

Class XI Session 2025-26

Subject - Economics

Sample Question Paper - 2

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. **Assertion (A):** Statistics is a method of making decisions on the basis of numerical data properly collected, organized, presented, analysed, and interpreted. [1]
Reason (R): Calculation of a value by different methods and tools for various purposes is made to arrive at the beginning of the study.
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.
2. The best average for constructing an index numbers is: [1]
a) Mean deviation b) Harmonic mean
c) Geometric mean d) Arithmetic mean
3. Which of the following is an example of spurious correlation? [1]
a) Positive correlation between rainfall and birth rate b) Positive correlation between time spent on computer and number of spectacles used
c) Positive correlation between height and weight d) Negative correlation between price and quantity demanded
4. Which of the following statements is true? [1]
a) The full form of NSSO is National Sample Survey Organisation. b) The full form of NSSO is Nodal Sample Survey Organisation.
c) The full form of NSSO is Nation Sample Surveying Organisation. d) The full form of NSSO is Notional Sample Survey Organisation.

5. Average value of given variable is known as: [1]
 - a) Mean
 - b) Median
 - c) Mode
 - d) Index number
6. Purchasing power of money is [1]
 - a) None of the given
 - b) Equal to price index number
 - c) Reciprocal of price index number
 - d) Unequal to price index number
7. Drawing conclusion from the data analyzed is the stage of [1]
 - a) Interpretation of data
 - b) Presentation of data
 - c) Collection of data
 - d) Analysis of data
8. An Ideal average should be: [1]
 - a) All of these
 - b) Simple to understand.
 - c) Rigidly defined
 - d) Based upon all items
9. The frequency distribution of a continuous variable is known as: [1]
 - a) Grouped frequency distribution
 - b) Simple frequency distribution
 - c) Weighted frequency distribution
 - d) Both Grouped and Simple frequency distribution
10. In a marketing survey, the price of tea and coffee in a town based on quality was found as shown below. Could you find any correlation between the two? [1]

Price _{tea}	88	90	95	70	60	75	50
Price _{coffee}	120	134	150	115	110	140	100

- a) 0.83 b) 0.87

c) 0.85 d) 0.89

11. What are the desirable properties of the base period? [3]

12. Find out the weighted arithmetic mean from the following data. [3]

Books	Price per Book (X)	Number Sold (W)
Statistic (S)	20	40
Physics (P)	30	25
Economics (E)	15	12
Commerce (C)	25	13
Chemistry (Ch)	25	10

OR

If mean of a distribution is Rs.700 and sum of all the observations is Rs.6300, then find the number of observations.

13. Prepare a frequency distribution by inclusive method taking class interval of 7 from the following data [4]
- 28, 17, 15, 22, 29, 21, 23, 27, 18, 12, 7, 2, 9, 4, 1, 8, 3, 10, 5, 20, 16, 12, 8, 4, 33, 27, 21, 15, 3, 36, 27, 18, 9, 2, 4, 6, 32, 31, 29, 18, 14, 13, 15, 11, 9, 7, 1, 5, 37, 32, 28, 26, 24, 20, 19, 25, 19, 20, 6, 9

14. Differentiate between Sub Divided and Multiple Bar Diagram. [4]

OR

Explain different types of two dimensional diagrams.

15. Define the terms: (a) Investigator (b) Population (c) Respondent [4]

16. Calculate coefficient of correlation between age group and rate of mortality from the following data: [6]

Age Group	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
Mortality	350	280	540	760	900

17. From the given series, find the value of median graphically with the help of : [6]

- Less than ogive
- More than ogive
- More than and less than ogives

Wages (in Rs.)	Number of Workers
0-5	4
5-10	6
10-15	10
15-20	10
20-25	25
25-30	24
30-35	20
35-40	1

OR

Calculate Q_1 and Q_3 from the following data.

Marks	Number of Students
10	4
20	10
30	20
40	8
50	6
60	3

Section B

18. When supply falls due to factors other than the own price of the commodity, it indicates: [1]

- decrease in supply
- contraction of supply
- Increase in supply
- extension of supply

19. The main objective of a socialist economy is: [1]

- Economic freedom
- Earning profit



How is producer's equilibrium determined in case of perfect competition using MR and MC approach?

32. Derive the Law of Demand from the single commodity equilibrium condition “Marginal Utility = price”. [4]

33. Complete the following table: [6]

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

34. Answer the following questions [6]

- (a) When price of a commodity X falls by 10%, its demand rises from 150 units to 180 units. Calculate its price elasticity of demand. How much should be the percentage fall in its price so that its demand rises from 150 to 210 units? [6]



Solution

Section A

1.

(c) A is true but R is false.

Explanation:

Statistics is a method of making decisions on the basis of numerical data properly collected, organized, presented, analyzed, and interpreted. Calculation of a value by different methods and tools for various purposes is made to arrive at the last stage of the study.

2.

(c) Geometric mean

Explanation:

Geometric mean is the best average for constructing an index numbers.

3.

(a) Positive correlation between rainfall and birth rate

Explanation:

Positive correlation between rainfall and birth rate is a spurious correlation as there is no relationship between rainfall and birth rate, but there is an inference that there is positive correlation between them which may be due to a third/unseen factor.

4.

(a) The full form of NSSO is National Sample Survey Organisation.

Explanation:

The full form of NSSO is National Sample Survey Organisation.

5.

(a) Mean

Explanation:

Mean is the average value of the given variable and it is obtained by dividing the total values of different items by their number.

6.

(c) Reciprocal of price index number

Explanation:

Purchasing power of money = $1 / \text{Cost of living index}$.

Hence, it is a reciprocal of Cost of Living index.

7.

(a) Interpretation of data

Explanation:

Interpretation of data refers to concluding it.

8.

(a) All of these

Explanation:

All of the above are included in the characteristics laid down for ideal average.

9.

(a) Grouped frequency distribution

Explanation:

Since for continuous variable we draw grouped frequency distribution where frequency are grouped corresponding to class intervals.

10.

(a) 0.83

Explanation:

X (Price _{tea})	Y (Price _{coffee})	dX	dY	dX^2	dY^2	$dXdY$
88	120	18	5	324	25	90

90	134	20	19	400	361	380
95	150	25	35	625	1225	875
70 (A)	115 (A)	0	0	0	0	0
60	110	-10	-5	100	25	50
75	140	5	25	25	625	125
50	100	-20	-15	400	225	300
	Σ	38	64	1874	2486	1820

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

$$= \frac{7(1820) - (38)(64)}{\sqrt{7(1874) - (38)^2} \sqrt{7(2486) - (64)^2}} = 0.83$$

11. The base period should have the following desirable properties:

- 1. The base year should not be either too short or too long:** It should not be either less than a month or more than a year for calculation purpose.
- 2. The base year should not belong to too near or too far:** Statisticians compare the current year's conditions with the conditions in the base year. So, if the base year is too far from the current year, then the comparison becomes meaningless. Similarly, if the base year is too near to the current year, then comparison fails to capture the change in the taste, preferences, fashion, etc. Thus, in order to conduct a meaningful comparison, the base year should not be either too far or too near to the current year.
- 3. The base year should be so selected that the data for the same should be available:** The data for a year should be available in order to regard that particular year to be the base year. This enables one to draw conclusions, inferences and for making comparisons.
- 4. The base period should be constantly updated:** The base year should be constantly updated due to the changes in taste, preferences and fashion otherwise; the comparison becomes misleading or inconclusive.

12. For finding out weighted mean, each item of the series is multiplied by its weights. Here price per book is multiplied by Number of books sold. Number sold is the weight in this question. Then we have to find ΣXW and divide it by ΣW

Calculation of Weighted Arithmetic Mean

Books	Price per Book (X)	Number Sold (W)	XW
S	20	40	800
P	30	25	750
E	15	12	180
C	25	13	325
Ch	25	10	250
		$\Sigma W = 100$	$\Sigma XW = 2305$

$$\text{Now, } \bar{X}_w = \frac{\Sigma XW}{\Sigma W} = \frac{2305}{100} = 23.05$$

Hence, required weighted arithmetic mean=23.05

OR

It is given that mean= 700

and the sum of all observations = 6300

Substituting these values in the formula for mean, we have

$$\text{Mean} = \frac{\text{Sum of all the Observations}}{\text{Number of Observations}}$$

$$\Rightarrow 700 = \frac{6300}{n} \Rightarrow n = \frac{6300}{700} = 9$$

So, the number of observations is 9.

13. We first find the lowest value in the given data and then the highest value. Then, in order to prepare inclusive frequency distribution, we need class size which is given as 7. Then, we form inclusive class intervals with respective frequency as visible in



the given data. As in the question, the lowest value is 1 and the highest is 37. With the help of tally bar, inclusive frequency distribution will be derived.

The frequency distribution by the inclusive method of given data is shown below:

Class Interval	Tally Bar	Frequency (f)
1-7		15
8-14		12
15-21		15
22-28		10
29-35		6
36-42		2
Total		60

14.	Sub divided Bar Diagram	Multiple Bar Diagram
	In Sub divided bar diagram, different components are shown in single bar with divisions.	In multiple bar diagram, different components are shown in different bars.
	In Sub divided bar diagrams, 4-5 variables can be shown.	In multiple bar diagram, not more than three items can be shown comfortably.
	It cannot be used to compare relative importance of different components.	It can be used to compare relative importance of different components.

OR

Different types of two dimensional diagrams have been explained below:

Rectangles: Since area of a rectangle is equal to the product of its length and width, while making such type of diagrams both length and width are considered. Rectangles are suitable for use in cases where two or more quantities are to be compared and each quantity is sub-divided into several components.

Squares: To construct a square diagram, first the square-root of the values of various figures to be represented is taken and then these values are divided either by the lowest figure or by some other common figure to obtain proportions of the sides of the squares. The squares constructed on these proportionate lengths must have either the base or the center on a straight line. The scale is attached with the diagram to show the variable value represented by one square unit area of the squares.

Circles: Circles are alternatives to squares to represent data graphically. The circles are also drawn such that their areas are in proportion to the figures represented by them. The circles are constructed in such a way that their centers lie on the same horizontal line and the distance between the circles is equal. Since the area of a circle is directly proportional to the square of its radius, the radii of the circles are obtained in proportion to the square root of the figures under representation. Thus, the lengths that were used as the sides of the square can also be used as the radii of circles.

15. **Investigator:** The person or agency who is conducting the statistical enquiry is called investigator.

Population: The people about whom investigator is collecting data are a part of his enquiry's population. For example, if we wish to conduct a survey on usage of baby products, then mothers who have a baby in the age group of 0-5 are a part of our population. Similarly, if a teacher wants to know average height of his class, then students in his class constitute her population.

Respondent: The person from whom the investigator is collecting statistical information is called respondent.

16.	Age Group	Mid Value(X)	dx(X - A), A = 50	dx' $\left(\frac{dx}{c_1}\right)$, c₁ = 20	dx'²	Rate of Mortality(Y)	dy(Y - A), A = 540	dy' $\left(\frac{dy}{c_2}\right)$, c₂ = 10	dy'²	dx'dy'
	0 - 20	10	-40	-2	4	350	-190	-19	361	38
	20 - 40	30	-20	-1	1	280	-260	-26	676	26
	40 - 60	50	0	0	0	540	0	0	0	0
	60 - 80	70	20	1	1	760	220	+22	484	22
	80 - 100	90	40	2	4	900	360	+36	1296	72
	Total			Σdx' = 0	Σdx'²			Σdy' = 13	Σdy'² =	Σdx'dy' =



				= 10				2817	158
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Here, $n = 5$, $\Sigma dx' = 0$, $\Sigma dx'^2 = 10$, $\Sigma dy' = 13$, $\Sigma dy'^2 = 2817$, $\Sigma dx' dy' = 158$

$$\begin{aligned} \text{Now, } r &= \frac{\Sigma dx' dy' - \frac{\Sigma dx' \times \Sigma dy'}{n}}{\sqrt{\Sigma dx'^2 - \frac{(\Sigma dx')^2}{n}} \times \sqrt{\Sigma dy'^2 - \frac{(\Sigma dy')^2}{n}}} \\ &= \frac{158 - \frac{0 \times 13}{5}}{\sqrt{10 - \frac{(0)^2}{5}} \times \sqrt{2817 - \frac{(13)^2}{5}}} \\ &= \frac{158}{\sqrt{10 - 0} \times \sqrt{2817 - \frac{169}{5}}} \\ &= \frac{158}{\sqrt{10} \times \sqrt{2817 - 33.8}} \\ &= \frac{158}{\sqrt{10} \times \sqrt{2783.2}} = \frac{158}{3.16 \times 52.8} = \frac{158}{166.8} = +0.95 \end{aligned}$$

- Therefore, Karl Pearson's coefficient of correlation between age group and rate of mortality is 0.95
- Interpretation of r : There is high degree of positive correlation between age group and rate of mortality.

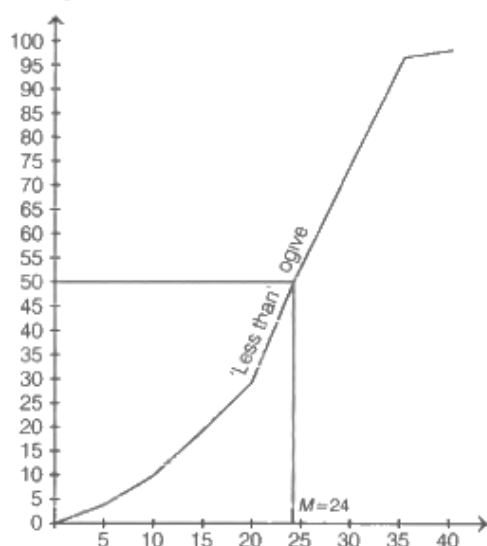
17. Converting the given distribution into 'less than' and 'more than' cumulative distributions.

Wages	Number of Workers	Wages	Number of Workers
Less than 5	4	More than 0	100
Less than 10	10	More than 5	96
Less than 15	20	More than 10	90
Less than 20	30	More than 15	80
Less than 25	55	More than 20	70
Less than 30	79	More than 25	45
Less than 35	99	More than 30	21
Less than 40	100	More than 35	1

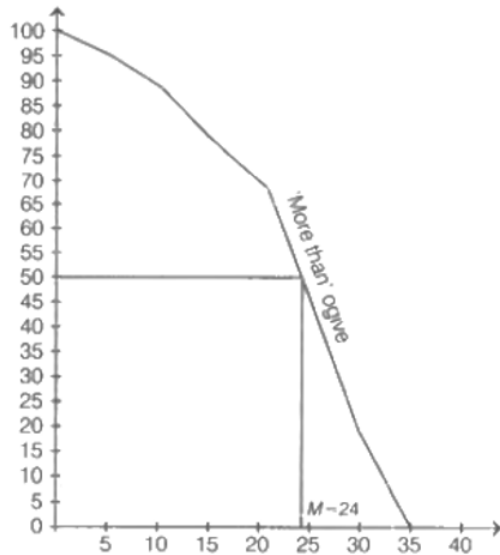
Calculation of median by graphical method

i. Finding median with the help of 'less than ogive

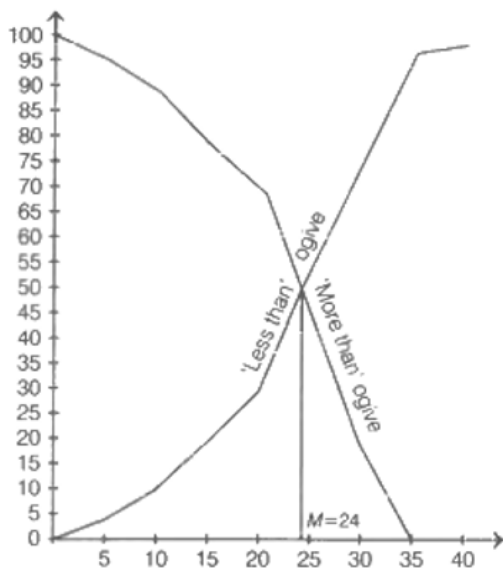
$M = \text{Size of } (n/2)\text{th item} = \text{Size of } (100/2)\text{th item} = 50\text{th item}$



ii. Finding median with the help of 'more than ogive M=50th item



iii. Finding median with the help of 'less than' and 'more than' ogives.



OR

Marks	Number of Students (f)	Cumulative Frequency (cf)
10	4	4
20	10	14
30	20	34
40	8	42
50	6	48
60	3	51
	$n = \Sigma f = 51$	

First quartile and third quartile can be calculated by using the formula given below:

Q_1	Q_3
$Q_1 = \text{Size of } \left(\frac{n+1}{4}\right) \text{th item}$	$Q_3 = \text{Size of } 3\left(\frac{n+1}{4}\right) \text{th item}$
$= \text{Size of } \left(\frac{51+1}{4}\right) \text{th item}$ $= \text{Size of } 13^{\text{th}} \text{ item and it lies in cf 14,}$ Hence $Q_1 = 20 \text{ marks}$	$= \text{Size of } 3\left(\frac{51+1}{4}\right) \text{th item}$ $= \text{Size of } 39^{\text{th}} \text{ items and it lies in cf 42,}$ Hence $Q_3 = 40 \text{ marks}$

Section B



18. **(a)** decrease in supply
Explanation:
 decrease in supply
19.
(c) Maximum public welfare
Explanation:
 The main objective of a socialist economy is maximum public welfare.
20. **(a)** Increase in demand < Increase in supply
Explanation:
 Increase in demand < Increase in supply
 Equilibrium price falls and equilibrium quantity rises when the **increase in demand is less than the increase in supply**. It leads to a right shift of the demand curve but this shift is less than the right shift of the supply curve.
21.
(c) monopoly and monopolistic competition
Explanation:
 Under perfect competition, AR is equal to MR. Under Monopoly and monopolistic AR declines, so MR declines faster than AR.
22.
(b) Expenditure on inputs to produce output
Explanation:
 Cost of production refers to the different expenses that a firm incurs in producing a good or service. There are two types of costs. Fixed costs and variable costs.
23.
(b) Both A and R are true but R is not the correct explanation of A.
Explanation:
 The extension of demand is indicated by a movement along the same demand curve. It means a movement from left to right on-demand curve.
24.
(b) Monopsony
Explanation:
 A monopsony is a market condition in which there is only one buyer. Like a monopoly, a monopsony also has imperfect market conditions.
25.
(c) Negatively sloped
Explanation:
 Since monopoly is a price maker and faces a negatively sloped demand curve , its marginal revenue curve is also negatively sloped and lies below the AR curve.
26.
(d) No
Explanation:
 When AC falls then MC will be less than AC. So AC cant be less than MC when AC is falling. This is because when MC curve lies below the AC Curve it pulls the latter downwards.
27.
(d) all market forms



Explanation:

All market forms

28. Real level of production will be increased by improvement in employment. But potential level of production will not increase (No shifting of PPC will take place). Reason being PPC is based on the assumption that available resources are fully utilised.

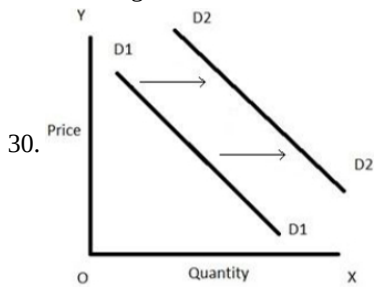
OR

This problem is concerned with the distribution of income in an economy. It is concerned with either to produce goods for high income groups or low-income groups. The capacity of people to pay for goods depends upon their level of income. Thus, this problem is concerned with distribution of income among factors of production who contribute in the production process. It has two aspects : (i) Personal distribution : It means how national income of an economy is distributed among different groups of people in the society, (ii) Factorial distribution: It relates to income share of different factors of production such as wages for labour, interest for capital, rent for land, etc.

29. The supply and demand curves in the labour market differ from those in the goods market in the following ways:

- In a goods market, the demand for goods is made by consumers or households; while in a labour market, the demand for labour is made by firms.
- In a goods market, the supply of goods is made by firms; while in a labour market, the supply of labour is made by households.
- Labour supply curve shows the number of workers who are willing and able to work in an occupation at different wages. A labour demand curve shows the number of workers firms are willing and able to hire at different wages.

So, in a goods market, firms act as suppliers; in a labour market, households act as suppliers.



With increase in level of air pollution market demand for air purifiers will increase. D1D1 is the market demand curve of air purifier at a given level of air pollution. It will shift rightwards to D2D2 due to change in preference for air purifiers, as the pollution level rises.

31. Short period	Basis	Long Period
A short period refers to the period of time in which a firm cannot change some of its factors like plant, machinery, building, etc. due to insufficiency of time but can change any variable factor like labour, raw material, etc.	Meaning	A long period, on the other hand, is a time period during which a firm can change all factors of production including machines, building, organization etc.
Output can only be increased by changing the quantity of variable factors.	Output	Output can be increased by making changes in the quantity of both fixed as well as the variable factor inputs.
Factors of production here can be grouped in two categories: <ul style="list-style-type: none"> Fixed Factors Variable Factors 	Classification	In the long period, the distinction between the fixed and the variable factors disappear.
Demand here plays a dominant role in the determination of price of a commodity	Effects	In the long period, supply can be adjusted to any change in demand. So, demand and supply play equal role in price determination.

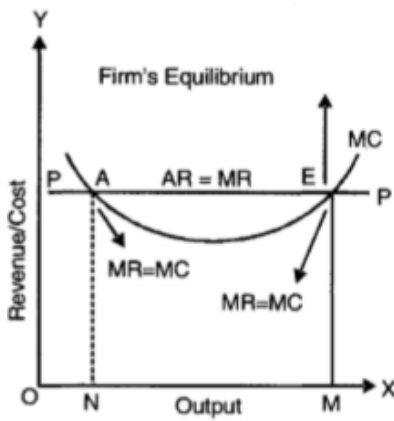
OR

In order to get maximum profit under perfect competition, a firm must compare its marginal cost with marginal revenue. According to marginal analysis, a firm would, therefore, be in equilibrium when the following two conditions are fulfilled :

- $MC = MR$.
- The MC curve cuts the MR curve from below.



In this figure, MC cuts MR at two points A and 'E'. Point 'A' cannot indicate the position of equilibrium of the firm as at point A Marginal cost of the firm is still falling or we can say MC is not cutting MR from below.



Here point 'E' represents the equilibrium of the firm. At this point, both the conditions of equilibrium are being fulfilled: Marginal cost is equal to marginal revenue ($MC = MR$) and the marginal cost curve is cutting the marginal revenue curve from below. At point 'E', the firm gets a maximum profit. In case, the firm produces more or less than OM output, then its profits will be less than the maximum.

32. The Law of Diminishing Marginal Utility states that as a consumer consumes successive units of an identical commodity, then Marginal Utility derived from an additional unit goes on declining. This implies that as a consumer's utility is declining, then he would not be willing to buy an additional unit at the same price. But, if the good is offered to him at a reduced price, then this will induce him to increase his consumption and lead to the fulfillment of Law of Demand which states that as price falls, demand increases and vice-versa. So, we can say that price and demand of a commodity are inversely related due to Law of Diminishing Marginal Utility. A consumer maximizes utility by equating the marginal utility-price ratio for each good purchased and consumed. If the ratios are not equal, then utility can be increased by changing the combination of goods consumed.
33. The missing values as per the question can be found as follows:

L	AP $\frac{TP}{L}$	MP $(TP_n - TP_{n-1})$	TP Product
1	8	8	8
2	10	$20 - 8 = 12$	20
3	$\frac{30}{3} = 10$	10	$8 + 12 + 10 = 30$
4	9	$36 - 30 = 6$	36
5	8	4	40
6	7	$42 - 40 = 2$	42

34. Answer the following questions

(i) Old quantity demanded (Q) = 150 units

New quantity demanded = 180 units

Change in quantity demanded (ΔQ) = $180 - 150 = 30$ units

Percentage change in quantity demanded

$$= \frac{\Delta Q}{Q} \times 100 = \frac{30}{150} \times 100 = 20\%$$

Percentage change in price = 10% (given)

We know that, Elasticity of Demand (E_d)

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

$$= (-) \frac{20}{10}$$

\therefore elasticity of demand (E_d) = (-)2

Now, according to the given condition,

Old quantity demanded (Q) = 150 units

New quantity demanded = 210 units

Change in quantity demanded (ΔQ) = $210 - 150$

= 60 units

Percentage change in quantity demanded

$$= \frac{\Delta Q}{Q} \times 100$$

$$= \frac{60}{150} \times 100 = 40\%$$

We know that, Elasticity of Demand

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

$$\therefore (-2) = \frac{40}{\text{Percentage change in price}}$$

$$\Rightarrow \text{Percentage change in price} = \frac{40}{(-2)}$$

$$= (-)20\%$$

Therefore, the price should fall by 20% in order to increase the quantity demanded for the commodity from 150 units to 210 units.