asset (machine). With these tow concepts we can now define the marginal efficiency of capital. The marginal efficiency of a particular type of capital asset shows what an entrepreneur expects to earn from one more asset of that kind compared to its supply price. The word 'Efficiency' refers to the rate of return over cost. It is the highest rate of return over cost expected from the marginal unit of that type of asset.

Suppose a firm wishes to buy a machine costing say Rs. 10,000. it has to estimate its revenue during its life time.

a) Installing a machine will give physical output. The sale of output will provide revenue to the firm. Such revenue depends on the price of the output. The firm will have to estimate the price at which it can sell the output when it comes to market. Such estimate will have to be made for the entire life time of the asset. The assessment of such prospective revenue is subject to a margin of uncertainity.

b) From such revenue the firm has to deduct cost of inputs. The firm cannot be sure of what the costs of the inputs will be during the – life of the machine. The firm will have to estimate the probable cost of inputs. This is how the net yield expected from the machine during the life time has to be estimated. The annual yield is expressed as a percentage of the current price. It gives the rate return or yield of the new asset.

Let us suppose that the supply price of a machine is Rs.10,000. Assume the expected net yield (receipts from sale of output minus costs) is Rs.3,000 per year. The life of the asset is 5 years. These prospective yields are to be discounted at rate which makes the sum total becomes equal to the supply price of the machine. Such rate of discount is called the MEC. In this case the rate of discount which satisfies the equation is approximately 15%. The annual net yield may not be the same in each year. But whatever their values, some rate of discount will satisfy the equation. This rate of discount is called the marginal efficiency of capital.

The following figure shows the curve of the marginal efficiency of capital. MEC is shown on Y axis. Investment is shown on x-axis. As investment increases the MEC declines. The figure shows investment demand of a firm. The left figure shows MEC of a firm. If we add MEC of all firms, we get marginal efficiency of investment.

Investment Demand :

DIAGARAM

The MEI is shown in the right hand side diagram. It shows the total investment demand of all firms. The schedule' has a negative slope. It slopes downward of the right. It means that the marginal efficiency of investment declines as investment increases.

Decline of MEC : MEC declines for three reasons.

(1) An increase in investment will increase the economy's stock of capital assets. An increase in capital stock brings into operation the law of diminishing productivity. The physical output associated with each added capital will decline.

(2) An increase in capital stock increases output. According the law of demand more output can be sold only by lowering prices. Lower prices reduce the stream of total revenue.

(3) More and more capital goods are produced in the short-run under the conditions of rising marginal cost. Hence the conclusion is that, other things being equal, the marginal efficiency of capital is a declining function of the rate of investment expenditure.

EQUILIBRIUM LEVEL OF INVESTMENT:

Given the MEC schedule, the equilibrium rate of planned investment is determined where

MEC (r) = rate of interest (i)

This is shown in diagram. The rate of interest is oi. Autonomous. It is assumed to remain constant. The equilibrium rate of investment is determined at the point where MEC cuts the curve of the rate of interest. in the diagram OA is the equilibrium rate of planned investment.

diagram

Key held that investment is interest elastic. Therefore I = f(i). The rate of interest can be regulated by the monetary authority. Since it can be controlled, it does not play that role which is played by MEC in determining the level of investment.

As can be seen MEC schedule represents a relationship between two variables; (i) MEC (r), and (ii) the rate of planned investment. There are in practice five principal variables to consider. They are (i) the community's real stock of capital; (ii) the state of technique as given by the production function; (iii) the supply conditions of capital goods; (iv) the state of business expectations; and (v) the degree of uncertainty firms feel regarding their expectations.

These are being treated as constant (parameters). A change in any one of the factors will shift the MEC schedule either upward or down ward. Out of the five factors mentioned above, the first three are not likely to change in the short-run. They are therefore not likely to bring about major shifts in the schedule.

The fourth and the fifth factors – the state of business expectations and the degree of uncertainty are crucial in the short-run. They do explain short-run's in the schedule. The prospective yields are nothing but expectations made by firms at the time of investment. These expectations may or may not be realized. Hence

investment decisions are governed by the expected yield and not by the actual yield.

Q.No.35 What is income multiples? Explain determinants.

Ans : The investment or income multiplier traces the effects of a change in investment on output or income. Let us assume that a community is deriving an annual income of Rs.1,000 crores – Rs.750 crores from consumption goods and RS.250 crores from investment goods. Of this it spends Rs.750 crores consumption. It saves the rest of rs.250 crores. As long as the propensity to consume and the volume of investment remain the same, the national income must also remain the same. But if either of these is altered, the level of national income varies.

Working of the Multiplier:

Let us assume that investment expenditure has increased from Rs.250 crores to Rs.260 crores. The additional Rs.10 crores are assumed to have come from the banking system. We assume that there is no reduction in consumption to finance this additional investment. Increased investment means additional employments to labour and other resources. When more machines are produced. Unemployed men and resources are drawn into employment. As a result of additional investment of Rs.10 crores, there is an addition of Rs.10 crores to the national income. The factors of production in investment goods sector receive an additional income of Rs.10 crores. This is the primary effect. There are secondary effects. With the secondary effect, the multiplier is assocated.

When people receive an additional income of Rs.10 crores, they spend more on consumption. How much they spend depends upon the marginal propensity to consume. Let us assume that the marginal propensity to consume is ½ or 50%. When income increases by rs.10 crores, the recipients spend 50% on it, i.e., Rs.5 crores, on consumption. Consequently, the demand for consumption goods increases. The producers of such goods derive an extra income of Rs.5 crores. Till now, income has increased by rs.15 crores. The Rs.5 crores increase in income earned in consumption goods industries gives rise to a further increase earned in consumption goods industries gives rise to a further increase in consumption 50% of Rs.5 crores, i.e., 2.50 crores. This constitutes one more link in the chain of events. Thus the total increase in income, if we have the patience to work out till the last rupee, would be Rs.20 crores, i.e., 10+5+2.5+1.25+0.62+0.31+0.15 and so on. The effect of the original increase in investment on income grows something like a snowball. The effect is multiplied throughout the economy. The ratio of increase in income to the increase in investment is known as the multiplier.

The income multiplier is shown by the symbol K. Now $K = \frac{\Delta Y}{\Delta I}$. It can be shown in a diagram. (Draw the diagram given in the Introduction)

Assumptions of multiplier : The multiplier is based on the following assumptions:

1. First, we shall assume that MPC remains constant.
2. We assume that there is no unused capacity in capital goods industry.
3. There exists untilized capacity in consumption goods industries.

Calculation of Multiplier : We can compute the value of the multiplier provided we know the size of the marginal propensity to consume.

$$K = \frac{1}{1 - MPC} = \frac{1}{MPS}$$

K is multiplier. If the marginal propensity to save is ½, K=2.

1. The multiplier is the reciprocal of one minus the marginal propensity to consume. If the marginal propensity to consume is ½, 1 minus ½ = ½ (marginal propensity to save), the reciprocal of it is 2. The multiplier is 2.
2. If the marginal propensity to consume is 3/4, the multiplier is 4. 1-3/4=1/4; 4/1. If investment increases say, by Rs.10 crores, the increase in income would be rs.40 crores.
3. If the marginal propensity to consume is 1 the whole of increased income is spent on consumption. The multiplier is infinity. The responding of income repeats itself indefinitely. The multiplier effects bring about full employment first. Then they create limitless inflationary spiral.
4. If the marginal propensity is zero, the multiplier is 1. An increase in investment of Rs.10 crores will add Rs.10 crores to the income of people. The process stops there. There are no secondary effects.

Certain conclusions emerge from the above discussion. If the marginal propensity to consume is high, the multiplier is high, if it less, the multiplier is low. In the rich and advanced countries, the marginal propensity to consumes low; therefore; the multiplier is also low; therefore; the multiplier is also low.

a) Leakages : We may state the leakages to income stream created by multiplier. Income that is not spent for consumption is regarded as a leakage in the cumulative income stream. It is this leakage that sets a limit to the total increase in income. If there were no such leakage full employment is easily attained. Income spent and invested gives rise to a fresh stream. Hence what is saved is regarded

as leakage. The smaller the marginal propensity to save the less in the leakage.

b) Imports : Imports constitute another leakage to the income stream. Suppose that the marginal propensity to consume is 6/10. Suppose the propensity to import is 1/10. The effective marginal propensity to consume is then lowered to 5/10. Such reduction lowers the multiplier from 2.5 to 2.

c) Taxation : It may be regarded as another leakage. At each stage in income generating process consumption is reduced by Taxation.

Q.No. 36 Explain the effects of interaction of multiples and accelerator.

Ans : The interaction of multiplier and accelerator leads to fluctuations in the level of employment and output. It thus explains trade cycles. According to Samuelson an increase in autonomous investment will induce additional consumption spending by means of multiplier process. The rising level of output and induced consumption spending may induce additional investment by means of the accelerator. It is the combined effect of the induced consumption (via multiplier) and the induced investment (via the accelerator) that can bring about a powerful. Cumulative upward movement of income. It will positively degenerate into a run a way inflation. Whether or not this happens depends upon the values of both the multiplier and the accelerator. The multiplier and the acceleration principle makes induced investment a function of the rate of change in output. When the multiplier works induced consumption will occur. But the increments to consumption in each successive round of spending an responding will become smaller and smaller. Since the amount of induced investment varies directly with the absolute change in output net induced investment will rise at first and then decline. But the multiplier process comes into play whenever there is a net change in the rate of spending. If the rate of net induced investment begins to decline, the multiplier works in the reverse direction. This will create the self generating cyclical movement of the income level. Hansen calls the effects of combined action of multiplier and accelerator as the leverage effect.

Let us illustrate the combined effect of multiplier and acceleration with the help of an example.

(Rs. Crores)

Period	Initial Investment	Induced Consumption	Induced Investment	total Increase in income
0	10	0.00	0	10
1	10	5.00	10	25

2	10	12.50	15	37.50
3	10	18.75	12.50	41.25
4	10	20.62	3.75	34.37

The above table is drawn under the assumption that the marginal propensity to consume is 0.5 (i.e. multiplier is 2) and the accelerator is 2.

Look at the table. An initial investment of Rs.10 crores made in 0 period. In this period both multiplier and accelerator do not work. There is neither induced consumption nor induced investment. The total national income is Rs.10 crores. This is equal to increase in investment.

In period 1, induced consumption expenditure is Rs.5 crores since MPC is ½. The induced investment is Rs.10 crores. This is because accelerator is 2. The total increase in income is Rs.25, crores.

In period 2, the induced consumption is Rs.12.5 crores. The induced investment is Rs.15 crores. It is Rs.7.50 crores 2 (i.e., induced assumption accelerator 2). The total income in the period is Rs.37.50 crores.

We can work like this in period 3 too. In the 4th period, the induced consumption is Rs.20.62 crores (1/2 of total income in period 3). The induced investment is Rs.3.75 crores. Total income comes down to Rs.34.36 crores. Both multiplier and acceleration have become weak in this period.

Thus the interaction of multiplier and accelerator will produce cyclical fluctuations in output.

Q.No.37 What are the functions of central banks.

Ans : Reserve Bank of India performs the following functions

1. Note Issue :

Reserve Bank of India has the monopoly of note issue in the country. It maintains gold and foreign exchange reserves of a minimum Rs.200 crores of which gold should be worth Rs.115 crores. There is separate issue department to issue currency notes. At present the Reserve Bank of India issues currency notes of the denomination of Rs.100, Rs.500, Rs.100, Rs.50, Rs.20, Rs.10, Rs.5 and Rs.2. One rupee note and the coins are issued by the finance department of the Government of India but circulated by the Reserve Bank of India. The signatures of the Secretary of the Finance Ministry and the Governor of the Reserve Bank are printed on the one rupee note and other currency notes respectively. As on the value of currency in circulation in the country is Rs.23,936 crores (as on August 2006).

2. Banker to Government :

Reserve Bank of India acts as the banker, agent and adviser to the Government of India. It is the agent of the government of India and all the state governments except the government of Jammu and

Kashmir. It receives money and makes payments on behalf of the government and keeps the cash balances as deposits without any interest. It assists the government in floating new loans and the management of public debt. It gives temporary advances called ways and means advances to the governments. It acts as an advisor to the government in all financial matters.

3. Banker's Bank:

Reserve Bank serves as a Banker not only to the government but also to the banks.

a) All the scheduled banks are bound by the statue to maintain with the Reserve Bank of India a part of their total deposit amount as cash balances. This ratio is called the cash reserve ratio. The Reserve Bank of India determines this ratio which may change from time to time. At present the CRR is 8.0 per cent as on May 23, 2009. This creates confidence among the public on the commercial banks. It enables the Reserve bank to change the volume of money supply in the economy as per the requirements. It changes controls the credit supply in the economy by changing the cash reserve ration.
b) It acts a clearing house for settlement of inter-bank accounts.

4. Lender of last resort:

In times of financial stringency the scheduled banks can approach the Reserve Bank of India as a last resort. The Reserve Bank of India grants them loans against the securities such as the treasury bonds, treasury bills and other approved securities. The Reserve bank may also provide financial assistance by rediscounting the eligible bills of exchange. Thus it acts as the lender of last resort.

5. Clearing House :

Businessmen and other customers issue cheques towards payment for their transactions. A businessman or customer may get a cheque issued on a bank in which the has no account. He has to deposit it in his bank and which collects the amount from the bank on which the cheque is issued. This happens on a large scale everyday and calls for inter-bank settlement of accounts. Since all the commercial banks maintain deposit accounts with the Reserve Bank of India, it clears all cheques to settle the inter-bank transactions by making appropriate entries in the accounts of the commercial banks. For this purpose the Reserve Bank establishes clearing houses at different places. This increases the use of cheques and removes the need for keeping huge cash reserves with the commercial banks.

6. Custodian of foreign exchange reserves:

Keeping custody of the foreign exchange reserves is one of the responsibilities of the Reserve Bank of India. It has also the responsibility of maintaining the stability of foreign exchange rate. As a member of the International Monetary Fund it maintains the stability of the exchange rate between the Indian currency and the currencies of the member countries. It regulates the purchase and sale of foreign exchange and controls its use through restrictions on exports and imports to maintain the official rate of exchange.

7. Credit controller

It is the responsibility of the Reserve Bank of India to control credit the volume of credit in the country. It controls credit through different quantitative and qualitative control methods. It evolves an appropriate monetary policy for this purpose. Thus, it controls inflation and deflation. The Reserve Bank announces a credit policy for every six months suitable to the credit needs of the country.

8. Supervisory functions:

The Reserve Bank of India, being the apex institution of the banking system, exercises wide powers off supervision and control over all the commercial banks and the cooperative banks through the system of licensing, inspection and calling for information. Its permission is necessary for the establishment, expansion, reconstruction and amalgamation of banks. It has powers to take action against the banks which violate the rules and regulations.

9. Promotional and developmental functions:

It performs certain promotional and developmental functions also in order to achieve economic development. These functions may be enumerated as follows:

i) takes steps for establishment of banks through out the country and expansion of their branches.
ii) Refinances the state cooperative banks and the financial institutions which give agricultural credit, so as to meet the credit needs of the rural areas.
iii) Promotes different financial institutions to provided industrial finance.

As part of the measures taken to discharge these functions, the Reserve Bank established the National Bank of agriculture and Rural Development (NABARD) in 1982. To promote industrial finance, it has played a major role in the establishment of the Industrial Development Bank of India (IDBI), Industrial Finance Corporation of India (IFCI), State Finance Corporations etc.

Q.No.38 Write about various credit controlling methods used by Central Bank.

Ans : The most important function of a central bank is to control currency and credit so as to maintain the stability of the monetary unit. Cash is the basis for the credit. So the central bank is given the monopoly of note issue. It can then effectively control credit. The central bank controls credit by various weapons such as bank rate, open market operations, variable ratio; margin prescription, consumer credit regulation, reserve moral persuasion, direct action etc.

Bank rate, open market operations and variation of cash reserves are called Quantitative methods of credit control. They can be used either to increase or decrease bank credit. They cannot discriminate between the uses to which credit is put. Qualitative or selective methods of credit control allow the flow of credit into productive channels. They discourage the flows of credit into speculative channels. Prescribing margins, consumer credit regulation, directives to banks etc come under selective methods of control.

Quantitative Methods:

1. Bank rate : Bank rate is the official minimum rate at which the central bank rediscounts eligible bills. In some countries it is also the rate at which the central bank grants short-term accommodation to the member banks on collateral securities. The various rates of interest in the money market are usually related to the bank rate. If the commercial banks indulge in injurious credit expansion, the central bank will raise the bank rate.

When the bank rate is raised the commercial banks find the cost of borrowing from the central bank had increased. They also in their turn increase the rate of interest they charge on loans. The dealer in finished and semi-finished goods will find that the 'cost of holding' of goods has increased. They try to repay bank loans by reducting stocks. They place less orders with the manufacturers. The manufacturers reduce out put. So the factors of production will be thrown out of employment. Their money incomes decrease. The demand for goods and therefore their prices fall. Higher rate of interest will check borrowing form commercial banks. So the volume of credit tends to decline. The bank rate can thus be used to control inflationary conditions. The opposite will happen when the central bank lowers its bank rate.

Hawtrey holds the view that bank rate influenes the volume of credit through short-term rates of interest. Keynes thinks that it will be effective through long-term rates of interest. When the long-term

rate of interest rises in response to rise in short-term rates, other things remaining the same, investment will fall. With investment, the level of employment, output, and prices change. Interest charges must form a substantial part of total cost of holding goods Demand for holding stocks must be elastic. Then only bank rate would be effective. Bank rate influences the volume of credit indirectly.

2. Open Market Operations : The term open market operations refers to the sale or purchase of any kind of paper by the central bank, in some countries the term refers to the sale and purchase of Government securities only. When the commercial banks possess large cash reserves they may expand credit, if such expansion of credit is considered undesirable, the central bank sells securities. The buyers of these securities pay cash or issue cheques on their bank accounts and hand over them to the central bank. As a result, the quantity of money in circulation declines. Banks are forced to curtail loans. So open market operations act directly upon the cash reserves of the commercial banks. Bank rate and open market operations work handing glove as both are jointly used to control credit. The opposite happens when the central bank buys securities from the market. For the successful functioning of open market operations the central bank must possess adequate volume of securities. There must be a developed securities market. Banks shall not possess excess cash reserves.

3. Variable Reserve Ratio : Commercial banks in every country maintain a certain percentage of their time and demand deposits with the central bank. For instance in India. All the commercial banks maintain 3 per cent of their total deposits with the Reserve Bank. The Reserve Bank has the power to raise there serve up to 15%. The central bank can control the volume of currency and credit by varying these cash reserves. If the central bank finds that banks possess very arger cash reserves and are indulging in injurious expansion of credit, it will raise the reserve ratio and ask the banks to keep larger cash balances with it. When the cash in hand with the commercial banks decreases, banks are forced to curtail credit. The opposite happens when the cash reserve ratios are lowered. This method is used only in highly liquid and abnormal conditions. In normal times it is not at all used.

B. Qualitative or Selective Methods:

1) Selective Credit Controls : The weapon described above are called quantitative methods of credit control. They regulate only the quantity of credit. They do not regulate the use to which it is put. Selective methods of credit control regulate the uses of credit by discriminating between essential and non-essential purposes. Some of the selective credit controls are as follows. (i) The central bank may prohibit or caution banks form lending against particular type of

securities. (ii) It may prescribe margins against secured advances, (iii) It may regulate hire purchases and installment transaction, (iv) It can even stipulate the rates of interest on different types of and advances. With the help of these weapons the central bank can direct the flow of the resources into essential lines. It can prevent speculation and hoarding of commodities.

C. Other Methods :

1. Moral Presuration and Direct Action: When certain commercial banks pursue unsound credit policy or when they borrow excessively, the central bank may refuse to grant further loans or rediscount bills. It may charge penal rates of interest. Such a policy is termed as direct action. Moral persuasion, on the other hand, implies persuading the banks not to ask for further loans. The central bank may request the banks not to use the accommodation obtained for financing speculative or non essential transactions.

2. Rationing of Credit: The central bank may impose restrictions on the amount of loans that may be granted for various purposes. Under this method, definite credit quotas are laid down by the central bank to each commercial bank. Credit rationing will be resorted to in the totalitarian and planned economies.

The central Bank's power to control credit depends upon the nature of the money market in which it is operating. There must be an organized money market to respond speedily and wisely to central banking policies. The money market must be dependent on commercial banks. Banks should accept the leadership of the central bank and cooperate with it whole heartedly in carrying out its policy. Moreover, the central bank should have access to all forms of credit. Under such conditions it will be successful in its policy.

Q.No.39 What is a commercial Bank? Explain its functions.

Commercial Banks : A bank is a financial institution. It is a profit-making business firm dealing with money. Modern banks in India are joint stock companies registered under the Indian Companies Act.

According to the **Banking companies Act, 1949** a banking company is one "which transacts the business of banking which means accepting for the purpose of lending or investment of deposits of money from the public repayable on demand or otherwise withdrawable by cheque, draft or order or otherwise".

Functions of Commercial Banks:

Commercial Banks play a very prominent role in the financial system of an economy. They perform a variety of functions as discussed below:

1. Acceptance of deposits :

One of the primary functions of a commercial bank is to accept deposits from the public. The deposits accepted by the banks are of the following types:

a) Savings deposits:

These deposits are made into a savings bank account of the bank. The public with small savings find it safe to keep their money in the savings account of the banks. They encourage savings habit among the public. They are not convenient to the small businessmen, salaried employees, artisans and people belonging to the low and middle income groups.

b) Current Deposits:

These are the deposits made into the current account of a bank. They are most convenient to the businessmen, public authorities an joint stock companies, because there are no restrictions on the number and the amount of withdrawals. Transactions can be made by way of cheques without running the risk of handling huge cash.

B) Term Deposits:

They are also called **fixed deposits** because the money is deposited with the bank for a fixed period of time. The deposit can be withdrawn after the expiry of maturity period. However, the depositor has an option to borrow against the security of these deposits. The minimum period of deposit is 15 days.

C) Recurring or cumulative Deposits:

These are the variants of fixed deposits. These deposits are very convenient to whose who can not save huge amounts at a time. A fixed amount in the multiples of Rs.10 may be deposited every month for a period one or more years. These deposits carry interest at a rate more than that of Savings Bank and less than that of a term deposit.

2. Payment of loans and advances:

Another primary function the commercial bank is to give loans and advances to different sections of the public like traders, industrialists, farmers, artisans etc., The loans and advances are paid out of the amount of deposits received by the bank from the public

keeping a certain portion of deposits with the bank as per the guidelines of the central bank. Loans and advances are paid against approved securities. The securities may include gold, silver bullion, government securities, easily tradable stocks, shares and marketable commodities etc., the loans and advances given by the commercial banks are of the following types.

a) Demand Loans/Call Loans:

A demand loan is a loan that should be repaid on demand by the bank. It does not have a specified maturity period. The entire loan amount is credited to the account of the borrower in lump sum. The entire amount carries interest form the date of such credit.

b) Short term loans:

These loans are given for a specified short period. They are sanctioned to businessmen and farmers etc., to finance working capital. Individuals may also receive such loans as personal loans. They are given against security.

c) Cash Credits:

A cash credit refers to an arrangement by which the bank allows its customer to borrow money up to a specified limit from an account opened for the purpose. The customer need not withdraw the entire amount in one instalment. The customer has to pledge or hypothecate security to the bank. This facility is helpful to meet the long term needs of the customers.

d) Overdraft:

This is a facility allowed by the bank to the current account holders. They re allowed to withdraw money, with or without security, in excess of the balance available in their account, up to a limit. This facility is available as a temporary measure to the borrowers to meet their short term needs in case of shortage of regular funds. Interest is charged on the amount of actual withdrawal.

e) Discounting of bills of exchange :

Bills of exchange are undertakings written by the buyers and given to sellers when the transaction is made on credit basis. The buyer undertakes to make payment after a specified period or on a specified future date. The traders who possess such bills of exchange with them may approach the banks for discounting of the bills of exchange when they need money.

f) Credit cards:

Now a days the banks have devised new methods of giving loans to the customers. One such popular method is issuance of the credit card. A credit cardholder can use his card to purchase goods on credit form specified firms and shops and also withdraw cash subject to certain regulations. The firms collect the amount of the bills from the banks which issued credit card.

3. Creation of credit:

The Commercial banks create credit. This is a unique function of commercial banks. Credit is created from out of the primary of money the customers received from the public. Part of the total amount of these deposits is given as loans and advances to its customers.

4. Agency functions:

Commercial banks perform certain agency functions also. On certain occasions they act as agents of the customers. Some of the important agency functions are :

(i) Collection of cheques, drafts, bills of exchange etc., of their customers from other banks.

(ii) Collection of dividends and interest from business and industrial firms.

(iii) Purchase and sale of securities shares, debenchers, government securities on behalf of the customers.

(iv) Acting as trustees and keeping their funds in safe custody; Acting as executors and executing the will of the customers after their death; and as attorneys signing on the important documents of the customers.

(v) Making payment such as insurance premium, income tax, subscriptions etc., on behalf of their customers as per their advice.

5. General Utility Functions:

Besides the above agency functions, the commercial banks provide certain utility services to their customers.

(i) They provide locker facility for the safe custody of the silver, gold ornaments and important and valuable documents for which service rent is collected.

(ii) They transfer money of the customers from one bank to the other by way of demand drafts, mail transfer by collecting commission from the.

(iii) With the use of computers and internet facility, now-a-days the banks are facilitating online transfer of money from one bank to the other.

(iv) They issue letters of credit to enable the customers to purchase commodities on the basic of credit.

(v) They endorse and provide guarantee to the shares issued by the joint stock companies and help them in rising capital.

Commercial banks play a vital role discharging a wide variety of functions to enable the customers to carry on their transactions easily and conveniently. They facilitate capital formation by mobilizing savings and diverting the savings into investment. They monetize the economy. They promote economic development and influence economic activity in a number of ways.

Q.No.40 What are the main objectives of monetary policy.

Ans : Monetary policy is one of the aspects of economic policy. It consists of those actions and activities of the central bank which influence financial assets (supply of money and credit), the price of financial assets (interest rate) and the behaviour of financial institution (banks and others). These financial variables will have impact on the real variables out-put, employment, income and prices.

The targets for change are money supply, bank credit and interest rates. Money supply is defined to include currency plus demand deposits. Some economists include a variety of near money assets such as time and savings deposits, savings certificates, treasury bills etc., which can be converted into money with little or no loss. All these increase the spending power of people.

The classical economists felt that the elasticity of demand for money is unity. A change in money supply will alter money income. i.e. price level. The Quantity theorists assumed full employment. Hence changes in money supply will not affect output but affects prices only. In the Keynesian theory the demand for and supply of money determine the rate of interest. An increase in supply lowers the rate of interest. A fall in the rate of interest, given the marginal efficiency of capital will stimulate investment. Arise investment shifts the aggregate demand curve upward, This will head to an increase in output and employment. In times of full employment such shifts in aggregate demand will push up prices. But Keynes wrote at a time when there was Great Depression. At such times liquidity trap exists. So an increase in money supply fails to lower the rate of interest.

Objective of Monetary Policy:

Monetary Policy aims at achieving the objectives of economic policy. The objects and aims change with the changing circumstances and conditions. They also depend on the stage of economic development of the country concerned. In the days of gold standard, the primary objective was the maintenance of stable exchange rites. After the Great Depression of 1930s the emphasis was shifted to maintenance of a high level of employment. Since 1971 control of inflation has become the primary consideration of the central bank. In developing economies like India, the primary objective is promoting economic development in an environment of reasonable price stability. Maintenance of equilibrium in balance of payments is another objective.

The objectives of monetary policy are many and not one. But their relative importance changes depending upon the changes in circumstances, the monetary authority has to determine priorities. It has to obtain an optimum mix. It may have to trade off between these objectives. For example, if the authority aims at increasing employment level, the rate of inflation may rise. There is to be a trade off between the level of employment and price level.

We can mention the following as the objectives of monetary policy.

1. Maximum feasiable output, 2. high rate of growth, 3. fuller employment, 4. price stability, 5. Reduction in inequalities in the distribution of income and wealth, 6. equilibrium in balance of payments.

A country has to decide priorities between these different objectives.

We may now describe in detail the different objectives.

1. Stable exchange rates: Stability of exchange rate was chosen as the objective of monetary policy before 1914. To achieve it gold standard was maintained. The monetary unit was defined in term of gold. The rate of exchange was fixed on the basis of mint par. Such rate of exchange could fluctuate only within the narrow limits set by gold points. Further, and deviation of market rate from the equilibrium rate of exchange was corrected by gold movements. Gold standard facilitated free flow of goods between countries.

The greatest weakness of gold standard was its produced instability in the domestic field. Internal stability had to be sacrificed for stable exchange rates. Gold movements caused instability of price level. Unemployment was accepted as a necessary evil. After

sometime it was realized that the stability of price level was more important than the stability of exchange rate. Gold standard does not permit the attainment of full employment. The other objectives cannot be pursued if a country is on gold standard.

2. Price Level : With the abandonment of gold standard, maintenance of price level has become the objective of monetary policy. Some preferred, (a) a gently rising price level; some (b) a falling price level and a few others (c) stable price level.

a) Gently rising price level : A gently rising price level preferred by some people. When prices rise the margin of profit increases. Investment is thereby stimulated. Employment and output increase. Prosperity cannot be achieved without some rise in the price level. But a continuously rising price level is harmful. Till full employment is obtained, price rise is advantageous. Beyond full employment, price rise is inflationary. Inflationary is harmful.

b) Falling price level : In a progressive economy, falling price level is preferred by some. In times of prosperity, productivity of factors improves – unit cost therefore diminishes. Unless the price level falls, the benefits of improvement do not go to the consumer. Falling prices are regarded as desirable.

c) Stable price level : In view of the disadvantages of inflation and deflation stable price level is considered as the best policy. When prices are stable money performs its functions quite satisfactorily. Stable prices ensure justice between debtors and creditors and between employers and workers. This policy, however, involves the following difficulties.

1) The criterion is vague. There exists nothing like an average price level. Then, which are the prices to be stablished, retail prices, wholesale prices, cost of living or wages?
2) Change in the price level is a symptom. It is not the cause of either inflation or deflation. We have to deal with the causes but not with the results.
3) Price changes are sometimes necessary. When the productivity of factors of production is improving, prices are bound to fall. If prices are not allowed to fall, inflation takes place.

Even if price stabilization is accepted as a desirable policy, the problem of stabilizing it is difficult. How are we to achieve stable prices?

3. Full employment : The maintenance of high levels of employment has become the objective of monetary policy after the great depression. The volume of employment depends on the level of

effective demand. Effective demand is composed of consumption expenditure and investment expenditure. Consumption is more or less stable. Fluctuations in the level of employment and business activity (trade cycles) are the result of variation in the volume of investment. Deficit financing and the cheap money policy have been advocated to stimulate investment and employment. Monetary policy must aim at maintaining full employment and avoiding business cycles. In times of depression monetary policy by itself is ineffective. It must aid and be aided by fiscal policy.

4. Economic development : In underdeveloped economics like India the object of monetary policy is to facilitate economic development. The chronic deficiency in underdeveloped economies is the shortage of capital. The monetary authority must try to provide adequate volume of funds. In India, for example, the Reserve Bank has been extending liberal credit facilities to cooperative institutions and small industries. It has participated in the establishment of financial institutions to supply long term capital to industrial concerns. The monetary authority must see that no legitimate activity is checked by shortage of funds. It should help the State in raising loans for economic development. It should facilitate inflow of foreign capital. This is the positive aspect of monetary policy.

There is the negative aspect of monetary police in an under developed economy, huge investment expenditure and deficit financing unleash the forces of inflation. Inflation should be controlled. The object should therefore be one of controlled. Expansion of money supply to facilitate economic development and its control to contain inflationary pressures. In other words, it should be development with stability.

Q.No.43 Law of Demand and determinants.

Ans : Introduction to Demand : Demand plays a very important role in Business sectors. Because sales and profits of a business company depends upon its demand. A firm will not live without any demand of its goods in the market. Failure and success of a firm depends on demand of the goods. A firm will mobilize resources based on the demand forecastings. Hence, business economists must study the demand and its related things.

Determinants of Demand :

Demand for a good depends upon various factors. They are

1. **Price of Good :** Price of a good depends upon its demand. A change in price leads a change in demand of a good. The demand falls when the price rises and vice versa.

2. **Population :** In generally, demand for a good depends upon population of a country, and number of consumers of that country. Demand is high when the population is high and the demand is low when the population is low.

3. **Income and Wealth of Consumers :** A goods decreased is based an income of the consumers. If the income changes the quantities purchased will also change.

4. **Tastes and Habits and Consumers :** Demand for a good is based on tastes and habits of the consumers. Demand will change if the tastes and habits of the consumer will change.

5. **Prices of Substitutional Goods:** Demand for a good depends upon its substitute goods. The demand is high if then are more substitutes. Moreover, the prices of its substitutes effect its demand. For example, price of coffee effects demand for Tea. Demand for tee is high when the price of coffee is high. The demand for tea is low when the price of coffee is low.

6. **Complementary Goods :** Complementary good is a related good. Demand for a good depends upon prices of its complementary goods. For example, demand socks depends upon prices of shoes.

Law of Demand :

In generally, the demand for a commodity in the amount bought. But in economic tenurs demand mean economic power of a commodity arises when the person has desire you it, and has the ability and willingness to pay for it. The other words, the demand for a commodity is the amount bought at a given price and at a point of time.

A person desires to buy a car. This is his desire. However, the person has the ability to pay for it. But the person has not that ability. So, this is not demand in the same way, there is no demand for a car even though he is a million as has not desire to purchase a car. Hence, we need two things to demand for a commodity. They are desire for it and ability to buy.

Q.No.44 Income Demand – Cross Demand.

Income Demand : It refers to the various quantities of goods and services which would be purchased by the consumer at various levels of income. The functional relationship between the incomes of the consumer and quantity demanded can be written as

$$D_n = f(Y)$$

Superior or Normal Goods :

In case of superior or normal goods, the demand will increase with the increase in the incomes of consumers. It shows a positive or direct relationship.

In the picture OX represents demand for superior goods and OY represents incomes of the consumer. Y_D in the picture shows the income demand curve, showing a positive slope. This means that as the income of the consumer increases from Y_o to Y_1, the demand for normal goods or superior goods increases to OQ_o to OQ_1. This may happen in case of 'Veblen goods' .

DIAGRAM

Inferior Goods :

As against the above, the demand for the inferior goods decreases with the increase in incomes of the consumers, this relationship is called negative or inverse relationship.

DIAGRAM

In the diagram at OY_0 income, the demand for good is Q_o. But when consumer's income increases from OY_o to OY_1 the demand for the commodity is decreased from OQ_o to OQ_1. This happens in the case of Giffen goods.

Cross Demand :

It refers to the different quantities of a commodity that consumers purchase per unit of time at different prices of a related commodity, "Other things remaining the same". The other things here include the price of the good, income and tastes of the consumer. The related goods are either substitutes or complementaries.

Substitutes:

It they are substitutes then obviously they satisfy the same want. For example, tea and coffee are good substitutes. If the price of coffee rises, the demand for tea increases. Thus, in the case of substitutes the cross demand curve has a positive slope.

DIAGRAM

In the diagram, the price of coffee is shown on OY and the demand for tea on OX. Rise in the price of coffee from OP_o to OP_2 has led to the increase the demand for tea from OQ_o to OQ_2. Thus

Complementaries :

If they are complementaries, goods are to be demanded jointly to satisfy the same want. In the case of car and petrol which are complementaries, if the price of car is reduced then the demand for petrol increases.

DIAGRAM

The price of car is taken on OY and demand for petrol is on the OX-axis. As the price of car is falling from OP_2 to OP_o the demand for petrol is increasing from OQ_o to OQ_2.

Q.No.45 Elasticity of Demand

Ans : Before we list out the types of Elasticity of Demand, let us recall on the factors which determine the demand for a commodity. The demand for a commodity depends upon the price of the good, the prices of the related goods (complementaries and substitutes), incomes of the consumers, tastes and preferences of the consumers.

In this connection, the concept of Elasticity of Demand can be studied under three types. They are :

1. Price Elasticity of Demand, n_p
2. Income Elasticity of Demand, n_y
3. Cross Elasticity of Demand, n_c

Price Elasticity of Demand :

Price Elasticity of Demand is the responsiveness of demand to change in the commodity's price. It can be expressed as under,

$$n_{px} = \frac{Percentage Change \text{ in the Quantity demand of 'x'}}{Percentage Change \text{ in the price of 'x'}}$$

Symbolically,

$$n_{px} = \frac{\Delta q}{q} \div \frac{\Delta P}{P} \text{ or } \frac{\Delta q}{\Delta P} \times \frac{P}{q} \text{ or } \frac{dq}{dp} \times \frac{P}{q}$$

where,

Δ = change (increase or decrease)

q = quantity demanded

P = price

$\frac{dq}{dp}$ = differential coefficient of q with respect to P.

This concept is discussed in detail in the forthcoming sections of the unit.

It is essential to note that price elasticity of demand is a number and it does not depend on the units in which the price of the good and the quantity of the good are measured.

It is also to be noted that the price elasticity of demand is a negative number since the demand for a good is negatively related to the price of a good. For the sake of simplicity, we will always refer to the absolute value of elasticity.

Income Elasticity of Demand :

The responsiveness of demand to changes (increase or decrease) in the income of the consumer is called as 'Income Elasticity of Demand'. It can be expressed as under.

$$n_Y = \frac{Percentage Change \text{ in the Quantity demanded}}{Percentage Change \text{ in the Income of the consumer}}$$

Symbolically,

$$n_y = \frac{\Delta q}{q} \div \frac{\Delta Y}{Y} \text{ or } \frac{\Delta q}{Y} \times \frac{Y}{q}$$

Cross Elasticity of Demand:

The change (increase or decrease) in the demand for one good in response to the change (increase or decrease) in price of the related good represents the 'Cross Elasticity of Demand'. The Cross Elasticity of Demand of one good for another can be expressed as under.

$$n_{XforY} = \frac{Percentage Change \text{ in the Quantity demand of 'x'}}{Percentage Change \text{ in the price of } 'Y'}$$

symbolically,

$$n_{XforY} = \frac{\Delta q_X}{q_x} \div \frac{\Delta P_Y}{P_Y} = \frac{\Delta q_X}{\Delta P_Y} \times \frac{P_Y}{P_X}$$

Complementary goods will have Negative Cross Elasticity of demand whereas substitutes will have positive Cross Elasticity of Demand.

Q.No.46 Point method of Elasticity of demand:

Ans : This method helps us to measure the elasticity of demand at any point on the demand curve. This method has also been given by Alfred Marshall and is known as, 'Geometrical method'. According to this method, Elasticity at any point is the ration of the lower portion of the demand curve (straight line) to the upper portion. In other words,

$$n_p = \frac{The dis\tan ce from the point to X-axis}{The dis\tan ce from the point to Y-axis}$$

Straight line demand curve – Elasticity of Demand:

It should be remembered that the point elasticity of demand on the straight line is different at every point. To measure the elasticity at any point, we use the above formula. How the elasticity differs at every point is made clear by the following diagram.

DIAGRAM

Let us consider a linear demand curve Q=a-bp. It can be observed that at any point on the demand curve, the change in demand per unit in the price $\frac{\Delta q}{\Delta P} = -b$. Substituting the value of $\frac{\Delta q}{\Delta P}$ in the definition of elasticity, we obtain $n_p = -b\frac{P}{q} = \frac{bP}{a-bp}$.

In the above diagram, 'AB; is the straight line demand curve. Which is 4 cms is length. 'C' is the middle point on 'AB'. Applying the above formula, we get

$$n_p @ C = \frac{CB}{CA} = \frac{2}{2} = 1 \text{ or Unity.}$$

Thus, price elasticity demand at 'C' is unity

Similarly,

$$n_p @ \text{D} = \frac{DB}{DA} = \frac{3}{1} = 3(>1)$$

$$n_p @ \text{E} = \frac{EB}{EA} = \frac{4}{0} = \infty$$

$$n_p @ \text{F} = \frac{FB}{FA} = \frac{1}{3} = (<1)$$

$$n_p @ G = \frac{GB}{GA} = \frac{0}{4} = 0$$

When the Demand Curve is non-linear

The price elasticity of demand can be measured even if the demand curve is not a straight line, by using the above formula.

A tangent will, however have to drawn at the point on the demand curve, where we want to measure the elasticity.

DIAGRAM

In the above diagram, 'DD' is the Demand Curve. AB is the tangent drawn to point P.

Therefore,

$$n_p @ P = \frac{PB}{PA}$$

Here,

$$n_p = \frac{dq}{dP} \times \frac{P}{q}$$

Thus, the important point to be noted in Point Method is that the method is used to measure the price elasticity of demand on any point on the straight line or non-linear demand curve.

Q.No.47 Budget line or price line

Ans : So far, we have been considering the different combinations of the two commodities that the consumer would like to have with given tastes and preferences. But which particular combination of the two goods he can actually get depends on two factors. They are:

1. Consumer's money income
2. Prices of two goods.

So, the budget line shows all possible combinations of two goods that a consumer can buy, with the given income of the consumer and prices of the two goods.

The concept of budget/price line will be very clearly understood with the following example. Suppose that a consumer has Rs.150 (income) to buy two goods namely X and Y, whose prices are Rs.15 and Rs.30 each. With the given information, now, we can draw the budget or price line as shown in the diagram.

DIAGRAM

In the above diagram 'AB' is the 'budget or price line'. The slope of the line AB represents the ratio of the prices of X and Y in such a manner that 10 of X will be equal to 5 of Y.

Q.No.48 Features of indifference curves.

Ans : The foregoing discussion helps us to list out the properties of an indifference curve.

1. The indifference curves slope negatively or slope downwards from left to right.

2. They are convex to origin.

3. No two indifference curves can intersect (cut) each other. If they intersect each other, the point of intersection shows two levels of satisfaction, which is contrary to the assumption that a higher level of satisfaction is represented by an indifference curve which lies above the indifference curve showing lower level of satisfaction.

4. Every indifference curve to the right represents higher level of satisfaction than that of the preceding one.

5. An indifference curve will never touch either of the axis.

Q.No.50 Production function

Ans : A producer has to combine different factors or inputs to produce certain output. Production function explains the physical relation between inputs used and output produced by the firm. This relationship when expressed in the form of an equation is as follows:

$O = f(a, b, c, d)$ or $Q = f(x_1, x_2)$

Here O is the quantity of output produced, a, b, c, d are the inputs (land, labour, capital, organizer) used, 'f' indicates the functional relation between inputs and output. 'Q' is the output while X_1 and X_2 represent the amounts of Factor-I and Factor-II respectively.

In the above equation, amount of output produced depends on the quantity of inputs used. Thus, output is a dependent variable and inputs are independent variables. It explains a physical relation because inputs and output are expressed in physical quantities. For example, 2 units of land, 2 labourers, 2 units of capital and an organizer together produce 10 quintals of output. Here, the value of inputs (costs of production) or value of output (revenue to producer) are not considered.

The quantity of inputs used and their combination depends upon the technology. A change in technology brings about changes in

input use. For example, new technology in paddy harvesting reduced the manual labour and increased capital. Production is said to be efficient when certain quantity of output is produced with minimum inputs. Generally a producer aims to get more output from minimum inputs.

Further, a producer changes the output only by altering inputs. In the short period, it is not possible to change all inputs, particularly buildings, machinery etc., Hence, output changes are made by changing labourers. But, in the long period, all inputs can be changed to change the quantity of the output. It is also possible to substitute one factor for another to some extent. For example, labour can be used in place of capital or capital in place of labour.

Q.No.51 Returns to scale

Ans : The law of variable proportions shows that the production function of a firm which exhibits the relationship between are variable factor of production and output which other factors of production are fixed. But the law is applicable only in the short-run. However, it is possible to damage all the factors of production in the long-run. Change in all the factors of production is called change in scale. The law of returns to scale shows that all the factors of production are changed to the same extent. So that whatever the scale of production, the proportion among the factors remains the same.

Returns to Scale:

The law of returns to scale refers that all the factors of production are decreased or increased to the same extent so that whatever the scale of production, the proportion among the factors remains the same.

The returns to scale is divided into three types. They are:

1. Increasing returns to scale
2. Constant returns to scale
3. Diminishing returns to scale

The Law of returns to Scale – Assumptions:

The law of returns to scale is based on the following assumptions.

1. All the factors of production are variable
2. Technological changes are absent and
3. Perfect competition market exists.

If all the factors of production are increased in a given proportion, the total output has to be increased in the same proportion or decreased or remains constant. Returns to scale increase because increase in total output is more than proportional to the increase in all inputs. Returns to scale became constant as increase in total output is an exact proportion to the increase in all inputs. Returns to scale diminish because the increase in output is less than proportionate to the increase in inputs.

Q.No.52 Internal and external economies

In modern times, there is a need to increase production to meet our needs or then is a need to increase size of a firm. When economies that accure to a firm as a result of increase in its side is called internal economies, when economies that accure to a firm as a result of increase in its size of an industry is called external economies. Economies means uses of a firm as it participation in production process. These two economies will decrease cost of production. Which increase profits of the firm.

Internal Economies : Internal economies arise because of increase in the size of a particular firm. The following are advantages that accure to a firm as a result of increase in its size.

1. **Labour Economies:** Division of labour can be introduced in a large firm. It leads to increase in production and minimize costs. There is possibility to appoint skilled labour in every product unit.

2. **Technical Economies:** These economies arise as a result the use of high machines and those scientific processes which can only be carried in big firms. It leads to increase in labour productivity. It may causes to research work in production. The firm may utilize by products. For example, molasis can be used to manufacture chemicals in sugar industries.

3. **Marketing Economies:** A large firm derives economies in the purchase of materials and sale of goods. It can buy raw materials at lower prices because it effects bulk purchases. A large firm can maintain better selling organization. It can spend huge sums of money on advertising and can establish new markets.

4. **Managerial Economies :** In a large firm the work of management is divided into several departments, each of which is put in charge of an expert. These experts can be used fully. It leads to improvement in skill and saving of time and promotes invention.

5. **Financial Economies :** The large firm derives many financial advantages. It is better known in market. It can borrow from banks and better terms. It can sell its shares debentures easily and quickly. The cost of obtaining credit or rising fresh capital is lower than for a small firm.

External Economies : Because of growth of the industry, the firms will derive some economies. These economies are called external economies. A firm derives same economies when same other firm grows larger, are called external economies. For example, as the number of textile mills increasing, more textile machinery is produced. This may reduce the cost of machines. Such advantages will accure to all the firms in the industry. This economies are called external economies. The external economies are divided into three types.

They are :
1. Economies of concentration
2. Economies of information
3. Economies of specialization

1. **Economies of Concentration :** When a number of firms are started in one area they derive natural advantages through the provision of transport facilities, training of skilled workmen, the stimulation of improvements, establishment of financial and commercial and so on. Subsidiary and auxiliary industries will started based on these advantages.

2. **Economies of information:** When the number of firms in an increases collective action and co-operative effort become possible. Terms head not carry on independent research. They can carry it collectively. Scientific and trade journals an published. Gathering of information is easy and advantageous to the industry. There is possibility for exchange of ideas among the industries.

3. **Economies of specialisaiton:** When the industry grows, the firms may agree to spit up the process of manufacture so that they can specialize each stage. The firms may divide between themselves the stages of production. For example, in the cotton textile industry, some firms specialize in spinning, same in weaving and so on.

Q.No.53 Supply of a good

Ans : Supply is defined as the quantity of goods producers can supply at different prices during a period of time. While speaking about supply, two things-price and time period are considered. For example, a farmer supplies 10 kgs of vegetables at Rs.20 per week. The total

output produced by the firm may not be supplied to the market. A part of it may be kept as a stock in the godown. In the total output, the quantity offered for sale at a given price is called supply. Although price is a crucial factor in determining supply, there are other factors that affect the supply of goods.

Determinants of supply :

Producers make decisions about supply depending upon several factors, which are known as determinants of supply. The main factors that cause changes in supply are price of the goods, input prices, technology, natural factors, government policy etc.,

1. **Price of the Goods :** Price of the goods is crucial to the producer in making a decision about supply. It is the price that decides the profit of the firm. Producers supply more goods as price goes up in the market to get higher profits.

2. **Input prices :** Production takes place with the help of inputs. A rise in input prices leads to higher cost of production. Producers supply more, when input prices low i.e. at lower cost of production. At higher input prices they supply less.

3. **Technology :** Changes in technology or methods of production affect supply. Technology decides the inputs to be used, quality of the product. New technology generally helps to save inputs and reduce costs and time to produce output. An improved technology enhances the supply of goods.

4. **Natural factors :** Supply of goods depends on favourable weather conditions. Conditions like brought, floods, extreme weather, pests and diseases disturb crop production and raw material supply. This will affect the supply of goods.

5. **Government Policies :** Government policy of taxes and subsidies on goods brings about changes in supply. Higher taxes on goods discourage producers and their supply will be less. On the other, subsidies from government encourage producers to supply more.

Law of Supply:

We have learned that supply of goods depend upon several factors. Among these, price is the crucial factor for a producer. Like the demand, supply also depends on price of the good. It is the general tendency of the sellers to supply more quantities when the prices increase in the market. Law of supply explains the relation

between price and supply of goods. The law of supply states that, when other factors remain the same, the quantity supplied increases with a rise in price and decreases with a fall in price. Thus, the quantity supplied by producer is directly proportional to the price. The relation between price and supply is positive. This relation exists only when there is no change in other factors. It assumes that there are no changes in technology, price of inputs, weather etc.,

Q.No.54 Opportunity Cost

Ans : Modern economists measures the cost of a factor in terms of opportunity cost. Before we understand the opportunity cost, it is important to remember that factors of production are scarce and they have alternative uses. A particular factor is useful to produce one item of goods at a time. It can not be used to produce different goods at one time. For example, an acre of land can be used either to produce cotton or maize in a season but not both at a time. Let us assume that a farmer has grown cotton on this land. The opportunity cost of producing cotton in the land is measured as value of alternative crop maize that is foregone. It means, when we make a choice of using a factor in one production, we have to give up its use in another production. In the above example, the choice of producing cotton has made us to give up maize crop. The opportunity cost of producing cotton is the value of maize that is being lost. Hence, it is defined as

"The opportunity cost of a factor is the benefit that is foregone from the next best alternative use".

This principle can be applied to any factor of production-labour, capital and organizer. The opportunity cost of a labourer is the earnings he could get form the alternative employment. It can be applied to consumption. For example, in case of a student, the cost of seeing a movie is the book purchase that is foregone.

Q.No.57 Relation between Average cost and marginal cost

Ans : Average and marginal cost curves are constructed with the help of total cost. The shape of the average and marginal cost curve is in the form 'U'. The 'U' shaped cost curves indicate that in the beginning at low levels of output average and marginal costs are high. As we increase the output average and marginal costs comes down. The curves reach a minimum point where costs are low. After the minimum point both the costs rise. It means that an increase in output causes costs to rise.

DIAGRAM

Relation between Average and Marginal cost :

In the figure, we can observe that average and marginal cost curves move together in a particular direction. This is because of close relation between average and marginal cost. In the first phase, average and marginal cost curves move downwards. In this part when average cost curve is falling, marginal cost curve is below the average cost curve. It means, as marginal cost (extra cost to produce additional good) comes down it will pull down the average cost of the commodity. Hence both are moving down in the diagram.

Later marginal cost curve cuts the average cost curve at its minimum point. At this point average cost is equal to marginal cost and costs minimum to the producer. Finally both the curves move in the upward direction. In this part when average cost is rising, marginal cost is above the average cost curve. When marginal cost increases, it will pull up the average cost. Thus, average cost and marginal cost are closely related each other. Therefore, both the costs curves move together in the diagram.

Q.No.58 Marginal Revenue Curve – Average Revenue Curve

Ans : Revenue Analysis : The output sold in the market gives revenue to the producer. Costs and revenues are important in deciding the output and determining the profits of a producer. The decision of a producer where to stop output and how much profit he gets ultimately depends upon the comparison of costs and revenues. Similar to the three cost concepts total, average and marginal costs, there are three revenue concepts i.e. total, average and marginal revenue.

Total Revenue :

Revenue means the receipts of a producer from selling certain quantity of output at a price in the market. Total revenue of a producer depends on the price and the quantity of output sold in the market. WE get the total revenue (TR) by multiplying price (P) with quantity of output(Q).

Total Revenue = Price X Quantity of output.

$$TR = P \times Q$$

Suppose a producer sells 30 goods at a price of Rs.10, then his total revenue will be 10 x 30 = Rs.300. Therefore, any change in the price of the good or quantity of output bring change in the total revenue.

A producer earns revenue by selling output in the market. Total revenue (TR) is equal to price (P) multiplied by output (Q). TR = P x Q.

Average Revenue :

Total revenue gives us information about the receipts from total output. A producer is also interested to know how much revenue he is earning on each good. Revenue received per good is called as average revenue. It gives per unit revenue to the producer. Average revenue (AR) is calculated by dividing total revenue (TR) with the number of units of output (Q).

$$Average\,\mathrm{Re}venue = \frac{Total\,\mathrm{Re}venue}{Output} = AR = \frac{TR}{Q}$$

Q.No59 Distinguish between perfect competition and monopoly.

Ans : A distinction of perfect competition and monopoly markets

Perfect Competition	Monopoly
a. Large number of producers	a. Single producer
b. Freedom of entry to producers	b. No entry to producers
c. Producers are in competition	c. No competition to the producer
d. Producer has no control over supply	d. Producer has complete control over supply
e. Market determines the price and producer is a price taker	e. Producer decides the price, he is the price maker
f. Uniform price is charged from all the buyers.	f. Price discrimination is Practiced in the market.
g. Average revenue and marginal revenue are the same. The curve is horizontal and parallel to X-axis	g. Marginal revenue is less than average revenue. Revenue curves are downward sloping.
h. Though supernormal profits can be earned in the short run, only normal profits can be earned in the long run due to the free entry of firms.	h. Supernormal profits can be earned in the short run and long run as long as conditions remain the same in the Market.

Q.No.61 Classical Rent – Quasi Rent

Ans : "The concept of Quasi rent was first introduced by Marshall".

Quasi rent according to Marshall is the surplus earned by instruments of production other than land. It is the income earned from man made factors of production, such as machinery buildings, tools etc. This is a short term concept. This type of rent is the income of factors or agents of production when the demand for these agents suddenly increases, as the supply of these factors connot be increased in the short run.

Example : When demand for houses in rural areas suddenly increases due to establishment of colleges, industries etc. rents suddenly shoot up. It is only a temporary surplus.

Q.No.62 Scarcity Rent

Ans : The demand for land is derived demand. When population increases the demand for land increases resulting in a rise in rent.

Scarcity rent is a payment made to a factor of production which has a very low elasticity of supply. As the supply of land is limited, the price is largely influenced by its demand. This concept was explained by Alfred marshall based on the supply and demand for land.

Graphic representation of Demand and Supply of land

DIAGRAM

Q.No.63 Determinants of real wage

Ans : Real wages are the purchasing power of the money wages received by the labourer. Real wages largely depend on the price level. It is the volume of goods and services that a worker can buy with his money wage.

1. Method of Payment:

The intervals at which wages are paid that is weekly, monthly or yearly influence the purchasing power of money wages. The part of

wages that is paid in kind also determines real wages. If the worker is paid a part of his wages in 'kind', the real wages are not influenced by the price level, unlike in the case of conversion of money wages into real wages.

2. Purchasing Power of Money:

The purchasing power of money varies inversely with the price level. If price level falls the 'real income' rises and vice versa.

3. Regularity of Employment:

More secure employment with lower wages may be preferred to insecure employment with high wages. It is important to note that there is a difference between wage rates and earnings.

4. Nature of Work:

Occupations with risk are not preferred even if the working hours are more and wages are high.

5. Future Prospects:

A low money income at present may be preferred if the chances of wage hike or promotions are in the offing in future.

6. Subsidiary Earnings:

Apart from the regular wages, in some places of work there is scope for extra earnings in the form of goods or money.

For example a worker in a Textile mill may be given dress for his family during festive season.

A lecturer may supplement his earnings by undertaking examination work etc.

Besides all these factors, social insurance amenities provided by the employer in the form of free housing, transport, medical and educational services, subsidized canteens, uniforms, etc. determine the real wages of a labourer.

Q.No.64 Components of National Income

Ans : There are five main components of National Income. They are

a) Consumption – C
b) Gross domestic investment – I
c) Government expenditure – G
d) Net foreign investment – (x – m)

e) Net income from abroad

a) Consumption :

It is the total expenditure made by households on goods and services. It includes both durable and non durable goods like food grains, clothing, medical services etc. The level of consumption depends on the level of incomes.

b) Investment

It is the expenditure by firms on goods and services which are not for current consumption. It includes expenditure on capital goods like Machinery, roadways, bridges etc., which will help in production of consumer goods in future.

c) Government Expenditure (G)

It is the expenditure made by the Government on infrastructural facilities for the use of the society. It also includes Government expenditure on services like Police, Military and Judicial services.

d) Net foreign Investment (x – m)

It is the income earned by a country through International trade. Every country exports certain volume of goods produced by it and imports goods which are relatively cheaper in the international market or other countries.

The difference between the value of exports and imports (either positive or negative) has to be taken into account to estimate the national income of a country.

The net foreign investment depends on the export-import policy of the Government and the comparative price level of the goods in domestic and International markets.

$$Y = C + I + G + (x - m)$$

e) Net income form Abroad

Some of the nationals of this country working in other countries may be sending remittances to this country. Likewise foreigners in one country may be sending their income abroad. Hence net income from abroad represents the difference between receipts an payments of the above type of factor incomes.

Q.No.65 Measurement of National Income

Ans : There are three methods of measuring national income,

1. Output method or product method
2. Expenditure method and
3. Incomes method

Cairn cross says "National Income can be looked in any one of the three ways, as the National Income measured by adding up every body's income by adding up everybody's output and by adding up the value of all things that people buy and adding in their savings.

a) Output Method

It is also known as inventory method or commodity service method. In this method we find the market value of all final goods and services produced in a country during a given period of time. The entire output of final goods and services are multiplied by their respective market prices to find out the gross national product.

$NI = (P_1Q_1+P_2Q_2+\ldots P_nQ_n)$ – Depreciation – Indirect taxes

+ Net income from abroad.

Where NI = National Income, P = Price of the good or service, Q = Quantity of good or service produced, 1,2... n are the various goods and services produced.

The values of raw material, intermediary goods etc., should not be included. Only final goods should be taken into account.

Here we find out the incomes earned by all factors of production are aggregated to arrive at the national income of a country. The four factors of production receive incomes in the form of wages, rent, interest and profits. This is also National Income at factor cost.

NI = W + I + R + P + Net income from abroad

NI = National Income

W = Wages, I = Interest, R = Rent, P = Profits

This method gives us National Income according to distributive shares. (The most important income share is that of labour)

c) Expenditure Method

In this method we add the personal consumption expenditure of households, expenditure of the firms, Government purchase of goods and services, net exports plus net income from abroad.

NI = EH + EF + EG + Net exports + Net income from abroad

Here National Income = Private final consumption expenditure + Government final

Consumption expenditure + Net domestic capital formation + Net exports + Income from abroad

Car should be taken to include spending or expenditure made on final goods and services only.

There are two different ways in which national income of a country is estimated. They are national income at market prices and national income at constant prices.

Q.No.66 Employment Multiplier

Ans : The concept of multiplier was first introduced by R.F. Khan. Khan's multiplier is employment multiplier. Keynes multiplier is income multiplier.

Let us explain the working of the employment multiplier. Suppose the government undertakes public works like roads, railways and irrigation works. Then some men get employment. This is called primary employment. The people who secure employment in such public works spend their income on consumption goods. The demand for consumption goods therefore increases. Some workers have to be employed to increase their production. Thus in addition to the 'primary' employment in the public works there is a 'secondary' employment resulting from consumption spending. The total benefit of public works as a remedy for unemployment is greater than the immediate or primary employment. The employment multiplier tells the number of men who will be employed for every one that is directly employed. When the multiplier is 5, for example, every man newly employed in public works causes four other men to be newly employed in consumption goods industries. Then total is 5 men.

The employment multiplier is the ratio of increase in total employment (N) to the increase in primary employment (N_1).

If employment multiplier is designated by the symbol K^1 then $K^1 = \Delta N / \Delta N_1$.

Here ΔN stands for increase in total employment. ΔN_1 stands for increase in primary employment.

Keynes made the assumption that the employment multiplier is equal to the investment multiplier. He thought that such an assumption does no violence to the General Theory of Employment. Most of the Keynes' analysis is stated in terms of investment multiplier because of greater convenience of expression. In practice, the values of the two multipliers are not equal unless there is always proportionate relationship between output and employment.

Q.No.67 Public Expenditure Multiplier

Ans : Government expenditure is a component of aggregate demand. An autonomous increase in government expenditure will shift the aggregate demand curve upward. Consequently, national income (output) will increase by a multiple of increase in government expenditure. The increase in government expenditure will produce multiplier effects just as the increase in private investment. The government expenditure multiplier (Kg) is therefore

$$K_g = \frac{\Delta Y}{\Delta G} = \frac{1}{1 - MPC}$$

The value of government expenditure is therefore equal to the value of investment multiplier. If MPC is 4/5, Kg is 5. If ΔG is Rs.10 crores, ΔY will be Rs.50 crores. All government expenditure is assumed to be on consumption or investment goods.

Suppose the government raises Rs.10 crores from taxation. If the additional tax revenue is Rs.10 crores, the budget is balanced $\Delta G = \Delta T_x$.

Taxation will reduce disposable income (Y_d) by Rs.10 crores. A part of taxation is paid by people by reducing consumption and a part from out of saving. If ΔT_x is Rs.10 crores, consumption expenditure will fall by Rs.7.5 crores, if MPC is ¾. This is the primary effect.

The tax multiplier will work in the reverse direction.

$$K_{tx} = \frac{-\Delta Y}{\Delta T_x} = \frac{-a}{1 - a}$$

If MPC is 4/5 or 0.80, then

$$K_{tx} = \frac{-0.80}{1 - 0.80} = \frac{-0.80}{0.20} = -4$$

The government expenditure multiplier is 5. The tax multiplier -4.

The balanced budget multiplier

$$K_g - K_{tx} = 5 - 4 = 1$$

Hence, when the budget is balanced the multiplier effect is 1. Increase in Y is equal to increase in G. Thus $\Delta Y = \Delta G$.

This is stated by Havalmo. Hence it is also called Havalmo effect.

Q.No.68 Classification of money by R.B.I.

Ans : While talking of money, we come across different terms in different contexts. Different names are given to money on the basis of its value, the material used and its legal status. Thus, there are different types of money which are detailed below.

1. Commodity money and representative money:

Money is classified into commodity money and representative money on the basis of the intrinsic value it possesses.

a) **Commodity money** includes metallic coins whose face value and intrinsic value is the same. It is also called **full-bodied money.**

b) **Representative money** includes coins and paper money whose intrinsic value is less than their face value.

2. Legal tender money and optional money

on the basis of legality, money is divided into legal tender money and optional money.

a) **Legal tender money** is the money which should be accepted as per law by everyone in payment for commodities and services.

b) **Optional money** is non-legal tender. No body is bound by law to accept such money. However the public may generally accept it optionally. Eg., cheques. One may refuse to accept cheques towards payment of bills, but in actual practice they are accepted at the option of sellers. Bills of exchange and hund is are other forms of optional money.

3. Metallic money and paper money

Money is divided into metallic and paper money on the basis of the material used to make it.

a) **Metallic money** is made up of metals such as silver, nickel, steel etc. All coins are metallic money.

b) **Paper money** is money printed on paper. Currency notes are paper money.

4. Standard money and token money:

a) Standard money is the money whose face value and intrinsic value are the same. The government adopts some precious metal as the standard. Previously governments all over the world accepted gold standard to print their currency. Under gold standard, the banks give gold in exchange for the unit of currency as per the face value. It is convertible. Indian rupees is not standard money.

b) Token money is the money or unit of currency whose face value is higher than the intrinsic value. It is not convertible. It facilitates transactions and accepted by the public as medium of exchange.

5. Credit money

This is also called bank money. This is created by commercial banks. This refers to the bank deposits that are repayable on demand and which can be transferred from one individual to the other through cheques.

Q.No.69 Bank Rate

Ans : Bank rate is the official minimum rate at which the central bank rediscounts eligible bills. In some countries it is also the rate at which the central bank grants short-term accommodation to the member banks on collateral securities. The various rates of interest in the money market are usually related to the bank rate. If the commercial banks indulge in injurious credit expansion, the central bank will raise the bank rate.

When the bank rate is raised the commercial banks find the cost of borrowing from the central bank had increased. They also in their turn increase the rate of interest they charge on loans. The dealer in finished and semi-finished goods will find that the 'cost of holding' of goods has increased. They try to repay bank loans by reducting stocks. They place less orders with the manufacturers. The manufacturers reduce out put. So the factors of production will be thrown out of employment. Their money incomes decrease. The demand for goods and therefore their prices fall. Higher rate of interest will check borrowing form commercial banks. So the volume of credit tends to decline. The bank rate can thus be used to control inflationary conditions. The opposite will happen when the central bank lowers its bank rate.

Hawtrey holds the view that bank rate influences the volume of credit through short-term rates of interest. Keynes thinks that it will be effective through long-term rates of interest. When the long-term rate of interest rises in response to rise in short-term rates, other things remaining the same, investment will fall. With investment, the level of employment, output, and prices change. Interest charges must form a substantial part of total cost of holding goods Demand for holding stocks must be elastic. Then only bank rate would be effective. Bank rate influences the volume of credit indirectly.

Q.No.70 Consequences of Inflation

Ans : Having known about the types and causes of inflation, it is necessary to know the effects of inflation to understand the importance given to this problem in macroeconomics. Inflation has effect on all economic activities in the economy. These may be explained as follows:

A. On Production

There may be positive and negative impact of inflation on production. It depends on the rate of inflation or type of inflation.

a) Mild inflation stimulates production as it increase the profit margin of entrepreneurs. As long as there are unemployed resources output can be increased. This will increase employment and output as well. However, if the economy reaches full employment level, no further expansion of production is possible. Excess demand at this stage would push up prices but not production.

b) High inflation rate or hyper inflation hinders production.

c) Inflation discourages savings. This affects the capital formation which in turn affects production

B. On distribution

The impact of inflation is not uniform on all sections of people. It affects certain sections of the people adversely while certain other sections gain because of inflation. This can be elaborated as follows:

1. Fixed income groups:

People belonging to fixed income groups suffer due to inflation because their income does not increase as prices of commodities rise. Pensioners, people who depend for their income on term deposits in

the bank or house rent, persons who on contract basis for fixed remuneration etc., belong to this class.

2. Working class

Workers and wage-earners in the informal sector normally work for fixed incomes. Even otherwise their wages do not rise as and when prices rise. Such people suffer because of inflation. Workers of the organized sector may not suffer much if the trade unions are strong enough to secure rise in wages during inflation. Otherwise they may also suffer because of inflation.

3. Debtors and Creditors

Inflation results in decline in the value of money. Therefore creditors lose the value of money is higher when they lent and less when they are repaid. But debtor gain because the value of money is high when they borrowed but low when they repay.

3. Consumers and entrepreneurs

Consumers lose but entrepreneurs gain because of inflation

C. Social impact

Economic inequality leads to unequal opportunities in matters of health, education and employment. This results in social injustice. The welfare of the common man is seriously affected. Poverty increases. Frustration among the poor may lead may lead them to crime and violence.

D. Political effect

Inflation widens social and economic disparities which cause frustration among the sufferers. This provides opportunity for political movements and if the government is not responsive, the movements may threaten the stability of governments.

Q.No.74 Features of monopolistic competition

Ans : The main features of monopolistic competition are as follows:

1. **A considerable number of producers:** A commodity is produced by a considerable number of producers. Since there are more number of producers, no one controls the output in the market. Competition will be high among the producers. For instance about 30 producers may be producing soaps to cater to the national and regional markets.

2. **Product Differentiation:** The commodity of each producer will be different from that of other producers. Sometimes the differences may be very small. But consumers feel that one product is different from other. The difference may be due to material used, colour, design, smell, packaging, trademark etc. Because of this, each product will have specific identification in the market.

3. **Entry and Exit :** Firms are allowed to enter into production and leave the market. When profits are high new firms will join. In case of losses, inefficient firms will leave.

4. **Selling Costs :** An important feature of this market is every firm makes expenditure to sell more output. Advertisements through newspapers, journals, electronic media, sales representatives, exhibitions, free sampling help to promote the sales. Lot of expenditure is made on these items under this market. As products are different, these different methods are used to attract more consumers by each firm. Selling costs are different from production costs.

5. **Imperfect Knowledge:** Buyers will have an imperfect knowledge about commodities. They are influenced by advertisements and other methods in the market. Sometimes products may be the same but consumers think that a particular good is superior than another. Due to the advertisements and other devices, consumers purchase the commodities.

6. **Price Decision :** Each firm produces a commodity with small differences. It is due to this reason that a firm will decide the price for its product. The demand curve for a firm will be downward sloping and more elastic. It means a small reduction in price will cause more demand for the commodity. An increase in price leads to a greater fall in the demand.

   In practice, we find markets that are closer to monopolistic competition. Most of the commodities are produced by several firms with small differences. Example : Soaps, garments, cosmetics, electronic goods etc. Features of monopoly and competition are combined in this market.

This market is criticized for the wastages that take place in it. They are 1. Excessive expenditure on advertisements, 2. Large number of firms produce the same good with small differences, 3. Each firm sells its product at different places leading to more transport costs, 4. Every firm produces less than its capacity as no firm will have full demand in the market. These are wastages and unnecessary from the point of view of the society.

Q.No.75 Factors of Production

Ans : The production of any good or service is the result of the joint efforts of the four factors of production. We explain below briefly the meaning of these four factors of production.

(a) Labour

Labour includes all physical and mental efforts of human beings used for producing goods and services. The physical and mental efforts are inseparable. A worker requires both. The difference is of only degree. Some of the jobs require more of physical than mental labour. For example, a worker who is operating a machine as a routine may be doing more of physical labour than metnal labour. On the other hand, an engineer who is looking after the machine may be performing more of mental labour than physical labour. The remuneration paid to the worker is popularly termed as 'wages and salaries'. In national income accounting it is termed as compensation of employees.

(b) Land

The alternative term for land as used in economics is 'natural resources'. It includes all gifts of nature on, below or above the surface of the earth. On the surface there is land used for agricultural, industrial, residential and other purposes like rivers, dams, bridges etc. Below the surface are the mineral deposits, water streams, etc. Above the surface are the sun, the moon, the wind, the rain etc. Thus, the term land includes all that is given to us free by the nature. Historically, when land was abundant, there was no need to pay any price for owning land. But when land became scarce sale and purchase of land started. Those who owned land started charging payments for the use of the land owned by them. Such a remuneration accruing to the land owner is termed as rent in national income accounting.

(c) Capital:

Capital includes all the man-made assets used for producing a good or a service like structures on land, machines, equipments, vehicles, stock of materials etc. The main difference between land and capital is that land is a free gift of nature while capital is produced by man. We cannot reproduce; land but we can reproduce capital. The remuneration accruing to the capital is termed as interest in national income accounting.

(d) Entrepreneurship

It refers to the initiative taken by a person or a group of persons in starting and organizing a business and take upon their shoulders all the good and bad consequences of doing so. The good consequence of a business is the profit it earns. The bad consequence is the losses that may occur. Unless somebody takes this initiative no business can be started. The one who takes the initiative is termed as 'entrepreneur'. He brings together the owners of labour, land and capital and uses their factors of production in the production unit. The remuneration accruing to the entrepreneur is termed as profit in national income accounting.

Q.No.76 M_1, M2, M_3 and M_4.

Ans : In India money supply is measured in terms of the following monetary aggregates:

M_1 = Currency + Demand deposits + other deposits

M_2 = M_1 + time liability portion of savings deposits with Banks + Certificates of Deposits issued by banks + term deposits maturing within one year

M_3 = M_2 + term deposits over one year maturity + call/term borrowings of banks

These monetary aggregates will be discussed in greater detail in higher courses of study. It is sufficient at this stage to remember the terms i.e. M_1, M_2 an M_3 as monetary measures or monetary aggregates. M_4 has been deleted from monetary aggregates.

Q.NO.79 Inflationary gap – Deflationary gap

Ans :

a) Inflationary Gap : In pay for the War, Keynes developed the concept of inflationary gap. "The inflationary gap for the economy as a whole may be defined as an excess of anticipated expenditure over available output at base prices". It is the difference between the actual expenditure and the current level of production valued at base prices. It stems from the fact that Government + investors + consumers want in real terms among them more than 100 per cent of the war time of boom time available produceable output. The inflationary gap would cause the price level to rise. The rise in the price level closes the gap temporarily. But higher prices breed higher incomes all round and. The real gap opens itself continually.

The concept of inflationary gap may be illustrated by means of an numerical example. Let us suppose that, in the base year; the

value of the total output is RS.200 crores. Of this the Government claims output at Rs.90 crores, leaving for private consumption output valued at Rs.110 crores. If price are not to rise, the incomes out to private individuals and institutions should not exceed Rs.110 crores.

But suppose, on account of war-time conditions, the Government is obliged to pay out Rs.230 crores. If out of this the Government taxes Rs.50 crores. The total disposal income in the hands of private individuals would be Rs.180 crores. Since the value of output available for private consumption is only Rs.110 crores, there is a difference of Rs.70 crores, between the private expenditure and the value of national output. This difference is the inflationary gap.

So far we have assumed that all the income received is spent. But actually a part of it might be saved. If 20 per cent of the total income is saved, Rs.36 crores would be saved out of the income of rs.180 crores. Expenditure would be RS.144 crores. The inflationary gap would be Rs.144 crores min us Rs.110 crores, i.e., Rs.34 crores.

The concept of inflationary gap is an extremely useful analytical device it. Indicates the extent to which the various anti-inflationary policies should be perused by the State. The inflationary gap indicates the direction in which the State policy should run as well as the extent to which it should be pursued.

Inflationary gap is shown in the diagram. The aggregate demand (C + I + G) curve lies above the 45^0 lines (As. Cure) at full employment level by the distance DZ giving as an inflationary gap. Suppose that Rs.500 crores represents full employment output.

DIAGRAM

Suppose this income, the schedule total of C + I + G adds upto Rs.515 crores as shown by DZ. This leaves Rs.15 crores inflationary gap between D and Z. People are trying to buy more than output. Suppose at this level C + I + G adds upto only Rs.480 crores, as shown at D. This leaves Rs.20 crore deflationary gap between Z and D. Since there is no full employment does income drop by Rs.20 Crores? Clearly not, it must drop by some multiple of the original deflationary gap. If each rupee of reduced income results in a cut of 2/3 in a consumption spending, income will have to fall until it has dropped

three items (multiplier times) of the original deflationary gap. Deflationary gap is shown in the diagram. It is always measured at the full employment NNP level. It is the vertical distance between the 45^0 line (As) an C + I + G schedule i.e. ZD.

Q.No.51 Returns to Scale

Ans: The law of variable proportions is applicable in short periods. IN the short period, same factors remain fixed and it is not possible to vary their amount output can be increased by varying other factors.

In the long run, all factors including plant and machinery are variable. A firm can expand its scale of operations. It means that the firm expands producing by increasing all inputs i.e., more equipment, more labour, more space etc. If the increase in output is proportional to the increase in quantities of the inputs, returns to scale are said to be constant. A doubling of factors or inputs, returns to scale are said to be constant, causes doubling to output. If the increase in output is more than the proportion returns to scale in increasing. If the increasing in output is less than proportional returns to scale are decreasing.

When a firm expands its scale, it first passes through a phase of increasing returns to scale, than a phase of constant returns, and finally a phase of diminishing returns to scale.

Increasing returns to scale :

When an increased amount of any factor of production is devoted to a certain use, it is often the case that improvements in organisation can be introduced which will make natural units of the factor (men, acres, or money capital) more efficient, so that an increase in output does not require a proportionate increase in the physical amount of the factors. Sometimes an increase in factors ill lead to improvements in efficiency and some times it will not.

How do increasing returns arise:

From the above definition, it is clear that increasing returns arise because of improvements in efficiency of factors of production. Efficiency of factors will increase because of the following reasons:

1. Indivisibility of factors:

First, they arise because factors of production often consist of indivisible units. The indivisible units may be a machine, a worker or the entrepreneur, all the factors for technical reasons must be of certain size. It is on account of this indivisibility a large-scale firm

commands an advantage over a small scale firm. Hard each factor of production been perfectly divisible like sand it would be possible to produce even a single unit of a commodity with all the advantages of large-scale production. But for technical reasons, it is not possible to divide factors into small particles as sand. An industry is therefore not able to equip it self to produce one unit of a commodity with out providing capacity to produce more than one unit.

2. Dimensional Relations:

Increasing returns arise with the increase in dimensions. It is cheaper to construct bigger machines. It is also cheaper to operate them. For example, the cost of construction of double-decker bus is not double to that of an ordinary bus. The operation costs are also not double. But it can carry double the no. of passengers. Thus with an increased, roads have to be widened and bridges have to be strengthened. Thicker material has to be used for construction of the bus. Increasing returns thus arise only up to a certain stage.

3. Specialization:

The possibility of increasing returns is reinforced by the introduction of a scheme of specialization or division of labour. The advantages of specialization are well known and need no repetition here the maximum rate of increasing returns would exist when each unit of the factor was completely specialized and capable of performing only one task.

Increasing returns could occur through the specialization of firms is of two types. They are : Lateral disintegration, vertical disintegration, Lateral disintegration is the process by which firms, each for merely producing a no. of different commodities or types of commodity, gradually specialize upon narrower range of a single commodity vertical disintegration is the separation of an industry into a series of processes, each carried on by separate firms. These also account for increasing returns.

4. External Economies:

Increasing returns are some times also due to external economies. External economies are those that are dependent on the general development of the industry. Internal economies are dependent on the resources of the individual houses of business a engaged on it, on their organisation and the efficiency of their management. The Simplest example of external economies is the one where the machinery is supplied more cheaply when the industry in question increases the market for machines making industry.

The law of diminishing returns begins to operate, when diseconomies of large-scale production out-weight economies.

It can be explained with the help of the following hypothetical example.

Here it is assumed that there are tow factors namely labour and capital.

Tabular explanation:

Combinations	TP	AP	
1:2	4	4	Increasing returns
2:4	9	5	
3:6	15	6	constant returns
4:8	21	6	
5:10	26	5	diminishing returns
6:12	30	4	

Diagrammatic Explanation:

DIAGRAM

From the above diagram, increasing returns occurs in the first phase because of certain advantages available to a firm. As output is increased further, certain diseconomies enter into production and lead to constant returns. Beyond this, any increase in output causes more dis-economies and results in decreasing returns.

Thus in the first stage, as inputs are increased in the first party marginal returns curve is rising i.e., there are increasing returns to the producer.

Q.No.52 Internal and external economies.

Ans : Internal economies:

When a firm expands its output, it gets certain advantages known as internal economies or economies of scale. These economies are divided into technical, managerial, marketing, financial, research and risk-bearing economies. The following explanation about all these are given below:

1. Technical Economies:

Ans : A large firm will be able to install large capacity machines in place of small-sized machines. It also adopts latest technologies. These will give mechanical advantage over small firms & costs will be minimum. It is possible only for a large firm to introduce division of labour and specialization.

2. Managerial Economies :

Highly talented managers of specialized skills will be employed by large firms. It helps to make better decisions in the production. A small no. of managers with specialization will be able to handle large quantities of output.

3. Marketing Economies:

Large-scale purchase of raw materials and sales of finished goods gives the advantage of transport concessions to the firm. Advertisement costs will be less due to large output sales. Employment of marketing experts will give the firm a big advantages.

4. Financial Economies :

Large firms will be able to borrow credit easily. These firms will be able to offer the securities and their good will in the market enable them to borrow at reasonable rate of interest. They also raise capital by attracting investors.

5. Research and Development:

Improvements in technology, efficient use of resources, improvement in quality of products depend on research only large firms on afford to bear the expenditure on research.

6. Risk – Bearing Economies:

Generally large firms diversify their production into different goods and services. Therefore even if there is a loss in one item of goods, it can be covered by profit in other goods.

Thus large-scale firms enjoy certain advantages over small firms. As a result, they produce more output at lower costs.

External Economies:

External economies are those economies arise when several firms that produce similar goods come up at one locality. In this case, benefits are available for all the firms located at one place. They are :

1. Infrastructure Economies:

Location of several firms at one place makes available certain facilities. Local authorities may develop roads, communication, power irrigation etc. other facilities like banking, insurance, Skilled labour will come up in the area.

2. Specialisation Economies:

Production of goods can be split into different parts and each firm may take up one part of producing the goods. This will result in specialization and improve performance of each firm in the production. This division of labour helps to produce more output and reduces cost of production.

3. Information and Market Economies:

All the firms in the area are dealing with the same goods, information can be shared among the firms about raw material, skilled labour, marketing etc. Expenditure on these items can be reduced and there will be mutual advantage to all the firms.

4. Research Economies:

Collective research by all the firms on new products, technologies will help reduce expenditure. The fruits of research can be enjoyed by all the firms. By-products can be used properly by setting up new firms to earn additional incomes.

These are the internal & external economies to scale.