Class XI Session 2025-26
Subject - Economics
Sample Question Paper - 5

Time Allowed: 3 hours **Maximum Marks: 80**

General Instructions:

1. This question paper contains two sections:

   Section A – Micro Economics

   Section B – Statistics

2. This paper contains 20 Multiple Choice Questions type questions of 1 mark each.
3. This paper contains 4 Short Answer Questions type questions of 3 marks each to be answered in 60 to 80 words.
4. This paper contains 6 Short Answer Questions type questions of 4 marks each to be answered in 80 to 100 words.
5. This paper contains 4 Long Answer Questions type questions of 6 marks each to be answered in 100 to 150 words.

Section A

1. Consumer Price Index (CPI) is expressed in terms of: **[1]**

   a) $\frac{\sum P_n q_n}{\sum P_o q_n} \times 100$ b) $\frac{\sum P_n q_n}{\sum P_o q_n}$

   c) $\frac{\sum P_0 q_0}{\sum P_n q_0}$ d) $\frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$

2. If the scatter points are widely dispersed around the line, the correlation is **[1]**

   a) high b) Few

   c) moderate d) low

3. When selected units of the universe are studied, then it is called: **[1]**

   a) Sample Investigation b) Enumerator investigation

   c) Practical Investigation d) Census Investigation

4. The total of the deviation of a set of observation from their mean is always **[1]**

   a) -2 b) 0

   c) 1 d) -1

5. **Assertion (A):** Insurance companies do not have to decide what proportion of their capital can be invested and what proportion is kept ready for payment of matured policies. **[1]**

   Reason (R): Insurance companies function on the basis of estimations of mortality rates that is life expectations and on the basis of calculating insurance companies.

   a) Both A and R are true and R is the correct explanation of A.

   b) Both A and R are true but R is not the correct explanation of A.

   c) A is true but R is false.

   d) A is false but R is true.

6. An index that is designed to measure changes in quantities over time is known as the **[1]**

a) Quantity index b) Time index

c) None of these d) Paasche index

7. Which of the following statement can be called Statistics? **[1]**

a) In our school there are 5000 students. b) USA is the richest country in the world.

c) Technology of Japan is very advanced. d) India has per capita income of Rs. 20,000 p.a.

8. The total expenditure incurred by an industry under different heads is best presented by **[1]**

a) Component Bar Diagram b) Histogram

c) Compound graph d) Line graph

9. How individual series is differ from discrete series **[1]**

a) Frequency for each item is more than one b) Frequency for each item is more than two

c) Value are given in the form of group d) There is no column for frequency

10. Calculate Pearson's correlation coefficient from the following data: **[1]**

X	10	12	8	15	20	25	40
Y	15	10	6	25	16	12	8

a) 0.12 b) -0.14

c) +0.25 d) -0.18

11. A price index of two items of A and B is being estimated. If two items are assigned weights of 64 and 36 respectively, then the price index becomes 279. Similarly, if they are assigned weights of 50 each, then the price index turns out to be 265. Determine the individual price index number of items A and B. **[3]**

12. Calculate mode from the following data. **[3]**

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Number of Students	4	10	20	35	15	6

OR

What is weighted mean? When is it useful?

13. Differentiate between spatial and chronological classification with example. **[4]**

14. What is a false base line? How is it different from a kinked line? **[4]**

OR

Briefly explain any four factors which should be kept in mind while preparing a table.

15. Discuss merits and demerits of deliberate sampling. **[4]**

16. Karl Pearson's Method is superior to Rank Correlation. Do you agree? Justify your answer. **[6]**

17. The arithmetic mean gets distorted by extreme values in the series and that the value of arithmetic mean may not figure in the series at all. Write the limitations of mean with the help of above statement. **[6]**

OR

The size of landholdings of 380 families in a village is given below. Find the median size of landholdings

Size of Land holdings (in acre)	Less than 100	100-200	200-300	300-400	400 and above

Number of Families	40	89	148	64	39

Section B

18. In the long period, the supply for a commodity is: **[1]**

a) less elastic
b) highly elastic
c) perfectly inelastic
d) perfectly elastic

19. If there is a recession, it will shift the country's PPC to the **[1]**

a) Can't say
b) No effect
c) Left
d) Right

20. At P_X = ₹ 5, demand for Good-X is 30 units and supply of Good-X is 20 units, it is a situation of: **[1]**

a) excess supply
b) equilibrium
c) excess demand
d) Deficient demand

21. **Assertion (A):** When due to change in its own price quantity demanded commodity changes it is expressed by different points on the same demand curve. **[1]**

Reason (R): Such change is in factor leads to increase or decrease in demand for the commodity.

a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

22. If TR is ₹1,00,000 when ₹20,000 units are sold, then AR is equal to: **[1]**

a) ₹1,20,000
b) ₹1,00,000
c) ₹5
d) ₹20,000

23. Can AC fall when MC is rising? **[1]**

a) No
b) Can't say
c) Yes
d) May be

24. The break- even point where TR=TC, the firm earns normal profits only **[1]**

a) May be
b) Can't say
c) No
d) Yes

25. If AR curve is a horizontal straight line, the MR curve will be: **[1]**

a) Horizontal straight line
b) Inversely shaped
c) Upward sloping
d) Downward sloping

26. Area under MC curve is equal to: **[1]**

a) TVC
b) AFC
c) AC
d) AVC

27. Which is a basic for the classification of the market? **[1]**

a) Zero Competition (Monopoly)
b) All of these
c) Imperfect Competition
d) Perfect Competition

28. Market economies promote disparities in income distribution even when resources are optimally utilized. Substantiate this observation. **[3]**

OR

Give any three differences between Micro Economics and Macro Economics.

29. Given reasons for the following statements: **[3]**

i. A perfectly competitive firm is a price – taker.

ii. product differentiation is a characteristic feature of a monopolistic competitive market.

iii. A monopolist cannot fix both the quantity that he likes to produce and the price at which he would like to sell.

30. A and B are complementary goods. Explain the effects of change in price of A on demand for B. **[4]**

31. Given the following schedule, state at which level of output, will the firm be at equilibrium and why. **[4]**

Quantity (in units)	**Price (in ₹)**	**Total Cost (in ₹)**
0	10	5
1	10	25
2	10	35
3	10	40
4	10	50
5	10	70
6	10	100

OR

Why is the equality between marginal cost and marginal revenue necessary for a firm to be in equilibrium? Is it sufficient to ensure equilibrium? Explain.

32. Define an indifference map. Explain why an indifference curve to the right shows higher utility level. **[4]**

33. State the behavior of marginal product in the law of variable proportions. Explain the causes of this behavior. **[6]**

34. **Answer the following questions** **[6]**

(a) Explain any six factors determining price elasticity of demand. **[6]**

Solution

Section A

1. **(d)** $\frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$

   Explanation:

   Consumer Price Index (CPI) = $\frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$

   Where P1= Price of the Commodities in the Current Year

   Where PO= Price of the Commodities in the base Year

   q_0 = Quantity consumed in base year

2. **(d)** low

   Explanation:

   The type of diagram in this case is also known as “Scatter Diagram with Low Degree of Correlation” where data points are grouped very close to each other such that you can draw a line by following their pattern.

3. **(a)** Sample Investigation

   Explanation:

   When selected units of the universe are studied, then it is called Sample Investigation.

4. **(b)** 0

   Explanation:

   The average of signed deviations of values from the sample mean value is always zero, though the average signed deviation from another measure of central tendency such as the sample median, need not be zero.

5. **(d)** A is false but R is true.

   Explanation:

   Insurance companies have to decide what proportion of their capital can be invested and what proportion is kept ready for payment of matured policies because insurance companies function on the basis of estimations of mortality rates that is life expectations and on the basis of calculating insurance companies.

6. **(a)** Quantity index

   Explanation:

   Index numbers measure changes in variables with respect to time. Quantity of anything is a variable. So, when current year quantity is compared with base year quantity, we have quantity index number.

7. **(d)** India has per capita income of Rs. 20,000 p.a.

   Explanation:

   We can infer much about national income , income distribution and economic growth, given per capita income.In case of other three options nothing can be interpreted.

8. **(a)** Component Bar Diagram

   Explanation:

   Component bar diagrams or charts, also called subdiagrams, are very useful in comparing the sizes of different component parts (the elements or parts which a thing is made up of) and also for throwing light on the relationship among these integral

parts. For example, sales proceeds from different products, expenditure pattern in a typical Indian family (components being food, rent, medicine, education, power, etc.), budget outlay for receipts and expenditures, components of labour force, population etc. Component bar diagrams are usually shaded or coloured suitably.

9.

(d) There is no column for frequency

Explanation:

Individual series are those series in which items are listened singely, discrete series are those series in which data are presented in manner that exact measurement of items are clearly shown.

10.

(d) -0.18

Explanation:

X	Y	dX	dY	dX^2	dY^2	$dXdY$
10	15	-5	-10	25	100	50
12	10	-3	-15	9	225	45
8	6	-7	-19	49	361	133
15 (A)	25 (A)	0	0	0	0	0
20	16	5	-9	25	81	-45
25	12	10	-13	100	169	-130
40	8	25	-17	625	289	-425
	$\sum$	25	-83	833	1225	-372

$r = \frac{N\sum XY - \sum X \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2}\sqrt{N\sum Y^2 - (\sum Y)^2}}$

$= \frac{7(-372) - (25)(-83)}{\sqrt{7(833) - (25)^2}\sqrt{7(1225) - (-83)^2}}$ = -0.18

11. An index number is simply compiled by selecting a group of commodities, noting their prices in a given year (the base year) and putting the number 100 to the total.

There are two situations in the given conditions. Let I_1 be the index for the first item and I_2 be the index for the second item.

First Situation $279 = \frac{64I_1 + 36I_2}{64+36}$ $\left[\because P_{01} = \frac{I_1W_1 + I_2W_2}{W_1 + W_2}\right]$ ...(1)

Second Situation $265 = \frac{50I_1 + 50I_2}{50+50}$ ...(2)

From equation (1), $64I_1 + 36I_2 = 279 \times 100 \Rightarrow 64I_1 + 36\ I_2 = 27900 \Rightarrow 16I_1 + 9I_2 = 6975$ ...(3)

From equation (2), $I_1 + I_2 = 530$ _(4)

On solving equation (3) and equation (4), we get $I_1 = 315$, $I_2 = 215$

12. By observation, the modal class is 30-40, since it has maximum frequency 35.

Now, l_1=30, f_1=35, f_2=15, f_0=20, and c=10

where l_1 is the lower limit of the modal class f_1 is the frequency of the modal class f_0 is the frequency of the class preceding the modal class, f_2 is the frequency of the class succeeding the modal class and i is the class interval of the modal class.

∴Mode,

$(M_o) = l_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times c$

$= 30 + \frac{35-20}{2\times35-20-15} \times 10$

$= 30 + \frac{15\times10}{35}$

$= 30 + \frac{150}{35} = 30 + 4.3$

∴Mode (M_0)=34.3 marks

OR

Weighted mean refers to the average when different items of a series are given different weigts according to their relative importance. In other words, it is an average computed by giving different weights to some of the individual values. The weights

are assigned to different items depending upon their importance, i.e. more important items are assigned more weight. If all the items are not of equal importance, then simple arithmetic mean will be a good representation of the given data. Hence wieghting of different items becomes necessary . Basically you use a weighted mean when the data holds different "weights"/group sizes i.e. if you were looking for the mean of the number of people to visit a shop during its opening hours and you were told x went in the morning and y in the afternoon but the shop was open 3 hours in the morning and 6 in the evening just adding the two and dividing by 2 would not give you the correct average per hour. So you would need to weight the means i.e. (3x + 6y)/9 would be you actual average per hour as opposed to (x + y)/2

13. **Spatial Classification:**

    In spatial classification, data are classified according to geographical areas.

    Example: State wise classification of production of food grains in India: State Production of food grains (in tonnes)

State	Production of food grains (in tons)
Orissa	3,00,000
A. P	2,50,000
U. P	22,00,000
Assam	1,00,00,000

    (ii) Chronological classification.

    In this type of classification, the data are classified according to different time periods.

    Example: Population of India for different time periods.

    Profits of a business establishment over different years.

Year	Population (in crores)
1921	24.8
1931	27.3
1941	31.8
1951	35.6

14. Usually, when we draw any graph, the scale on which the graph is measured starts from zero on the y-axis. However, under the situations when the data to be plotted on graph starts from a value which is far above zero, results in the problem of shortage of space on graph. To overcome this problem of shortage of space, a false base line is plotted. False base line is a line which is drawn to grasp the attention of the reader on the fluctuations which usually remains unnoticed. A kinked line is used on x axis for the same purpose for which false base line is used for y axis. It means when variable starts from a higher value, we use kinked line and when frequency starts with a first higher number followed by smaller gaps, we use false base line.

    OR

    i. Headings should generally be written in the singular form.
    ii. Use of abbreviations should be avoided in the heading or sub-headings of the table.
    iii. Footnote should be given, only if needed.
    iv. Size of the table should be in accordance with the size of the paper.

15. Following are merits and demerits of deliberate sampling:

    Merits

    1. **Economical:** It is less costly and less time consuming.
    2. **Proper representation:** It ensures proper representation of the univesse when the investigation has full knowledge of the composition of the universe and is free from bias,
    3. **Avoid irrelevant items:** It prevents unnecessary and irrelevant items entering into the sample per chance.
    4. **Intensive study:** It ensures intensive study of the selected items.
    5. **Accurate results:** It gives better results if the investigator is unbiased and has the capacity of keen observation and sound judgment.

    Demerits

    1. **Personal bias:** There is enough scope for bias or prejudices of the investigate to play and influence the selection.
    2. **No equal chance:** There is no equal chance for all the items of the universe being included in the sample.
    3. **No degree of accuracy:** There is no possibility of having any idea about the degree of accuracy achieved in the investigation conducted by this method.

4. **No possibility of sample error:** There is no possibility of calculating the sample error the idea of which is based on the mathematical concepts which are no applicable to non-random methods of sampling.
5. **Unsuitable for large samples:** This method is not suitable for the large samples where the size of both the universe and the sample is considerably large.

16.
- The Pearson correlation coefficient is the most widely used. It measures the strength of the linear relationship between normally distributed variables. When the variables are not normally distributed or the relationship between the variables is not linear, it may be more appropriate to use the Spearman rank correlation method.
- It gives an answer for any number of figures while rank correlation can't be used if n is more than 30.
- If many numbers are repeating, it becomes still more difficult to use rank correlation.
- But if we do not know the figures but ranks, then it is advisable to use rank correlation.

17. The limitations of mean are mentioned below:

i. The mean value may sometimes be that value which does not figure in the series at all.
ii. Arithmetic mean sometimes offers illogical conclusions.
iii. Arithmetic mean cannot be determined by inspection.
iv. Arithmetic mean is not suitable for qualitative characteristics such as honesty, beauty, etc.
v. In skewed distributions, arithmetic mean is not a suitable measure.
vi. The main defect of arithmetic mean is that it gets distorted by extreme values of the series.

OR

Calculation of Median

Size of Landholdings (in acre)	Number of Families	Cumulative Frequency (cf)
0-100	40	40
100-200	89	129
200-300	148	277
300-400	64	341
400-500	39	380
	$n = \Sigma f = 380$	

$Median\ number(m) =$ size of $\left(\frac{n}{2}\right)$ th item $= \left(\frac{380}{2}\right) th\ item$ =190th item.

190th item lies in the 129th cumulative frequency and the corresponding class interval is 200 – 300.

$\therefore l_1$=200, cf=129, f=148, c=100

Now, $\text{Median}(M) = l_1 + \frac{\frac{n}{2} - cf}{f} \times$

$= 200 + \frac{190-129}{148} \times 100$

= 241.22 acres

Therefore, the median size of landholdings of 380 families in a village is 241.22 acres

Section B

18.

(b) highly elastic

Explanation:

During a long period, the firm can build new plants or close down the old plants. Moreover, the new firms can enter the industry and possibly bring about a large change in quantity supplied in the long run. Thus, in the long run, the supply for the commodity is **highly elastic.**

19.

(b) No effect

Explanation:

During a recession (where all resources are not being utilized), then a movement out to the production possibility curve has no real opportunity cost.

20.

(c) excess demand

Explanation:

Excess demand is a situation where the demand for a product is more than the supply for the product. In the given question, demand for good X is 30 units and supply for good X is 20 units. Hence, the excess demand is 10 units.

21.

(c) A is true but R is false.

Explanation:

When due to change in its own price quantity demanded commodity changes it is expressed by different points on the same demand curve. Such change is in factor leads to extension or contraction in demand for the commodity.

22.

(c) ₹5

Explanation:

AR = TR/q = ₹1,00,000/₹20,000

Where, output is (q).

= ₹5

23.

(c) Yes

Explanation:

AC can fall when MC is rising. However it is possible only when MC is less than AC.

24.

(d) Yes

Explanation:

At break even point the total revenue equals the total costs and the firm is able to cover all its costs thus making normal profits.

25. **(a)** Horizontal straight line

Explanation:

Average Revenue (AR) or Price and Marginal Revenue (MR) are identical. When the former is constant, the latter is also constant. When the price remains constant, firms can sell any quantity of output at the price fixed by the market. As a result, **the MR curve (and AR curve) is a horizontal straight line** parallel to the X-axis.

26. **(a)** TVC

Explanation:

For any level of output, the sum of marginal costs up to that level gives us the **total variable cost** (**TVC**) at that level.

27.

(b) All of these

Explanation:

All the options are basic for the classification of the market.

28. In the market economies, resources are optimally utilised because every producer focuses on maximisation of output per unit of input and maximisation of profits. But, disparities in income distribution are highly pronounced. Because:

i. Resources are allocated to the production of those goods which yield high profits. So that goods are produced largely for richer sections of the society and the poor suffer deprivation.

ii. In the market economies, some jobs are outsourced from the rest of the world where labour cost is low. This causes a loss of employment opportunities in the domestic economy. Accordingly, the wage component of GDP tends to shrink even when profits tend to rise. Jobless growth is of no significance to the economy.

OR

i. Microeconomics studies the particular market segment of the economy, whereas Macroeconomics studies the whole economy, which covers several market segments.

ii. Microeconomics assumes all the macro variables to be constant as national Income, consumption, saving, etc, whereas Macroeconomics assumes that all tile micro variables to be constant as households, firms, prices of Individual products, etc.

iii. Microeconomics deals with an individual product, firm, household, industry, wages, prices, etc., while Macroeconomics deals with aggregates like national income, national output, price level, etc.

29. i. In a perfectly competitive market there are a large number of producers of a product. All of them produce a homogeneous product. Therefore, all the firms have to sell at the same price. This price is determined by industry demand and supply.

ii. In a monopolistic competitive market there is a large number of producers. But each of these producers produces a product which is somewhat different from what others do. At least, the producers make all the attempts to influence the consumer with the idea that their product is better than the product of the rival producers.

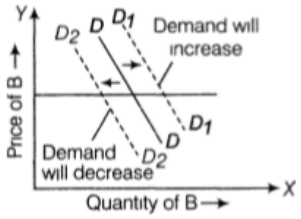
iii. A monopolist is faced with a downward sloping curve. He can sell a larger quantity at a lower price; or alternatively, he may charge a higher price and be satisfied with lower quantity. He has to make a choice between the two alternatives.

30. ◦ **Complementary goods:**

i. Those goods which are used together for the fulfilment of a demand

ii. For Example: Car and Petrol.

◦ **Graphical representation:**



Shift in Demand Curve of B

◦ Change in price of A on demand for B can be studied with respect to the given two conditions:

i. **Price of A rises** If the prince of A rises, then it will result in fall in the demand of A, and therefore demand for B will also fall. As a result, demand curve DD will shift leftwards to D_2D_2.

ii. **Price of A falls** If the price of A falls, then it will result in an increase in the demand of A, and therefore demand for B will also increase. As a result demand curve, DD will shift rightwards to D_1D_1.

31.

Quantity in units	Price=AR	TR	TC	MR	MC
0	10	0	5	-	-
1	10	10	25	10 <	20
2	10	20	35	10 =	10
3	10	30	40	10 >	5
4	10	40	50	10 =	10
5	10	50	70	10 <	20
6	10	60	100	10 <	30

The firm will be in equilibrium at 4 units of output as at this level of output both the conditions of firm's equilibrium are satisfied, i.e.

i. MR is equal to MC (₹ 10)

ii. MC is increasing at the point of equilibrium

OR

According to this approach, the producer is at equilibrium, when the Marginal Revenue (MR) is equal to the Marginal Cost (MC) and marginal cost curve cuts the marginal revenue curve from below.

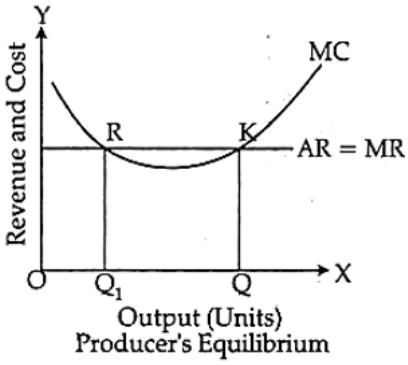
Two conditions under this approach are:

i. MR = MC

ii. MC curve should cut the MR curve from below, or MC should be rising.

MR is the addition to total revenue from the sale of one more unit of output and MC is the addition to total cost for increasing the production by one unit. The basic aim of every producer is to maximise the profit. For this, a firm compares its MR with

its MC.



Producer's Equilibrium

As long as the addition to revenue is greater than the addition to cost, it is profitable for a firm to continue producing more units of output.

In the diagram, output is shown on the X-axis and revenue and costs on the Y-axis.

The Marginal Cost (MC) curve is U-shaped and P = MR = AR.

MC = MR at two points R and K in the diagram, but profits are maximised at point K, corresponding to OQ level of output.

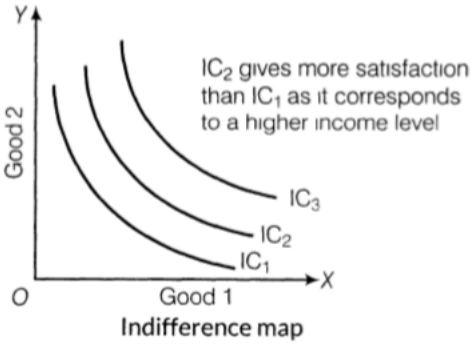
Between OQ_1 and OQ levels of output-MR exceeds MC. Therefore, firm will not stop at point R but will continue to produce to take advantage of additional profit. Thus, equilibrium will be at point K, where both the conditions are satisfied.

Two other situations may also exist are :

i. **MR > MC:** When output level is less than OQ,
MR > MC, which implies that firm is earning profit on the last units of output. The marginal profit provides an incentive to the firm to increase production and move towards OQ unit of output. Therefore, when MR > MC, the firm increases output to maximise its profit.

ii. **MR < MC:** When output level is more than OQ, MR > MC, which implies that firm is making a loss on its last unit of output. Hence, in order to maximize profit, a rational producer decreases output as long as MC > MR. Thus, the firm moves towards producing OQ units of output.

32. **Indifference map** refers to the graphical representation of a set of indifference curves that represent consumer preferences over all the bundles of the two goods. That is, the consumer has no preference for one combination or bundle of goods over a different combination on the same curve.
Higher indifference curve gives a higher level of satisfaction than the lower indifference curve This is because a higher indifference curve corresponds to a higher income level. At higher income levels, a consumer will be able to purchase more of two goods or at least more of one good and no less of the other good. So, as per monotonic preferences, higher quantities of the goods will give a higher level of satisfaction to the consumer. However, each indifference curve shows the same level of satisfaction individually. Therefore, an indifference curve to the right shows higher utility levels.



Indifference map

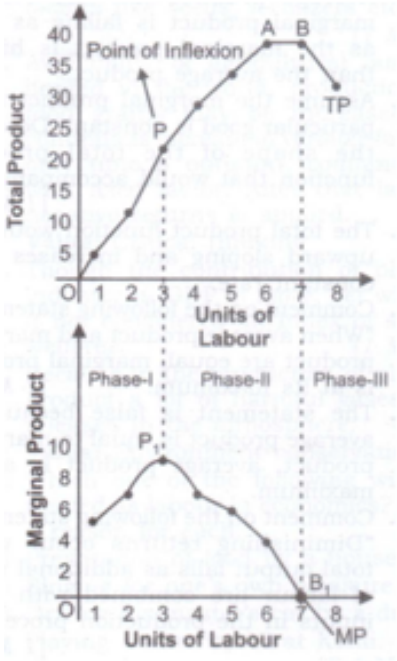
33. The behavior of Marginal Product in the law of variable proportion is as under:

i. When total product increases at an increasing rate (convex shape) (till point P), MP also increases.(till the point P_1

ii. when total product increases at a diminishing rate (concave shape) (till point A)., then Marginal product falls and remains positive (Till point B1),

iii. when total product is at its maximum and constant (At point B), Marginal Product is zero (at point B1),

iv. when total product falls (after point B), Marginal product becomes negative (after point B1)



Causes or Reasons of this Behaviour is as Under:

i. Phase I

a. Proper utilization of the fixed factor

- In the initial stage of production the supply of the fixed factory, eg. land is too large whereas the supply of variable factors are too few. So, the fixed factor is not fully utilised.
- Proper utilization of the fixed factor is attained when more and more units of variable factor (labour units) are applied to the fixed factor (land). So, in this phase, when more and more variable factor, i.e. labour is used, the production increases at an increasing rate.

b. Specialization and division of labour

- Suppose, initially there was only one labour working on all the 5 acres of land doing all the jobs of ploughing, watering, etc.
- As the number of labour units increases, each worker specializes in a particular activity and this leads to specialization of the variable units which in turn leads to increased efficiency.

ii. Phase II

a. The non-optimal combination of variable factor with the fixed factor

- There is a optimum combination of variable factors and fixed factors and this point productivity is at it maximum and all the fixed factors are effectively utilised. After this optimum combination, the marginal returns of the variable factors starts diminising, i.e. TP increases but at a diminishing rate.and MP starts falling but remains positive. In other words, as many workers share the same fixed factor, the share of each worker would obviously fall. Therefore, the cooperation of the fixed factor is not available to the same extent. Thus, an increase in the variable factor would add less and less to total output.

b. Imperfect Substitutes

- Diminishing return to factor occurs because variable factor and fixed factor are imperfect substitutes to each other.
- Technically speaking, there is a limit to which variable factor can be substituted for fixed factor and that limit depends upon the efficiency of fixed factor. But beyond the optimum limit they become imperfect substitutes to each other which leads to diminishing returns.

iii. Phase III

a. Efficiency of Variable Factor Fall

- In this stage the amount of variable factor becomes excessive relative to the fixed factor. This happens when too many labour are engaged in cultivating on a given piece of land.
- Instead of helping each other in production they cause overcrowding and chaos and thus hamper each other's work. With continous increase in variable factor, the advantages of specialization and division of labour starts diminishing. In such a case, the contribution of additional labour to production is bound to be negative.
- Thus, the marginal returns become negative and the total returns start diminishing.

b. Efficiency of Fixed Factor Fall

- Too much of a variable factor may also lead to the inefficiency of the fixed factor as well.
- In case of capital, which is a fixed factor, too much of labour may cause lot of wear and tear of machinery, frequent breakdowns and excessive cost of maintenance. This is bound to affect total production adversely.
- In such a situation it is advisable to reduce the units of the variable factor than to increase it with a view for getting maximum production.

34. Answer the following questions

(i) Six factors determining price elasticity of demand are as follows:

i. **Nature of Commodity:** Ordinarily, necessaries like salt, kerosene oil, matchboxes, textbooks, seasonal vegetables, etc., have inelastic demand. Luxuries, like air-conditioner, costly furniture, fashionable garments, etc., have elastic demand. Jointly demanded goods, like bread and butter, pen and ink, camera and film, ordinarily show a moderate elasticity of demand.

ii. **Availability of Substitutes:** Demand for goods which have close substitutes (like tea and coffee being close substitutes of each other) is relatively more elastic. Because, when price of such a good rises, the consumers have the option of shifting to its substitute. Goods without close substitutes like cigarettes and liquor, have inelastic demand.

iii. **Multiple Uses:** Goods which can be put to multiple uses have elastic demand. Electricity is an example. It is used for lighting, room-heating, air conditioning, cooking, etc. If the price of electricity increase, its use may be restricted only to important purposes like lighting. Accordingly, elasticity of demand is high.

iv. **Postponement of Use:** Demand will be elastic for goods, the consumption of which can be postponed. Demand for residential houses may be cited as an example. People lower their demand for residential houses when interest rates on the loans are high.

v. **Income Level of the Buyers:** Elasticity of demand for a good also depends on the income level of its buyers. If the buyers of a good are high-end consumers (with high level of income) they will not care for the price. Accordingly, elasticity of demand is expected to be low. Example: Demand for luxury cars by the multi-billionaires. On the other hand, if income level of the buyers is low, elasticity of demand is expected to be high.

vi. **Habit of Consumers:** Goods to which consumers become habituated (or addicted) will have inelastic demand. Cigarettes and liquor are examples. Demand for cigarettes and liquor does not reduce even when these goods are highly taxed.