

Economics 2013 (Outside Delhi)

SET I

Time allowed : 3 hours

Maximum marks : 70

SECTION—A

1. Define marginal revenue. [1]

Answer : Marginal Revenue (MR) is an addition to the Total Revenue (TR) from selling an additional unit of output.

2. What does a rightward shift of demand curve indicate? [1]

Answer : The rightward shift of demand curve indicates the increase in demand for a good due to change in the factors other than the price of the good. These factors can be increase in the income of a consumer, increase in the total number of consumers, increase in the price of substitute goods, etc.

3. Under which market form is a firm a price taker? [1]

Answer : Under perfect competition, a firm is a price taker.

4. When is the demand for a good said to be perfectly inelastic? [1]

Answer : When demand remains constant at all prices, the demand for a good is said to be perfectly inelastic. eg., Salt.

5. Give one reason for an "increase" in supply of a commodity. [1]

Answer : 'A fall in the price of inputs' can be one of the reasons for an increase in the supply of a commodity.

6. How is the demand for a good affected by a rise in the prices of other goods? Explain. [3]

Answer : Price of other goods and demand for the given good : Any two goods are considered to be related to each other, when the demand for one good changes in response to the change in the price of the other good. The related goods can be classified into following two categories.

1. Substitute goods : Substitute goods refer to those goods that can be consumed in place of each other. In other words, they can be substituted for each other. For example, tea and coffee, Colgate and Pepsodent, Cello pens and Reynolds pen, etc.

For example, if price of tea increases, then the demand for tea will decrease. As a result, consumers will shift their consumption towards coffee and the demand for coffee will increase. (Price of Tea $\uparrow \Rightarrow$ Demand for Coffee \uparrow). It should

be noted that the demand for a good moves in the same direction as that of the price of its substitute.

2. Complementary goods : Complementary goods refer to those goods that are consumed together. The joint consumption of these goods satisfies wants of the consumer. For example: tea and sugar, ink pen and ink, printer and paper, etc.

For example, sugar and tea are complementary goods. Since, sugar and tea are consumed together, so a rise in price of tea reduces the demand for sugar and vice-versa. It should be noted that demand for a good moves in the opposite direction of the price of its complementary goods. (Price of tea $\uparrow \Rightarrow$ demand for sugar \downarrow) :

7. A firm supplies 10 units of a good at a price of ₹ 5 per unit. Price elasticity of supply is 1.25. What quantity will the firm supply at a price of ₹ 7 per unit? [3]

Answer : As given in the question,

$$Q^s = 10, P = 5 \text{ and } E^s = 1.25$$

At new price of ₹ 7 per unit

$$\Delta P = 7 - 5 = 2$$

We know,

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

$$\text{or, } 1.25 = \frac{\Delta Q}{2} \times \frac{5}{10}$$

$$\text{or, } Q = 1.25 \times 4 = 5$$

Thus, the new quantity that the firm would supply at a price of ₹ 7 per unit is 15 (5 + 10).

8. Explain the meaning of diminishing marginal rate of substitution with the help of a numerical example. [3]

Answer : Marginal Rate of Substitution (MRS) refers to the rate at which a consumer is willing to substitute one good for each additional unit of other good. Algebraically,

$$MRS = \frac{\Delta Y}{\Delta X}$$

It shows how many units of good Y the consumer is willing to sacrifice to gain one additional unit of good X.

The following schedule explains the concept of MRS

Consumption Combinations	Units of good X	Units of good Y	MRS _{xy}
P	2	10	—
Q	3	5	5
R	4	2	3
S	5	1	1

As the consumer moves from consumption combination P to consumption combination Q, consumption of good X increases from 2 units to 3 units while, the consumption of good Y falls from 10 units to 5 units. That is to gain one additional unit of good X, the consumer sacrifices 5 units of good Y. Thus, the MRS is 5.

9. From the following table, find out the level of output at which the producer will be in equilibrium. Give reasons for your answer. [3]

Output (units)	Marginal Revenue (₹)	Marginal Cost (₹)
1	8	10
2	8	8
3	8	7
4	8	8
5	8	9

Answer:

Output	Marginal Revenue (in ₹)	Marginal Cost (in ₹)
1	8	10
2 = A	8	8
3	8	7
4 = B	8	8
5	8	9

We know that the producer attains equilibrium when the following two conditions are accomplished.

- (i) MR = MC
- (ii) MC is rising

As we can see in the given schedule, the first condition is being met in two cases.

That is at point A and B, MR = MC = 8.

However, the second condition is being met only at point B. That is, in contrast to A where MC is falling from 8 to 7, the MC is rising from 8 to 9

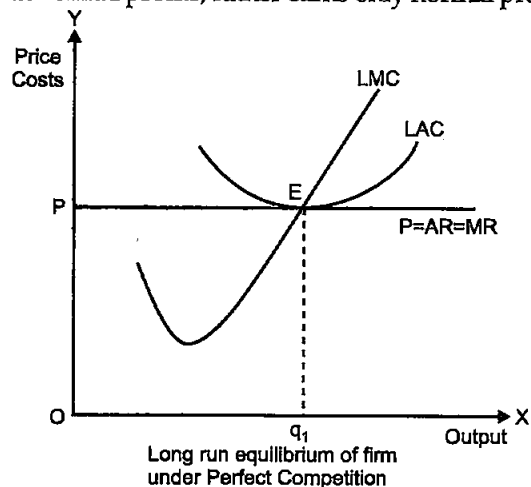
point B. Thus, the producer equilibrium will be at point B or at 4 units output level.

10. Why can a firm not earn abnormal profits under perfect competition in the long run? Explain. [3]

OR

Why is the demand curve of a firm under monopolistic competition more elastic than under monopoly? Explain

Answer : Under perfect competition, no firm can earn abnormal profits in the long run. This is because if any firm in the long run earns abnormal profits (that is price > minimum of average cost curve), then new firms are attracted into the market. Due to the new entrants, the production of output increases, which then increases the supply of the output. This puts pressure on the price and price continues to fall, until it reaches the minimum of average cost curve. At the minimum of average cost curve, all the abnormal profits are wiped-out and no firm earns abnormal profit. Thus, in long run, under perfect competition, no firm can earn abnormal profits, rather earns only normal profit.

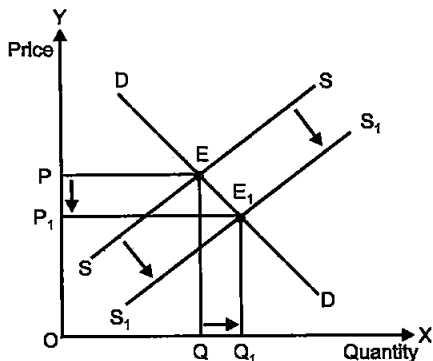


OR

The demand curve under monopolistic competition is more elastic than under monopoly. The reason behind this can be attributed to the fact that the nature of the goods available in both the markets is different. That is, under monopolistic market, there is a wide range of close substitutes available for the goods whereas, in monopoly market, the monopolist is the single seller and there are no close substitutes available for its product. Due to this, the demand curve under monopoly is less responsive to the changes in prices of the good. In contrast to this, in monopolistic market, due to the availability of a wide range of substitutes, there is a higher responsiveness of demand to the changes in prices. Hence, we can infer that the demand curve under monopolistic competition is more elastic than under monopoly.

11. Equilibrium price of an essential medicine is too high. Explain what possible steps can be taken to bring down the equilibrium price but only through the market forces. Also explain the series of changes that will occur in the market. [4]

Answer : If the equilibrium price of an essential medicine is too high then the price can be reduced by increasing the supply of the commodity. This can be explained with the help of the following diagram.



In the given diagram, we can see that the demand and supply forces intersect each other at point E. This is the initial market equilibrium with equilibrium price at P and equilibrium quantity at Q.

Now let us suppose that there is an increase in the supply of the commodity. This increase will shift the supply curve towards right from SS to S_1S_1 . Holding the demand constant, at the initial price OP, we can observe that there will be an excess supply. This excess supply will increase competition among the producers and consequently they would be willing to sell their output at a lower price. The price now, will continue to fall until it reaches OP_1 , where the new supply curve intersects the initial demand curve. This new equilibrium will be established at E_1 with the new equilibrium price at OP_1 . Thus, we can observe that the equilibrium price has fallen from OP to OP_1 .

12. Explain the meaning of opportunity cost with the help of production possibility schedule. [4]

OR

With the help of suitable example explain the problem of 'for whom to produce'. [4]

Answer : The cost of enjoying more of one good in terms of sacrificing the benefit of another good is called opportunity cost of the additional unit of the good.

Let us consider the example of the economy producing two goods – consumer goods and capital goods assuming the level of resources

and technology remain same. The following schedule depicts the different possible combinations of the consumer goods and the capital goods that the economy can produce with its resource endowment and the available technology. This schedule is called production possibility schedule. Production Possibility schedule refers to the table showing different production possibilities of two goods with the given resources & technology.

Production Possibilities	Consumer Goods (units)	Capital Goods (units)
A	50	0
B	48	1
C	44	2
D	35	3
E	0	4

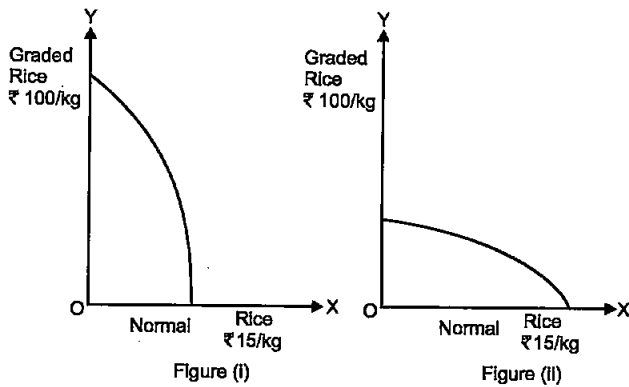
From the schedule, we can see that point A shows, if all the resources are utilized in the production of the consumer goods, then 50 units of consumer goods can be produced with zero units of capital goods. On the other hand, point E shows that if all the resources are utilized in the production of the capital goods, then 4 units of capital goods can be produced with zero units of consumer goods. Also, consider the movement from point B to point C. It implies that the economy is diverting resources from the production of consumer goods to the production of capital goods. In order to produce one additional unit of capital goods, the economy needs to sacrifice four units of consumer goods. Thus, the opportunity cost of producing one additional unit of capital goods is four units of consumer goods.

OR

This economic problem basically focuses on the distribution of final goods and services produced. The distribution of the final goods and services is equivalent to the distribution of National Income (or National Product) among the factors of production such as land, labour, capital and entrepreneur.

For instance, imagine an economy producing two goods – normal rice (priced at ₹ 15/kg) and graded rice (priced at ₹ 100/kg). If the economy decides to cater the needs of the lower section of the society, then it would produce more of normal rice and less of the graded rice. In such a case, the PPC curve will be as depicted in figure (ii). On the other hand, if the economy decided to cater the needs of the higher section of the society, then it would produce more of the graded rice and less of the normal rice. In

such a case, the PPC curve will be as depicted in figure (i).



13. A 5 per cent fall in the price of a good raises its demand from 300 units to 318 units. Calculate its price elasticity of demand. [4]

Answer : Given, the initial quantity $Q_1 = 300$
 New quantity $Q_2 = 318$
 So, $DQ = 318 - 300 = 18$
 Now, percentage fall in price = $\frac{\Delta P}{P} \times 100 = (-)5\%$

We know,

$$E_d = (-) \frac{\frac{\Delta Q}{Q_1} \times 100}{\frac{\Delta P}{P} \times 100} = (-) \frac{\frac{18}{300} \times 100}{(-)5} = (-) \frac{6}{(-)5} = 1.2$$

Thus, price elasticity of demand is 1.2

14. Explain three properties of indifference curves. [6]

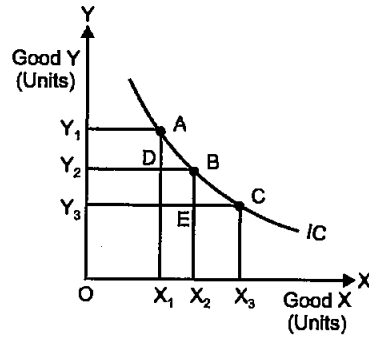
OR

Explain the conditions of consumer's equilibrium under indifference curve approach. [6]

Answer : There are three properties of Indifference Curve.

- 1. Indifference curves are downward sloping to the right:** Downward slope of the indifference curve to the right implies that a consumer cannot simultaneously have more of both the goods. An increase in the quantity of one good is associated with the decrease in the quantity of the other good. This is the accordance with the assumption of monotonic preferences.
- 2. Higher IC represents higher utility –** Higher IC represents more goods means more utility because of the assumption of monotonic preference.
- 3. Shape of Indifference Curve :** As we move down along the Indifference curve to the right, the slope of IC (MRS) decreases. This is because as the consumer consumes more and

more of one good, the marginal utility of the good falls. On the other hand, the marginal utility of the good which is sacrificed rises. In other words, the consumer is willing to sacrifice less and less for each additional unit of the other good consumed. Thus, as we move down the IC, MRS diminishes. This suggests the convex shape of indifference curve.



In the above figure, IC is the Indifference Curve.

At point A, $MRS_{xy} = AD / DB$

At point B, $MRS_{xy} = BE / EC$

$$BE / EC < AD / DB$$

MRS at B < MRS at A, so MRS has fallen.

OR

There are two conditions for consumer equilibrium under indifference curves approach are :

- $MRS = \text{Ratio of Prices}$
- MRS Continuously Falls.

Explanation :

(i) Let the two goods X and Y. The first condition for consumer's equilibrium is that $S = P_x/P_y$. Now suppose MRS is greater than P_x/P_y . It mean that the consumer is willing to pay more for X than the price prevailing in the market. He will start buying more of X. As a result MRS continues to fall. It becomes equal to the ratio of prices and the equilibrium is established.

(ii) Unless MRS continuously falls, the equilibrium cannot be established.

All other points lying on the budget line (such as point B and point C) are inferior to $(x_1^* x_2^*)$ as they lie on a lower IC (i.e., IC_1). Thus, the consumer will rearrange his consumption and will attempt to reach the equilibrium point, where the marginal rate of substitution is equal to the price ratio.

Let's suppose that instead of point E, the consumer is at point B. At this point, MRS is

greater than the price ratio. $\left[\text{i.e. } MRS > \frac{P_1}{P_2} \right]$.

In this case, the consumer would tend to move towards point E by giving-up some amount of good 2 in order to consume more units of good 1. The consumer will continue to give-up the consumption of good 2, until, he reaches the point E, where, MRS becomes equal to the price ratio.

On the other hand, for all other points such as point C, MRS is lesser than the price ratio.

[i.e. $MRS < \frac{P_1}{P_2}$] In this case, the consumer

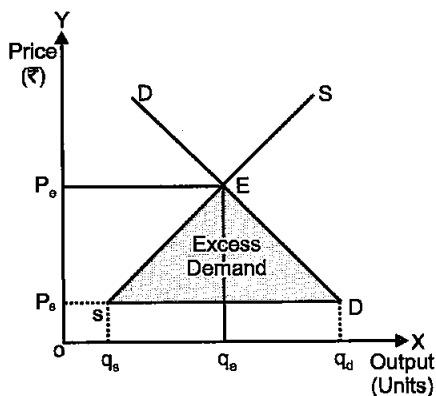
would tend to move towards point E by giving up some amount of good 1 to consume more units of good 2.

Thus, we can conclude that if the consumer is consuming any bundle other than the optimum one, then he would rearrange his consumption bundle in such a manner that the equality between the MRS and the price ratio is established and he attains the state of equilibrium.

15. If equilibrium price of a good is greater than its market price, explain all the changes that will take place in the market. Use diagram. [6]

Answer : When equilibrium price of a good is more than its market price, then there will be competition among the buyers. This is because when the equilibrium price of a good is above the market price then it implies that there is a situation of excess demand.

This is explained with the help of the following diagram :



From the above figure, we can analyse that the market demand curve DD and the market supply curve SS intersects each other at the point 'E', which is known as equilibrium. The corresponding price and quantity are regarded as equilibrium price and equilibrium quantity, OP_e and Oq_e .

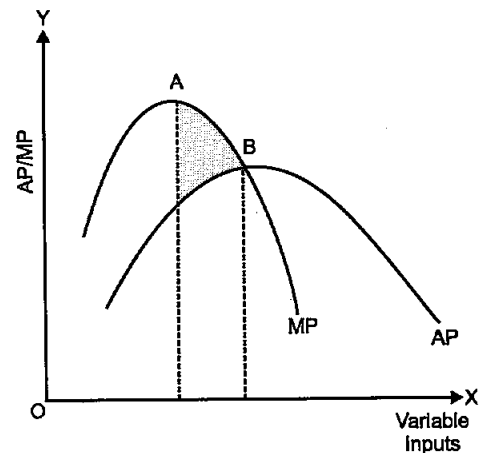
In other words, if the market price P_s is below the equilibrium price then at this price the market demand is more than the market supply. This implies a situation of excess demand. Thus,

due to this the competition will exist among the buyers.

16. Giving reasons, state whether the following statements are true or false : [6]

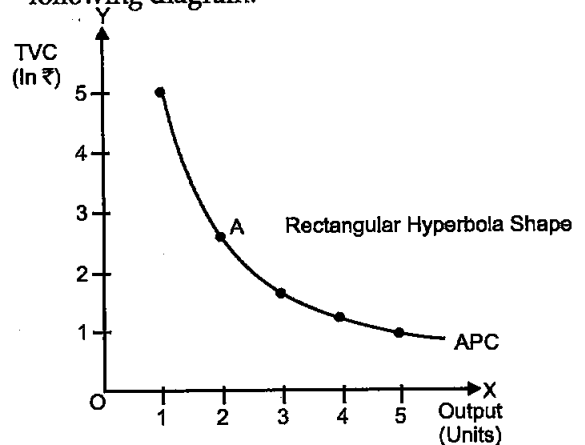
- (i) Average product will increase only when marginal product increases.
- (ii) With increase in level of output, average fixed cost goes on falling till it reaches zero.
- (iii) Under diminishing returns to a factor, total product continues to increase till marginal product reaches zero.

Answer : (i) False, the average product does not only rise when the marginal product increases. But, there also exist a region where average product continues to rise corresponding to the falling marginal product. This can be explained with the help of the following diagram.



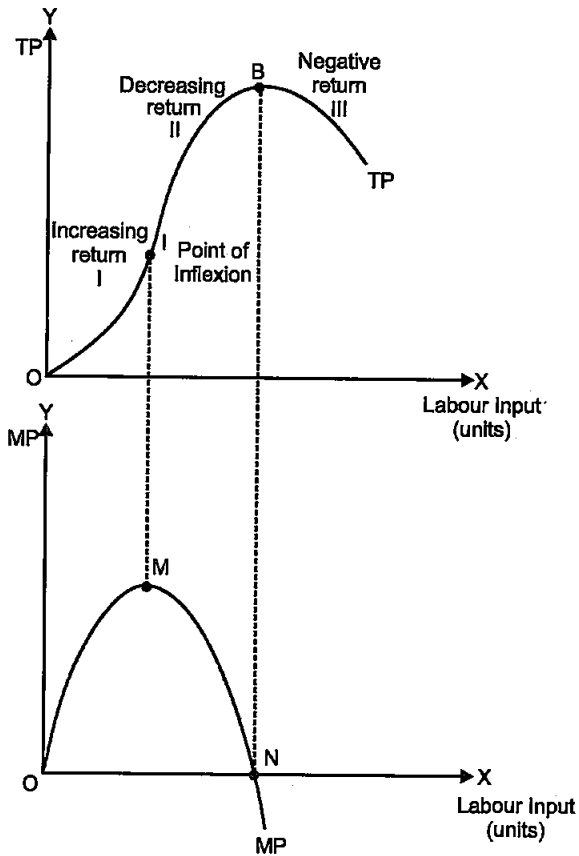
As we can see in the region AB, the average product continues to rise even when the marginal product is falling. The reason behind this can be attributed to the fact that the marginal component always change (rise/fall) at a faster rate in contrast to the average component.

(ii) False, with increase in the level of output, the average fixed cost continues to fall but it never reaches zero because average fixed cost is a rectangular hyperbola. That is, it can never be zero. This can be explained with the help of the following diagram.



As we can see that the average fixed cost being a rectangular hyperbola tends to be zero, but however, it can never be zero.

(iii) True, under diminishing returns to a factor, total product continues to increase till marginal product reaches zero. This can be explained with the help of the following diagram.



As we can see from the above figure, the total product continues to increase till the marginal product reaches zero. This is because from the point I till the point B as more and more labour inputs are combined with the constant level of fixed factor, it leads to the fuller utilization of the fixed factor. Consequently, the marginal product of the additional labour units falls, whereas, TP continues to rise. The moment, where, the MP of the last labour unit becomes exactly equal to zero, then the TP reaches its maximum point.

SECTION B

17. Give two examples of intermediate goods. [1]

Answer : Fuel and steel or goods for resale.

18. State the components of supply of money. [1]

Answer : The components of supply of money are the currency component and the deposit component.

**Answer is not given due to change in present syllabus

19. What one step can be taken through market to reduce the consumption of a product harmful for health? [1]

Answer : By imposing high tax on the product by the government, the consumption of a product, which is harmful for health will be reduced. Ex- wines, alcohol etc.

20. How can Reserve Bank of India help in bringing down the foreign exchange rate which is very high? [1]

Answer : The Reserve Bank of India can devalue Indian rupee for bringing down the high rate of foreign exchange, RBI can sell foreign exchange from its reserves to bring down its value.

21. What is revenue deficit. [1]

Answer : Excess of total revenue expenditure over the total receipts, of budget is called Revenue Deficit.

22. Explain the 'medium of exchange' function of money.** [3]

OR

Explain the 'lender of last resort' function of central bank.**

23. Distinguish between revenue receipts and capital receipts. Give an example of each. [3]

Answer :

Basis of Difference	Capital Receipts	Revenue Receipts
Definition	Capital receipts refer to those receipts of the government which causes a reduction in the government assets and also creates a liability for the government.	Revenue receipts refer to those receipts of the government which neither creates any liability nor creates any reduction in the assets of the government.
Impact	Reduce government assets and create liabilities for government.	No effect on government assets and liabilities.
Example	Recovery of loans.	Tax receipts.

24. How can budgetary policy be used to reduce inequalities of income? [3]

Answer : Budgetary policy can be used by government for reducing inequalities of income. To achieve its target, government should

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SET II

Time allowed : 3 hours

Maximum marks : 70

Note : Except for the following questions, all the remaining questions have been asked in previous sets.

SECTION A

5. Give one reason for "decrease" in supply of a commodity. [1]

Answer : Increase in the price of inputs.

7. The price elasticity of supply of a commodity is 2.0. A firm supplies 200 units of it at a price of ₹8 per unit. At what price will it supply 250 units? [3]

Answer : Given, $E_s = 2$, $P = ₹8$, $Q = 200$ units, $Q_1 = 250$ units

$$\therefore \Delta Q = Q_1 - Q = 250 - 200 = 50 \text{ units}$$

Let the change in price, $\Delta P = x$

We know that,

$$E_s = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} \text{ or } 2 = \frac{50}{x} \times \frac{8}{200} = \frac{2}{x}$$

$$\text{or } 2x = 2 \implies x = 1 \text{ or } \Delta P = 1$$

New price, $P_1 = P + \Delta P = 8 + 1 = ₹9$

13. When the price of a commodity falls by 20 per cent, its demand rises from 400 units to 500 units. Calculate its price elasticity of demand. [4]

Answer :

$$Ed = \frac{\% \text{ Change in Quantity Demanded}}{\% \text{ Change in Price}}$$

$$\% \text{ change in Quantity Demanded} = \frac{Q_2 - Q_1}{Q_1} \times 100$$

$$= \frac{500 - 400}{400} \times 100$$

$$= 25\%$$

$$Ed = \frac{25}{-20} = 1.25$$

SECTION B

23. Distinguish between revenue expenditure and capital expenditure in government Budget. Give an example of each. [3]

Answer : **Capital expenditure :** An expenditure which results in the creation of assets or reduction in liabilities is treated as Capital expenditure, such as expenditure incurred on construction of buildings, roads, bridges, etc.

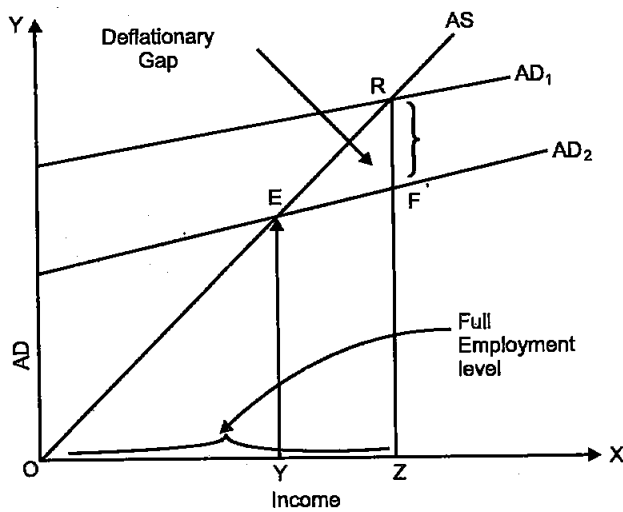
Revenue expenditure : An expenditure which does not result in creation of assets or reduction in liabilities, is called revenue expenditure such as payments of salaries, pensions, etc.

29. How does central bank control credit creation by commercial banks through open market operations? Explain. [4]

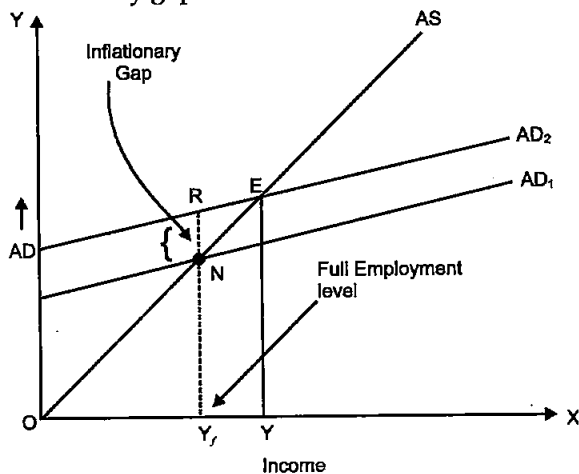
Answer : Open market operations means the sale and purchase of all kinds of bills and securities by the "central bank in the open market." In narrow terms, this method, signifies sale and purchase of government securities by central bank in the open market. In short, according to this method central bank controls the volume of credit by increasing or decreasing the quantity of money in the economy through sale and purchase of securities in the money market. The functioning of this method is like this : When central bank of the country wants to increase the volume of credit, it starts purchasing securities from the market. These securities are generally bought at a higher price than the market price. As such, banks start selling them, as a result of which their cash reserves increase, i.e., their liquid assets increase. As a result of this, banks now can create more credit. On the contrary, when central bank wants to control the volume of credit, it starts selling securities in the market which are bought by the commercial banks. With the result, their cash reserves are reduced and this adversely affects their power of creating credit. In short, "for expanding the volume of credit central bank purchases securities and for reducing the volume of credit, it sells securities in the open market. In this way, according to this method, the volume of credit is controlled and regulated by controlling and regulating the cash reserves and credit creating power of commercial banks.

31. Distinguish between inflationary gap and deflationary gap. State two measures by which these can be corrected. [6]

Answer : **Deflationary gap :** It prevails when aggregate demand is less than aggregate supply at the full employment level of output. In other words, deflationary gap represents the situation of unemployment attributable to the fact that at full employment level of output in the diagram RF is deflationary gap.



Inflationary gap – This is the situation where economy operates at a level which is greater than full employment. In other words, the gap between aggregate demand and aggregate supply is known as inflationary gap. In the diagram RN is inflationary gap. Volume of credit should be supervised and controlled for correcting the situation of deflationary and inflationary gap.



Two methods can be adopted for controlling these two gaps :

(i) **Open market operations** : If the central bank of the country will buy the securities from commercial banks, this will increase the capacity of credit paying of these banks. This way the deflationary situation can be corrected. If the central bank of the country sells the securities in the open market then the situation of inflationary gap will be controlled. Because of this the level of aggregate demand and their credit paying capacity will be reduced.

(ii) **Bank Rate** : Bank rate should be reduced. This will decline the rate of interest. This is for controlling deflationary gap. In the case of inflationary gap bank should increase their rate, so that rate of interest will go up and the demand for credit will decline. This will affect aggregate demand.

32. In an economy $C = 200 + 0.75Y$ is the consumption function where C is consumption expenditure and Y is national income. Investment expenditure is 4,000. Calculate equilibrium level of income and consumption expenditure. [6]

Answer : Consumption function, $C = 200 + 0.75Y$, Investment, $I = 4,000$

Now $Y = C + I$ or $Y = 200 + 0.75Y + 4,000$

$$Y - 0.75Y = 4,200 \text{ or } 0.25Y = 4,200 \Rightarrow Y = 4,200 \times \frac{100}{25}$$

Income, $Y = 16,800$

$$\begin{aligned} \text{Consumption expenditure, } C &= 200 + 0.75Y \\ &= 200 + 0.75(16,800) \\ &= 200 + 12,600 \\ &= 12,800 \end{aligned}$$

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SET III

Time allowed : 3 hours

Maximum marks : 100

Note : Except for the following questions, all the remaining questions have been asked in previous sets.

SECTION A

5. Give the meaning of market supply. [1]

Answer : It is the sum of the supply of a good by all its producers at a given price and for a given period of time.

7. A 15 per cent rise in the price of a commodity raises its supply from 300 units to 345 units. Calculate its price elasticity of supply. [3]

Answer :

$$E_s = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

$$\therefore E_g = 1 \quad \frac{\frac{345-300}{300} \times 100}{15} = \frac{\frac{45}{300} \times 100}{15} = \frac{15}{15} = 1$$

8. Explain the conditions of consumer's equilibrium under utility analysis. [3]

Answer : Conditions for consumer's equilibrium are :

(i) Budget line should be tangent to indifference curve, i.e.,

$$MRS_{xy} = \frac{P_x}{P_y}$$

(Slope of IC) = Slope of Budget Line

(ii) Indifference curve should be convex to the point of origin, i.e., MRS is diminishing.

At equilibrium, marginal rate of substitution should be equal to the ratio of prices of the two goods :

$MRS_{xy} > P_x/P_y$. It means that to obtain one extra unit of X the consumer is willing to sacrifice more than he has to sacrifice actually. In the process, the consumer gains. As he goes on obtaining more and more units of X, marginal utility of X goes on declining. Therefore, the consumer is willing to sacrifice less and less of Y each time he obtains one extra unit of X. As a result, MRS_{xy} falls and ultimately becomes equal to P_x/P_y at some combination of X and Y. At this combination the consumer is in equilibrium.

$MRS_{xy} < P_x/P_y$. If the consumer attempts to obtain more units of X beyond the equilibrium level, MRS_{xy} will become less than P_x/P_y and he will start losing. So he will not try to obtain more of X.

13. Price elasticity of demand of a good is -0.75. Calculate the percentage fall in its price that will result in 15 per cent rise in its demand. [4]

Answer : Elasticity of demand

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

or $-0.75 = \frac{15}{x}$... [Let x be the percentage change in price]

or $-0.75x = 15 \Rightarrow x = 15 \times \frac{100}{-0.75} \Rightarrow x = -20$

Price will fall by 20%

SECTION B

23. State three sources each of revenue receipts and capital receipts in government budget. [3]

Answer : Sources of revenue receipts :

(i) Direct tax, (ii) Indirect tax and (iii) Dividend from public sector undertakings etc.

Sources of capital receipts : (i) Recovery of loan, (ii) Sale of shares of public sector undertakings,

(iii) Market borrowing etc.

29. Explain any two methods of credit control used by central bank. [4]

Answer : Bank Rate : Bank rate is the rate which is fixed by the Central Bank. Credit is controlled by the central bank by making variations in the bank rate. This is the rate of interest which is charged from commercial bank for giving them loans. When the value of credit is to be increased, the bank rate reduces and vice-versa.

Open market operations : In the open market operations, some activities going on such as buying and selling the government securities in open market. When the central bank is purchasing securities from the market it means it wants to increase the volume of credit. Banks starts selling securities for increasing their cash reserves i.e., their liquid assets increase. On the other hand, when central bank starts selling securities in the market it means it wants to control the volume credit, which are bought by the commercial banks. In the result their cash reserves are reduced and this effects their power of creating credit.

30. From the following data about an economy, calculate (a) equilibrium level of national income and (b) total consumption expenditure at equilibrium level of national income.

(i) $C = 200 + 0.5Y$ is the consumption function where C is consumption expenditure and Y is national income.

(ii) Investment expenditure is 1,500. [6]

Answer : Given, consumption function, $C = 200 + 0.5Y$, Investment, $I = 1,500$

We know that, $Y = C + I$

$$Y = 200 + 0.5Y + 1,500 \text{ or } Y = 1,700 + 0.5Y$$

$$\text{or } 0.5Y = 1,700 \quad \text{or } Y = 1,700 \times \frac{10}{5} = 3,400$$

(a) Equilibrium level of National Income,

$$Y = 3,400$$

(b) Total Consumption Expenditure,

$$\begin{aligned} C &= 200 + 0.5Y \\ &= 200 + 0.5(3,400) \\ &= 200 + 1,700 = 1,900 \end{aligned}$$

32. Explain all the changes that will take place in an economy when aggregate demand is not equal to aggregate supply. [6]

Answer : The equilibrium level may take place before the stage of full employment and also it may take place after the stage of full employment.

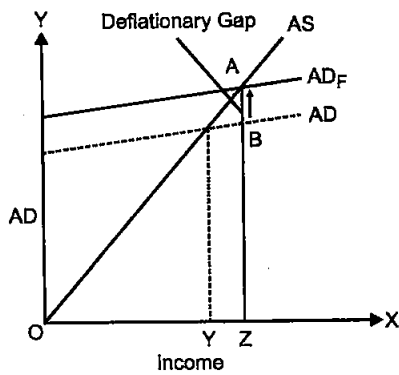


fig. (i)

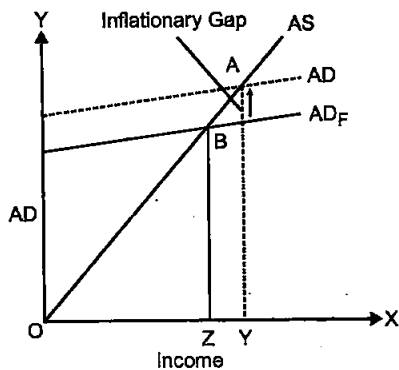


fig. (ii)

In deficient demand, the equilibrium level takes place before the full employment level. This is the case of involuntary unemployment. This signifies that deficiency of aggregate demand does not lead to the full use of given resources at the full employment level. Therefore, for reaching the stage of full employment where all the given resources are fully utilized, AD is required to be incorrected.

In the figure (i) OZ is the full employment level and OY is the actual output level, where AD equals to AS.

In the case of excess demand, the equilibrium takes place after the stage of full employment. The level of equilibrium is higher and cannot be met by full use of resources and output does not increase, only price increases in this case.

The necessary methods should be used for reducing the level of aggregate demand, for achieving the level of full employment.

In figure (ii) OZ is the full employment level and OY is the actual level of employments at equilibrium, where AD is equal to AS.

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Economics 2013 (Delhi)

SET I

Time allowed : 3 hours

Maximum marks : 100

SECTION A

- Give two examples of fixed costs. [1]
Answer : Insurance premiums, and rent.
- Define marginal cost. [1]
Answer : Marginal cost may be defined as the change in total cost that takes place by producing an additional unit.
- When is the demand for a good said to be inelastic ? [1]
Answer : The demand for a good is inelastic when the percentage change in the demand of a product is less than the percentage change in the price of the good.
- Give the meaning of market demand. [1]
Answer : Market demand is the sum total demand of all the buyers of a good at a point of time at a given price.
- Under which condition is a firm's marginal revenue always equal to price. [1]
Answer : Under perfect competition marginal revenue is always equal to price.
- Explain the difference between an inferior good and a normal good. [3]

Answer : Normal Good

- A normal good is one whose demand increases with an increase in the money income of the consumer.
- Normal goods have positive income effect, e.g. if a consumer buys more of milk for his family as his income rises, then milk will be called a normal good as shown in Diagram 1.

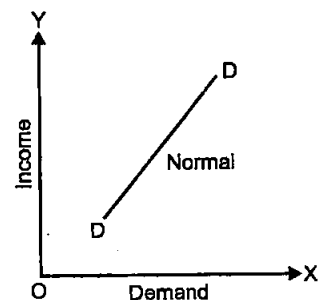


fig. 1

Inferior Good

- An inferior good is one whose demand falls with a rise in income of the consumer because he can now afford to buy a normal (superior) good.

2. Inferior goods have negative income effect; e.g. if a consumer reduces the consumption of toned milk when his income rises, then toned milk is an inferior good for that consumer, as shown in figer.

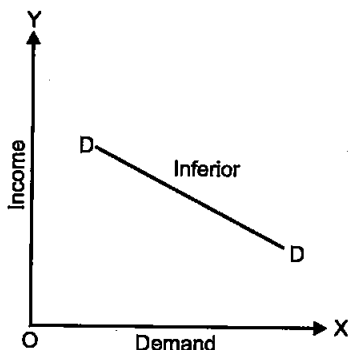


fig. 2

7. Explain the law of diminishing marginal utility with the help of a total utility schedule. [3]

OR

Explain the condition of consumer's equilibrium with the help of utility analysis. [3]

Answer : Law of Diminishing Marginal Utility states that as a consumer consumes more and more units of a commodity at succession, then the Marginal Utility derived from the consumption of each additional unit of the commodity falls.

Units of Commodity	Total Utility (TU)	Marginal Utility (MU) $MU = T_n - TU_{n-1}$
1	80	$(80-0) = 80$
2	160	$(160-80) = 80$
3	220	$(220-160) = 60$
4	270	$(270-220) = 50$
5	310	$(310-270) = 40$
6	340	$(340-310) = 30$

From the above schedule, it can be observed that for two unit of consumption, marginal utility is 80. For the third unit, the marginal utility falls to 60. For the fourth unit, the marginal utility further falls to 50 and so on. Thus, as more and more units of a commodity are consumed, the marginal utility derived from the consumption of each additional unit falls.

OR

Consumer's equilibrium will be attained at a point where marginal utility of a commodity is equal to its price. However, MU is expressed

in terms of utils and price is expressed in money form. Therefore, equality of MU in utils and price cannot be the basis of consumer's equilibrium. Hence, marginal utility also needs to be expressed in money form.

Marginal utility in money form can be obtained by dividing it (MU) by marginal utility of one rupee. Marginal utility of 1 is the extra utility when an additional rupee is spent on other available goods in general. Suppose that for an additional rupee we get two units of some other commodity, then marginal utility of rupee is 2 (utils). Knowing marginal utility (MU) of a commodity and marginal utility of a rupee, we can find out marginal utility of a commodity in money terms in the following way :

Marginal Utility in Money terms =

$$\frac{\text{Marginal Utility (in utils)}}{\text{Marginal Utility of ₹ 1}}$$

8. When the price of a good rises from ₹ 20 per unit to ₹ 30 per unit, the revenue of the firm producing this good rises from ₹ 100 to ₹ 300. Calculate the price elasticity of supply. [3]

Answer : Price, $P = ₹ 20$, $TR = ₹ 100$

$$\therefore \text{Quantity demanded, } Q = \frac{TR}{P} = \frac{100}{20} = 5$$

Price, $P_1 = ₹ 30$, $TR = ₹ 300$

$$\therefore \text{Quantity demanded, } Q_1 = \frac{TR}{P} = \frac{300}{30} = 10$$

$$DP = P_1 - P = ₹ 30 - ₹ 20 = ₹ 10$$

$$\text{or } DQ = Q_1 - Q = 10 - 5 = 5 \text{ units}$$

$$\therefore E_s = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} = \frac{5}{10} \times \frac{20}{5} = 2$$

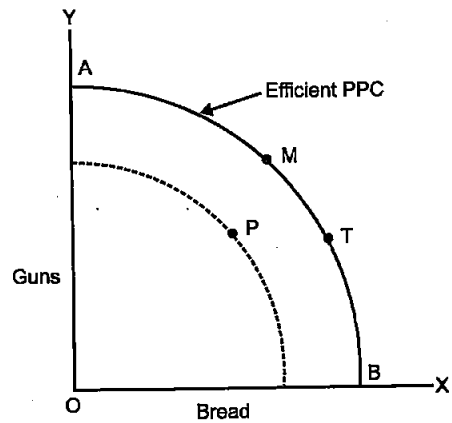
9. Complete the following table :

Units of Labour	Average Product (Units)	Marginal Product (Units)
1	8	...
2	10	...
3	...	10
4	9	...
5	...	4
6	7	...

[3]

Answer :

Units of Labour	Average Product (Units)	Marginal Product (Units)	Total Product (Units)
1	8	8	8
2	10	12	20
3	10	10	30
4	9	6	36
5	8	4	40
6	7	2	42



10. Explain “large number of buyers and sellers” feature of a perfectly competitive market. [3]

Answer : There are very large number of buyers in perfect competition. No individual buyer can influence the market price because of its large number. Every buyer buys only a fraction from the total sale of the product.

Buyers like firms have to accept the price which is fixed by the supply and demand of the whole industry. Buyers can buy any quantity of product at this price. Similarly sellers are also very large in number having very small share in the market. Sellers cannot influence the market price and can sell any quantity on the prevailing price. That is why firms are called price-takers in perfectly competitive industry.

11. Production in an economy is below its potential due to unemployment. Government starts employment generation schemes. Explain its effect using production possibilities curve. [4]

Answer : Unemployment in economy leads to underutilization of resources which compels an economy to remain on less efficient PPC. Hence the AD should be raised to increase employment. So the government should start some schemes through which can be generated. As a result the point of actual operation will move to or move nearer to the situation where there is a no unemployment. We can see in the diagram, P is the point of operation due to unemployment. The point of operation will move on to the right side of Production Possibility curve when the new employment schemes will be introduced. The point of operation shifts from point P to point M or T or any other point on the production possibility curve AB.

12. Explain the conditions of producer’s equilibrium with the help of a numerical example. [4]

Answer : Producer’s equilibrium refers to a combination of price and quantity of output which yields the producer the maximum profit. For achieving this combination two conditions need to be fulfilled.

(i) The difference between total cost and total revenue must be the maximum.

(ii) At the point where, the difference between TC and TR is maximum, MR and MC should also be equal. Any departure from this position will not ensure maximum profit.

In the Table, the difference between TR and TC is maximum at 3 units as well as at 4 units but the point of equilibrium is 4 units because at this point $MC = MR$. & MC must rise.

These two conditions can be explained with the help of a table given below :

Equilibrium of a Producer

Price (₹)	Out put (Units)	TR (₹)	TC (₹)	MC (₹)	MR (₹)	Profit (TR - TC)	
10	1	10	10	10	10	0	
10	2	20	18	8	10	2	MC= MR
10	3	30	24	6	10	6	MC< MR
10	4	40	34	10	10	6	Equilibrium
10	5	50	46	12	10	4	MC> MR

13. The price elasticity of demand for a good is -0.4 . If its price increase by 5 per cent, by what percentage will its demand fall? Calculate. [4]

Answer :

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

$$-0.4 = \frac{\text{Percentage change in quantity demanded}}{5}$$

$$-2 = \text{Percentage change in quantity demanded}$$

∴ Quantity decreases by 2% or Demand falls by 2%

14. Giving reasons, state whether the following statements are true or false : [6]

- (i) A monopolist can sell any quantity he likes at a price.
- (ii) When equilibrium price of a good is less than its market price, there will be competition among the sellers.

Answer : (i) The statement is false. The price is fixed at a point where marginal cost is equal to marginal revenue. If a monopolist fixes a price less or more than the price fixed at equilibrium point, the quantity will be more or less than the equilibrium quantity but not the quantity that a monopolist would like to sell.

(ii) The statement is true. In this situation, market price is higher than the equilibrium price. As a result of which supply will be more than demand. As such there will be competition among the sellers. In other words, sellers would like to sell their entire quantity to meet the demand which (supply) is much more than the demand.

15. Explain the Law of Variable Proportions with the help of total product and marginal product curves. [6]

Answer : The law of variable proportions explains the relationship between inputs and outputs in the short run. In the short run, some factors of production (inputs) are fixed and other factors input are variables. The quantity of output can be increased by increasing the use of variable input.

As more and more units of variable input are employed, the proportion between the fixed and variable factors keeps on changing. The output passes through three phases.

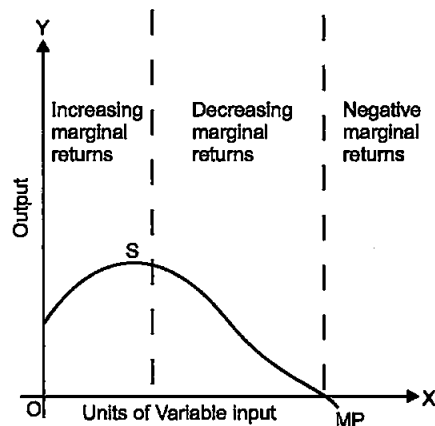
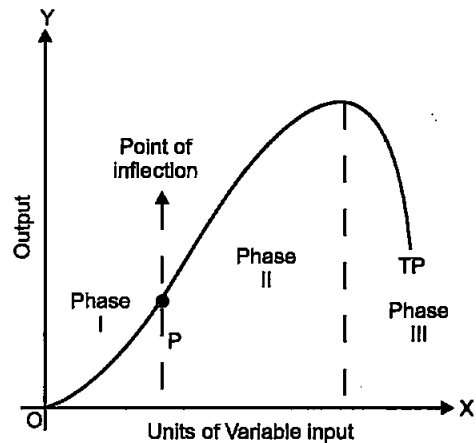
These three phases are identified with respect to the marginal product.

Phase I : TP increases at an increasing rate. In The first phase of production the marginal product rises and reaches its highest point. This is the phase of Increasing Returns to a factor and during this phase, total product increases at an increasing rate.

Phase II : TP increases at a diminishing rate. In this phase, Marginal Product is declining, but

is positive. In this phase total product increases but at a diminishing rate. This phase ends when Marginal Product is zero and Total Product is at its maximum level. A producer always operates in this stage.

Phase III : TP is falling. In phase of production, Marginal Product is and negative. Here total product starts falling.



Units of Labour (Variable input)	Total Product	Marginal Product	Phase of Production
1	3	3	Phase I
2	7	4	
3	12	5	
4	16	4	Phase II
5	18	2	
6	18	0	
7	17	-1	Phase III
8	16	-2	

These phases are shown graphically in diagram. The reasons for the Operation of the Law are :

1. **Optimum combination of factors :** The phase of increasing marginal product is due to optimum combination of factors that is required for any given technology, therefore fixed factors get better utilized.
2. However, when more and more units of variable factors are employed to a fixed factor, the fixed factor cannot absorb it and there is overcrowding of variable factors due to which the marginal product falls and becomes negative. This is the phase of diminishing marginal product.

16. Explain consumer's equilibrium with the help of Indifference Curve Analysis. [6]

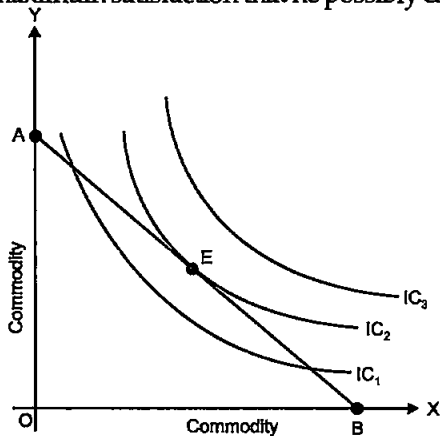
OR

Explain the relationship between

(i) Prices of other goods and demand for the given good.

(ii) Income of the buyers and demand for a good.

Answer : Consumer's equilibrium refers to the optimum combination of the two goods which a consumer can afford (given his income and price of two commodities) and this combination gives him maximum satisfaction that he possibly can get.



According to indifference curve analysis, consumer's equilibrium is established at a point where budget line is tangent to the highest attainable indifference curve. At this point the

slope of indifference curve *i.e.* $MRS \left(\frac{\Delta y}{\Delta x} \right)$ is

equal to the slope of Budget line, *i.e.*, $\frac{\text{Price of } x}{\text{Price of } y}$

\therefore At point of consumer equilibrium (E),

$$MRS = \frac{P_x}{P_y} \text{ or } \frac{\Delta y}{\Delta x} = \frac{P_x}{P_y}$$

Conditions for consumer's equilibrium are :

- (i) Budget line should be tangent to the indifference curve, *i.e.*, $MRS_{xy} = \frac{P_x}{P_y}$

i.e., Slope of Indifference curve,
 $I_c = \text{Slope of Budget line.}$

- (ii) MRS is diminishing or Indifference curve is convex to the point of origin.

OR

(i) **Price of other goods and demand for the given good :** Demand for a commodity may be affected by the prices of other goods. The other goods may be substitute goods and complementary goods.

Prices of substitute goods: Those goods which can be used at the place of another are known as substitute goods like tea and coffee. If the price of tea increases then the demand of coffee will increase because now it is cheaper in comparison to tea on the other side, if the price of tea falls, the demand of tea will increase, because now it is cheaper than coffee.

Price of complementary goods: Those goods which we cannot use without one another are known as complementary goods: Such as car and petrol if the price of car rises then the demand for petrol falls down. The reverse will happen when the price of car falls.

(ii) **Income of the buyers and demand for a good:** Income of the buyers affect the demand of goods. Generally, we can see when the income of buyer increases the demand increases and vice versa. The effect of increase in income is not uniform on the demand of all goods. When income increases, the demand of normal goods increases and that for inferior goods decreases. The reverse of it happens when income falls.

SECTION B

17. How can increase in foreign direct investment affect the price of foreign exchange? [1]

Answer : Increase in foreign direct investment will increase the supply of foreign exchange and therefore it will reduce the price of foreign exchange.

18. What are demand deposits? [1]

Answer : Demand deposits are those deposits which a depositor can withdraw at any given time by writing a cheque.

19. Give one example of "externality" which reduces welfare of the people. [1]

Answer : Air pollution from motor vehicles is an example of a negative externality. The cost of the air pollution for the rest of the society is not compensated by the producers or by the users of motor vehicles.

20. Give two examples of indirect taxes. [1]

Answer : Excise duty and sales tax.

21. What is a Government Budget? [1]

Answer : Budget is prepared during the period of financial year. It is a statement which is made by government for showing the estimated receipts and expenditure.

22. Distinguish between revenue expenditure and capital expenditure in Government budget. Give an example of each. [3]

OR

Distinguish between revenue deficit and fiscal deficit.

Answer: Revenue expenditure: The expenditure which does not result in the creation of assets or reduction of liability for the Government e.g. salaries and pensions to employees.

Capital expenditure : This expenditure either creates an asset or causes a reduction in the liabilities of the government For eg. building roads, loans to states etc.

OR

Answer : Revenue deficit is equal to the excess of total revenue expenditure over the total revenue receipts. On the other hand, fiscal deficit is equal to the excess of total expenditure over the sum of revenue and capital receipts excluding borrowings. Thus, it is clear from the above statement, revenue deficit relates to total revenue receipts and total revenue expenditure, whereas, fiscal deficit relates to the difference in total expenditure (revenue and capital) and total receipts (revenue and capital) excluding borrowings.

Revenue Deficit = Total Revenue Expenditure – Total Revenue Receipts

Fiscal Deficit = Total Budget Expenditure (–) (Revenue Receipts + Capital Receipts excluding borrowings)

23. Explain any one objective of Government Budget. [3]

Answer : To maintain economic stability is an important objective of government budget. Some economic fluctuations like boom and depression affects the economy of a country. Because of these changes country faces some benefits and harms. In this situation, appropriate policy measures will be required by the government to affect the levels of aggregate demand. These measures are called stabilization measures. These are for avoiding unemployment and inflation.

24. Explain the effect of appreciation of domestic currency on imports. [3]

Answer : If the external value of domestic currency is increased in the foreign exchange market then it is known as appreciation of the domestic currency.

The imports will increase as they become cheaper because of the appreciation of domestic currency.

25. Distinguish between balance of trade and balance on current account. [3]

Answer : Balance of trade is confined to the difference between Export of Goods and Imports of Goods. On the other hand, the Balance of current account of a country includes payments and receipts relating to visible trade (export and import of goods), invisibles (services) and unilateral transfers.

Thus, Balance of trade is a restricted term in comparison to Current account balance.

26. Calculate "Sales" from the following data: [4]
(₹ in lakhs)

(i) Net value added at factor cost	560
(ii) Depreciation	60
(iii) Change in stock	(–) 30
(iv) Intermediate cost	1000
(v) Exports	200
(vi) Indirect taxes	60

Answer :

Sales = Net value added at factor cost + Depreciation + Intermediate cost + Indirect taxes – Changes in stock

= (i) + (ii) + (iv) + (vi) – (iii)

560 + 60 + 1000 + 60 – (–30) = ₹ 1710 lakhs

27. Giving reasons categorise the following into stock and flow : [4]

- (i) Capital
- (ii) Saving
- (iii) Gross domestic product
- (iv) Wealth

OR

Explain the circular flow of income.

Answer : (i) Capital is a stock. This is so because capital is measured at a point of time.

(ii) Saving is a flow. This is so because it relates to a period of time.

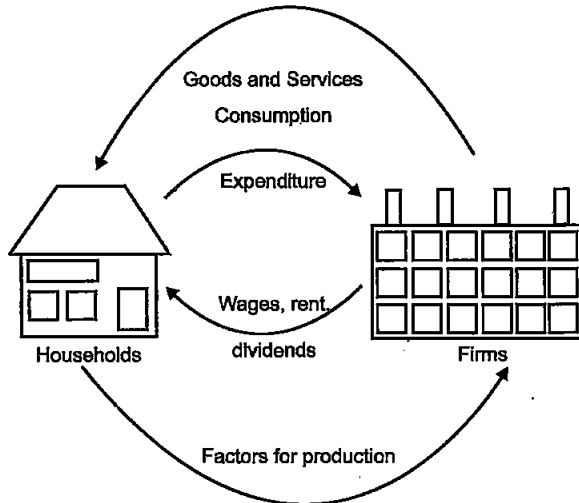
(iii) Gross domestic product is a flow because it relates to a time period which is generally one fiscal year.

(iv) Wealth is a stock because it is measured at a point time.

OR

Answer : The flow of production, income generation and expenditure involving different sectors of the economy in the form of wages, rent and dividends, is known as circular flow of

income (see diagram). Production gives rise to income (factor incomes), which in turn gives rise to demand for good and services. This demand leads to expenditure by households on goods and services produced. In this way income generated by production units reaches back to production units and makes the circular flow complete.



28. Explain Banker to the Government function of the central bank. [4]

Answer : The central bank works as a commercial bank for the government. Central bank provides all services and facilities to the government like ordinary banks provide services to public. Central bank manages all government departments undertaking and the funds of government. It provides loans to government when expenditure exceeds the revenue. This is called deficit financing through borrowing from RBI. It manages public debt also. It also accepts the payment of taxes from the public on behalf of the government and makes payment for the cheques issued by government.

29. $C = 100 + 0.4Y$ is the Consumption Function of an economy where C is Consumption Expenditure and Y is National Income. Investment expenditure is 1100. Calculate [6]

- (i) Equilibrium level of National Income.
- (ii) Consumption expenditure at equilibrium level of National Income.

Answer : Given, Y = National Income, Consumption Function, $C = 100 + 0.4Y$, Investment Expenditure, I = 1,100

(i) Now, $Y = C + I$

$\therefore Y = 100 + 0.4Y + 1,100$ or $y - 0.4y = 1200$
or $0.6Y = 1,200$

\therefore Equilibrium level of National Income,

$Y = 1,200 \times \frac{10}{6} = 2,000$

(ii) Now, $C = 100 + 0.4Y$ or $C = 100 + 0.4(2,000)$
Consumption, $C = 100 + 800 = 900$

30. Complete the following table : [6]

Income (₹)	Consumption expenditure (₹)	Marginal propensity to save	Average propensity to save
0	80	...	...
100	140	0.4	...
200	...	...	0
...	240	...	0.20
...	260	0.8	0.35

Answer :

In- come (₹)	Con- sumption expenditure (₹)	Sav- ing (₹)	Marginal propensity to save	Average propensity to save
0	80	-80	-	-
100	140	-40	$40/100=0.4$	-0.4
200	200	0	$40/100=0.4$	0
300	240	60	$60/100=0.6$	0.20
400	260	140	$80/100=0.8$	0.35

31. Calculate National Income from the following data : [6]

(₹ in crores)

- (i) Private final consumption expenditure 900
- (ii) Profit 100
- (iii) Government final consumption expenditure 400
- (iv) Net indirect taxes 100
- (v) Gross domestic capital formation 250
- (vi) Change in stock 50
- (vii) Net factor income from abroad (-) 40
- (viii) Consumption of fixed capita 20
- (ix) Net imports 30

OR

Calculate net national disposable income from the following data** :

(₹ in crores)

- (i) Gross domestic product at market price 2000
- (ii) Net current transfers to rest of the world (-) 200
- (iii) Net Indirect taxes 150
- (iv) Net factor income to abroad 60
- (v) National debt interest 70

- (vi) Consumption of fixed capital 200
 - (vii) Current transfers from Government 150
- Answer : National Income**
 = Private final consumption expenditure + Government final consumption expenditure +

Gross domestic capital formation + Net factor income from abroad – Consumption of fixed capital – Net imports – Net indirect taxes
 = (i) + (iii) + (v) + (vii) – (viii) – (ix) – (iv)
 = 900 + 400 + 250 + (-40) – 20 – 30 – 100 = ₹1,360 Crores

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Economics 2013 (Delhi)

SET II

Time allowed : 3 hours

Maximum marks : 100

Note : Except for the following questions, all the remaining questions have been asked in previous sets.

SECTION A

1. Give two examples of variable costs. [1]
Answer : (i) Wages of casual labourers who work on daily wage rate (ii) Cost of raw material.
8. A firm's revenue rises from ₹400 to ₹500 when the price of its product rises from ₹20 per unit to ₹25 per unit. Calculate the price elasticity of supply. [3]

Answer :

Initial Total Revenue (TR_1) = ₹400
 Final Total Revenue (TR_2) = ₹500
 Initial Price (P_1) = ₹20
 Initial Price (P_2) = ₹25
 ⇒ Change in Price (ΔP) = ₹(25-20) = ₹5
 Initial Quantity Supplied (Q_1)

$$= \frac{TR_1}{P_1} = \frac{400}{20} = 20 \text{ units}$$

Final Quantity Supplied (Q_2)

$$= \frac{TR_2}{P_2} = \frac{500}{25} = 20 \text{ units}$$

⇒ Change in Quantity (ΔQ) = ₹(20-20) = ₹0

$$E_s = \frac{\frac{(\Delta Q)}{Q} \times 100}{\frac{(\Delta P)}{P} \times 100} = \frac{\frac{0}{20} \times 100}{\frac{5}{20} \times 100} = 0$$

Hence, elasticity of supply is zero.

9. Complete the following table.

Output (Units)	Average Cost (₹)	Marginal Cost (₹)
1	12	.....
2	10	.....
3	.....	10
4	10.5	.....
5	11	.....
6	.....	17

[3]

Answer :

Output (Units)	Average Cost (TC × Q)	Marginal Cost (TC _n - TC _{n-1})	Total Cost (TC)
1	12	12	12
2	10	8	20
3	10	10	30
4	10.5	12	42
5	11	13	55
6	12	17	72

10. Explain any two features of monopoly market. [3]

Answer : The following are the two features of a monopoly market.

- (i) **Restricted entry of new firms :** The entry into the monopolist market is restricted. In other words, no new firm can enter the monopoly market. There may be various legal barriers such as, patent rights, cartel laws, exclusive rights, etc., to restrict the entry of the new firms.
- (ii) **There is only one single seller :** Since, a monopolist firm is the single firm in the market, therefore, it enjoys full control over the price and

** Answer is not given due to change in present syllabus

output decisions. The monopolist has the total freedom to fix the price level, which maximizes his profit. Therefore, it can be said that a monopoly firm is a price-maker.

(iii) **There are no close substitutes** : There is no competition in the market as there is no close substitute for the product sold by monopolist.

12. The demand for good rises by 20 percent as a result of fall in its price. Its price elasticity of demand (-) 0.8. Calculate the percentage fall in price. [4]

OR

How is price elasticity of demand affected by :

(i) Number of substitutes of available for the good.

(ii) Nature of the good

Answer :

$$E_d = \frac{\text{Percentage Change in Quantity Demanded}}{\text{Percentage Change in Price}}$$

$$\text{or } 0.8 = \frac{20}{\text{Percentage Change in Price}}$$

$$\text{or, Percentage Change in Price} = \frac{20}{0.8} = 25\%$$

Thus, the percentage fall in the price 25%.

OR

(i) **Number of Substitutes Available for the Good** : The demand for a good that has more number of substitutes available will be relatively more elastic and $ed > 1$. This is because a slight increase in the price will push the consumers to shift their demand away from the good to its substitutes. On the other hand, with a slight fall in price the consumers would shift their demand from the substitutes towards the good. Thus, the goods having a large number of close substitutes will have elastic demand. On the contrary, if a good has no close substitutes, then it will have an inelastic demand.

(ii) **Nature of the good** : The price elasticity of demand depends on the nature of a good. The goods and services can be broadly divided into three categories – Necessities, Luxuries, Jointly-demanded goods. The three types of goods have different values of elasticity as discussed below.

(a) **Necessity goods** : These goods are those goods which a consumer demands for sustaining his life. A consumer cannot reduce the consumption of these goods. The demand for such goods does not change much in response to the changes in their prices. Even when the price rises the consumer cannot reduce their demand. Hence, such goods have an inelastic demand ($ed < 1$).

(b) **Luxury goods** : Luxuries are the good which are not essential, rather, are consumed for leisure or comfort purposes. For example, air conditioner, branded garments, etc. The demand for such goods is highly responsive to changes in their prices. A rise in the price, reduces the demand for them and vice-versa. Thus, such goods have high price elasticity.

(c) **Jointly-demanded goods** : Jointly-demanded goods are those goods that are demanded together. The joint consumption of such goods collectively satisfies wants. For example, sugar and tea. A rise in the price of one good does not reduce its demand if the demand for its complement good has not reduced. For example, a rise in the price of sugar will not reduce its demand if the demand for tea has not decreased. Hence, such goods have an inelastic demand ($ed < 1$).

SECTION B

28. How do commercial banks create deposits? Explain. [4]

Answer : Commercial banks play the important role of 'money creator' in the economy. They have the capacity to generate credit through demand deposits. These demand deposits make credit more than the initial deposits.

The process of money creation can be explained by taking an example of a bank XYZ. A depositor deposit ₹10,000 in his savings account, which will become the demand deposit of the bank. Based on the assumption that not all customers will turn up at the same day to withdraw their deposits, banks maintains a minimum cash reserve of 10% of the demand deposits, i.e., ₹1000. It lends the remaining amount of ₹9000 in the form of credit to other customers. This further creates deposits for the bank XYZ. With the cash reserve of ₹1000, the credit creation is worth ₹10,000. So, the credit multiplier is given by :

$$\text{Credit multiplier} = 1/\text{CRR} = 1/10\% = 10$$

The money supply in the economy will increase by the amount (times) of credit multiplier.

30. In an economy, $S = -100 + 0.6Y$ is the saving function, where S is saving and Y is National Income. If investment expenditure is 1100. Calculate :

(i) Equilibrium level of National Income

(ii) Consumption expenditure of equilibrium level of National Income. [6]

Answer : Saving function, $S = -100 + 0.6Y$

Investment, $I = 1,100$ Y = National Income

(i) We know that $S = I$ Given $S = -100 + 0.6Y$
 $\Rightarrow I = -100 + 0.6Y \Rightarrow 1,100 = -100 + 0.6Y$

$$\uparrow \Rightarrow 1,200 = 0.6Y \quad | \quad Y = 1,200 \times \frac{10}{6} = 2,000$$

∴ Equilibrium level of National Income,
Y = 2,000

(ii) $Y = C + I$

$$2,000 = C + I \quad \Rightarrow C = 2,000 - 1,100 = 900$$

∴ Consumption expenditure at equilibrium level = 900

32. Complete the following table :

Income ₹	Savings ₹	Average Propensity to consume	Marginal Propensity to Consume
0	-40	.....	.....
50	-20	.....	.....
100	0	.....	0.6
150	30	0.8	.....
200	50	.....	.....

[6]

Answer :

Y In- come ₹	S Sav- ings ₹	C Con- sump- tion	Aver- age Propen- sity to cosume (APC)	ΔC	Marginal Propen- sity to Consume (MPC)
0	-40	40	-	-	-
50	-20	70	$\frac{70}{50} = 1.4$	30	$\frac{30}{50} = 0.6$
100	0	100	$\frac{100}{100} = 1$	30	$\frac{30}{50} = 0.6$
150	30	120	$\frac{120}{150} = 0.8$	20	$\frac{20}{50} = 0.4$
200	50	150	$\frac{150}{200} = 0.75$	30	$\frac{30}{50} = 0.6$

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Economics 2013 (Delhi)

SET III

Time allowed : 3 hours

Maximum marks : 100

Note : Except for the following questions, all the remaining questions have been asked in previous sets.

SECTION A

1. Give an example each of fixed cost and variable cost. [1]

Answer : Example of Fixed Cost – Rent, Interest etc.

Example of Variable Cost – Expenditure on raw material etc.

8. The price elasticity of supply of a good is 0.8. Its price rises by 50 percent. Calculate the percentage increase in its supply. [3]

Answer : $e_s = 0.8$

$$DP = 50\%$$

$$DQ = ?$$

$$e_s = \frac{\text{Percentage Change in Quantity Supplied}}{\text{Percentage Change in Price}}$$

$$\text{or, } 0.8 = \frac{\Delta Q}{50}$$

$$\text{or, } \Delta Q = 40\%$$

Percentage Change in Quantity Supplied is 40%.

9. Complete the following table :

Units of Labour	Average Product (Units)	Marginal Product (Units)
1	16	.....
2	20	.....
3	.....	20
4	18	.....
5	.....	8
6	14	.....

[3]

Answer :

Units of Labour	Average Product $AP = \frac{TP}{L}$	Marginal Product (Units) $MP_n = TP_n - TP_{n-1}$	Total Product $TP = AP \times L$ or, $TP_n = TP_{n-1} + MP_n$
1	16	-	16 (1 × 16)
2	20	24 (40 - 16)	40 (2 × 20)
3	20 (60 - 3)	20	60 (40 + 20)
4	18	12 (72 - 60)	72 (4 × 18)
5	16 (80 - 5)	8	80 (72 + 8)
6	14	4 (84 - 80)	84 (6 × 14)

10. Explain “freedom of entry and exit to firms in industry” features of monopolistic competition. [3]

Answer : Freedom of entry and exit to firms in a monopolistic industry implies that there exists no restriction for the new entrants and existing firms to quit the industry. The new firms are attracted into the industry whenever price exceeds the minimum of short run average cost (SAC) in short run and whenever price exceeds the minimum of long run average cost (LAC) in the long run. Due to the free entry of the new firms in the industry, the quantity produced increases, which results in the rise of the supply of the output and finally, this pushes the equilibrium price down. Thus, the equilibrium price continues to fall, until it become equals to the minimum of average cost curve, where, all the firms earns normal profit. At this point, no new firm has any incentive to enter the industry.

Similarly, on the other hand, the existing firms leave the industry whenever the price falls short of the minimum of short run average cost curve (SAC) in the short run or whenever price falls short of the minimum of long run average cost (LAC) in the long run. This is because under such circumstances, the existing firms each losses and consequently wishes to quit. Now, as there are no restrictions imposed on the exit of the firms, so firm quits the industry. This leads to the fall in the supply of the commodity. Hence, the price start rising and reaches the point at LAC where a firm earns only normal profit.

Thus, it is due to freedom of the entry and exit to firms that price remains equal to the minimum of average cost implying the normal profit only.

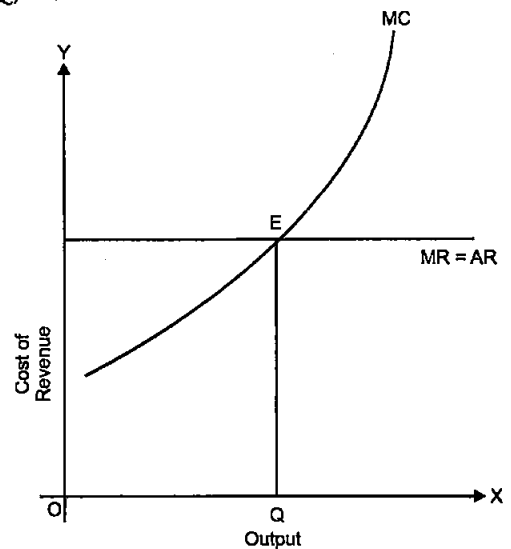
12. Give the meaning of producer’s equilibrium. A produces that quantity of his product at which marginal cost and marginal revenue are equal. Is he earning maximum profits? Give reasons for your answer. [4]

Answer : At a point where, $MC = MR$, the producer’s equilibrium is established. Yes, the producer earns maximum profit on this point. Because any deviation from this position will either reduce the profit of a firm or increase the losses.

MC refers to the additional cost that takes place by producing an additional unit of output. MR refers to the additional revenue that takes place by selling an additional unit.

When marginal cost is less than MR available from the sale of a product, the firm will go on increasing its output. When MC and MR are equal, the firm reaches on its equilibrium. After that point if a firm increases its output, MC will be greater than MR resulting in decline

in profit. This diagram is related to the perfect competition, where the equilibrium output is OQ , where $MR = MC$.



SECTION B

27. Calculate “sales” from the following data :

(₹ in lakhs)

Intermediate costs	700
Consumption of fixed capital	80
Change in stock	(-)50
Subsidy	60
Net value added at factor cost	1300
Exports	50
	[4]

Answer : $NVA_{FC} = ₹ 1,300$

$GDP_{MP} = NVA_{FC} - \text{Subsidies} + \text{Consumption of fixed capital}$

$$= 1,300 - 60 + 80 = ₹ 1,320$$

Also, we know that :

$GDP_{MP} = \text{Sales} + \text{Change in stock} - \text{Intermediate Cost}$

$\text{Sales} = GDP_{MP} - \text{Change in stock} + \text{Intermediate Cost}$

$$= 1,320 - (-50) + 700$$

i.e. Sales = ₹ 2,070 Lakhs.

31. $C = 50 + 0.5Y$ is the consumption function where C is consumption expenditure and Y is National Income and investment expenditure is 2,000 in an economy.

Calculate (i) Equilibrium level of (National Income) (ii) Consumption expenditure at equilibrium level. [6]

Answer:

$Y = \text{National Income}$, Consumption Function, $C = 50 + 0.5Y$ Investment, $I = 2,000$

(i) $Y = C + I$ or $Y = 50 + 0.5Y + 2,000$

or $0.5Y = 50 + 2,000 = 2,050$ or $Y = 2,050 \times \frac{10}{5} = 4,100$

∴ Equilibrium level of National Income = 4,100

(ii) Given, $C = 50 + 0.5Y$

$C = 50 + 0.5 (4,100)$

$C = 50 + 2,050 = 2,100$

∴ Consumption expenditure at equilibrium level = 2,100

32. Complete the following table :

Consumption expenditure (₹)	Savings (₹)	Income (₹)	Marginal Propensity to consume
100	50	150	.....

175	75	.....	.....
250	100	.....	.....
325	125	.....	.....

[6]

Answer :

Con- sumption expendi- ture (₹)	Sav- ings (₹)	In- come (₹)	Marginal Propensity to consume
100	50	150
175	75	<u>250</u>	$75/100 = 0.75$
250	100	<u>350</u>	$75/100 = 0.75$
325	125	<u>450</u>	$75/100 = 0.75$



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