

	Rs 70 to Rs 115. Has the worker actually gained, if yes, by how much in real terms? OR Explain the various steps involved in the construction of index number on industrial production.																											
14	The mean wage of 100 workers is Rs 324. The mean wage of 60 workers is Rs 340. Find the mean wage of the remaining 40 workers.	4																										
15	The best paper was wrongly scored 75 instead of 85. What will be the new mean if the average score of 24 students in a class is 58 marks?	4																										
16	Find the average age of workers in a factory from the following data by using the step deviation method: <table border="1" data-bbox="321 653 1312 793"> <tr> <td>Age (in years)</td> <td>Less than 10</td> <td>10-20</td> <td>20-30</td> <td>30-40</td> <td>More than 40</td> </tr> <tr> <td>No. of workers</td> <td>6</td> <td>10</td> <td>12</td> <td>14</td> <td>8</td> </tr> </table> OR Calculate the coefficient of correlation by Karl Pearson's method from the following data: <table border="1" data-bbox="371 942 1255 1083"> <tr> <td>X</td> <td>6</td> <td>2</td> <td>10</td> <td>4</td> <td>8</td> <td>12</td> </tr> <tr> <td>Y</td> <td>9</td> <td>11</td> <td>-</td> <td>8</td> <td>7</td> <td>5</td> </tr> </table>	Age (in years)	Less than 10	10-20	20-30	30-40	More than 40	No. of workers	6	10	12	14	8	X	6	2	10	4	8	12	Y	9	11	-	8	7	5	6
Age (in years)	Less than 10	10-20	20-30	30-40	More than 40																							
No. of workers	6	10	12	14	8																							
X	6	2	10	4	8	12																						
Y	9	11	-	8	7	5																						
17	Answer the following a. 'Samples provide appropriate outcome than surveys'. Why? b. Differentiate between univariate and bivariate frequency distribution.	6																										
Section B (Introductory Microeconomics)																												
18	In the long run, if new firms are free to enter in the industry, then the firm's profit will be: (Choose the correct alternative) a. zero b. abnormal profit c. normal profit d. abnormal loss	1																										
19	Mr. X consumes 2 goods X and Y whose prices are Rs 60 and Rs 30 per unit respectively. Which of the value of marginal rate of substitution states that the consumer is in equilibrium? (Choose the correct alternative) a. 6 b. 4 c. 2 d. 5	1																										
20	In the context of support price, market price is always: (Choose the correct alternative) a. Equal/lesser than support price	1																										

	<ul style="list-style-type: none"> b. Greater than support price c. Lesser/greater than support price d. Equal to/greater than support price 							
21	<p>Identify the price elasticity of demand from the given information by using percentage method. (Choose the correct alternative)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Price</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>P₀= Rs 6</td> <td>Q₀= 20 units</td> </tr> <tr> <td>P₁= Rs 7</td> <td>Q₁= 18 units</td> </tr> </tbody> </table> <ul style="list-style-type: none"> a. Elasticity of demand (E_D) = 1 b. Elasticity of demand (E_D) = 0.6 c. Elasticity of demand (E_D) = 1.2 d. Elasticity of demand (E_D) = 0.4 	Price	Quantity	P ₀ = Rs 6	Q ₀ = 20 units	P ₁ = Rs 7	Q ₁ = 18 units	1
Price	Quantity							
P ₀ = Rs 6	Q ₀ = 20 units							
P ₁ = Rs 7	Q ₁ = 18 units							
22	How does AFC change as output increases?	1						
23	<p>Which of the following relates to perfect knowledge in perfect completion? (Choose the correct alternative)</p> <ul style="list-style-type: none"> a. No extra cost to be borne by the buyers b. Large number of buyers and sellers c. Buyer and sellers are aware about the market price d. All of the above 	1						
24	<p>At the point where MR is zero, TR is _____. (Choose the correct alternative)</p> <ul style="list-style-type: none"> a. maximum b. zero c. negative d. lowest <p style="text-align: center;">OR</p> <p>Which of the following is a better situation for a firm to achieve equilibrium? (Choose the correct alternative).</p> <ul style="list-style-type: none"> a. MR > MC b. MR=MC c. MR < MC d. MR = 0 	1						
25	<p>When a good X reaches the point of satiety, the marginal utility of that good will be equal to: (Choose the correct alternative)</p> <ul style="list-style-type: none"> a. Zero b. Positive c. Negative d. Unity 	1						
26	<p>A firm is a price taker in: (Choose the correct alternative)</p> <ul style="list-style-type: none"> a. Perfect competition b. Monopolistic competition c. Oligopoly d. Monopoly 	1						

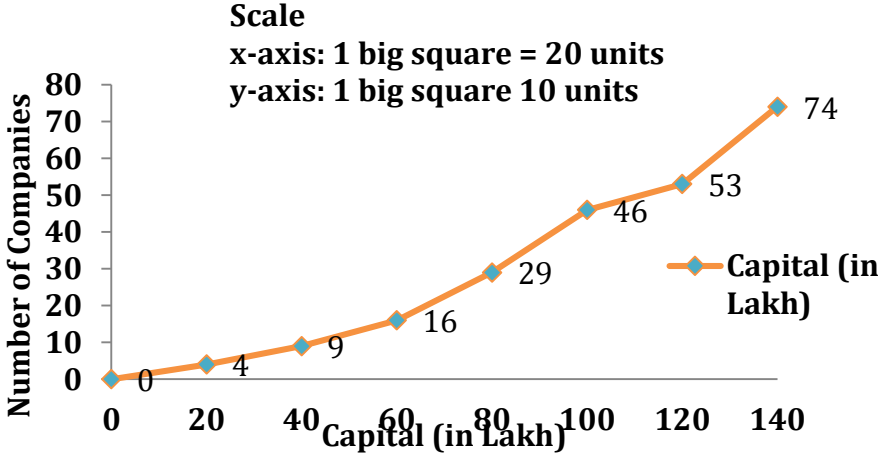
27	Why does Average Product continue to rise even when Marginal product starts falling?	1																		
28	A consumer is in equilibrium in consuming two Goods X and Y. With the help of utility analysis, show that if the price of Good X falls, then its demand would rise.	3																		
29	The market for a good is in equilibrium. What would be the impact on the market price if there is a simultaneous increase in both demand and supply of the good? (the increase in demand being more than increase in supply) OR Give any 3 points of difference between Contraction of demand and decrease in demand.	3																		
30	Explain with the help of an example the effect of change in the price of substitute good to change in the demand of the commodity.	4																		
31	Complete the following table: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th><i>Output</i></th> <th><i>Average Cost</i></th> <th><i>Marginal Cost</i></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5</td> <td>-</td> </tr> <tr> <td>2</td> <td>3</td> <td>-</td> </tr> <tr> <td>3</td> <td>-</td> <td>9</td> </tr> <tr> <td>4</td> <td>7</td> <td>-</td> </tr> <tr> <td>5</td> <td>-</td> <td>17</td> </tr> </tbody> </table>	<i>Output</i>	<i>Average Cost</i>	<i>Marginal Cost</i>	1	5	-	2	3	-	3	-	9	4	7	-	5	-	17	4
<i>Output</i>	<i>Average Cost</i>	<i>Marginal Cost</i>																		
1	5	-																		
2	3	-																		
3	-	9																		
4	7	-																		
5	-	17																		
32	Explain the central problem of 'what to produce'. How is this problem solved under market economy? OR State the differences between positive economics and normative economics	4																		
33	With the help of a numerical example, illustrate producer's equilibrium. OR Explain consumer equilibrium using indifference curve analysis.	6																		
34	Explain the following features under perfect competition market: a. Large number of buyers and sellers b. Free entry and exit of firms in the market c. Homogenous product	6																		

CBSE
Class XI Economics
Sample Paper - 1
Solution

Note: Solutions provided here are to guide students to prepare effectively and to help them score more marks. Please write the answers in your exam as per the given question and the marks allotted to that question.

Section A (Statistics for Economics)

Q. No.	Answer	Marks				
1	The correct option is (d). $\frac{\sum xy}{N\sigma_x\sigma_y}$	1				
2	Following are the two merits of Arithmetic mean: Simplicity: The calculation and use of Arithmetic mean is the simplest of all measures of central tendency. Based on all items: It is based on all items in the series. It is therefore a representative value of the different items.	1				
3	The correct option is (b). In notation P ₀₁ . 1 stands for current year.	1				
4	The correct option is (b). Statistics in the plural sense represents a collection of numerical facts. Single figures are not statistics because they cannot be compared for study purposes. Hence, Statistics involves an aggregate of facts which represents Statistics in the plural sense. OR 1. Statistics facilitates inter-sectoral and inter-temporal comparisons. 2. Statistics helps to establish a cause- effect relationship between different economic variables. This helps to identify the problems and accordingly suggest measures for the same.	1				
5	The correct option is (c). $\frac{H - L}{H + L}$ Where H is the highest value and L is the lowest value in the series.	1				
6	The correct option is (b). Difference between collected data and actual value of facts indicates the statistical errors. This may arise from the errors of origin, error of manipulation and error of inadequacy.	1				
7	National Sample Survey Organisation (NSSO) is an important government agency at national level which collects, process and tabulate the data.	1				
8	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Discrete Variable</th> <th style="text-align: center;">Continuous Variable</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">A variable which can take only certain values.</td> <td style="text-align: center;">A variable which can take any value in a particular limit.</td> </tr> </tbody> </table>	Discrete Variable	Continuous Variable	A variable which can take only certain values.	A variable which can take any value in a particular limit.	1
Discrete Variable	Continuous Variable					
A variable which can take only certain values.	A variable which can take any value in a particular limit.					

9	<p>The correct option is (d).</p> $\bar{X} = \frac{\sum X}{N} = \frac{4+6+8+15+25}{5} = \frac{58}{5} = 11.6$	1																
10	<p>The correct option is (b). If the value of coefficient of correlation is +1. It indicates that the correlation between two variables is perfect positive.</p>	1																
11	<p>An ogive curve is a smooth curve presented by plotting the frequency data on a graph. This curve represents the frequencies corresponding to lower limits or upper limits in the distribution of data.</p> <p>Less than ogive curve: In this method, frequencies are cumulated and presented in a graph corresponding to the upper limits of the classes in a frequency distribution. First, all the data are converted to less than cumulative frequency distribution as follows:</p> <table border="1" data-bbox="488 743 1156 1045"> <thead> <tr> <th>Capital (in lakh)</th> <th>Cumulative Frequency</th> </tr> </thead> <tbody> <tr> <td>Less than 20</td> <td>4</td> </tr> <tr> <td>Less than 40</td> <td>4 + 5 = 9</td> </tr> <tr> <td>Less than 60</td> <td>9 + 7 = 16</td> </tr> <tr> <td>Less than 80</td> <td>16 + 13 = 29</td> </tr> <tr> <td>Less than 100</td> <td>29 + 17 = 46</td> </tr> <tr> <td>Less than 120</td> <td>46 + 7 = 53</td> </tr> <tr> <td>Less than 140</td> <td>53 + 21 = 74</td> </tr> </tbody> </table> <p>This curve is drawn by plotting cumulative frequencies against the upper limit of the class intervals, and these points are joined to obtain the less than ogive curve.</p>  <p>Scale x-axis: 1 big square = 20 units y-axis: 1 big square 10 units</p>	Capital (in lakh)	Cumulative Frequency	Less than 20	4	Less than 40	4 + 5 = 9	Less than 60	9 + 7 = 16	Less than 80	16 + 13 = 29	Less than 100	29 + 17 = 46	Less than 120	46 + 7 = 53	Less than 140	53 + 21 = 74	3
Capital (in lakh)	Cumulative Frequency																	
Less than 20	4																	
Less than 40	4 + 5 = 9																	
Less than 60	9 + 7 = 16																	
Less than 80	16 + 13 = 29																	
Less than 100	29 + 17 = 46																	
Less than 120	46 + 7 = 53																	
Less than 140	53 + 21 = 74																	
12	<p>Given: Lowest value in the series (L) = 8 Highest value in the series (H) = 66 Range (R) = H - L Range (R) = 66 - 8 ∴ Range(R) = 58</p>	3																

	<p>Coefficient of range = $\frac{H - L}{H + L}$</p> <p>Coefficient of range = $\frac{66 - 8}{66 + 8}$</p> <p>Coefficient of range = $\frac{58}{74}$</p> <p>∴ Coefficient of range = 0.78</p> <p style="text-align: center;">OR</p> <p>Mean deviation is the arithmetic average of deviations of all the values taken from a statistical average value of the series (mean, median and mode), ignoring the signs of the deviations.</p> <p>Characteristics of mean deviation</p> <ul style="list-style-type: none"> • It is based on all items of the series. Hence it highly representative. • It ignores the plus and minus signs of deviations and it is considered as positive deviation. • It is simple and easy measure of dispersion. • It is mainly calculated either from mean or median but not the mode as its value is unspecified. 	
13	<p>Cost of living index increases from 120 to 210. Daily wages of a worker in a factory should increase to</p> $= \frac{70 \times 210}{120} = \text{Rs } 122.5$ <p>But, the daily wages of a worker in a factory increased to Rs 120. Thus, the worker did not gain and the real wages have decreased to</p> $= \frac{115 \times 120}{210} = \text{Rs } 65.71$ <p>The real wage of the worker is Rs 65.71 as compared to Rs 70 before the rise in the price.</p> <p style="text-align: center;">OR</p> <p>Following are the steps involved in the construction of index number on industrial production:</p> <ol style="list-style-type: none"> 1. Classification of industries: major industries are grouped under the following heads <ol style="list-style-type: none"> a) Mining b) Manufacturing c) Electricity 2. Choice of the Base year: The base year should be the year of economic stability and it should not be at much distance from the current year. 3. Data related to Industrial production: The data relating to the production of different industries are collected. 4. Weightage: 	4

	<p>Weights are assigned on the basis of relative importance of different industries. Weights are based on the values of net output of different industries, capital invested and their contribution to national income.</p> <p>5. Formula: Index number on industrial production is calculated using the formula</p> $\text{Index number} = \frac{\sum \left[\frac{q_1}{q_0} \times 100 \right] W}{\sum W}$ <p>Where: q_1 = Current year's quantity q_0 = Base year's quantity W = Weights</p>	
14	<p>Given: Mean wage of 100 workers ($\bar{X}_{1,2}$) = Rs 324 Mean wage of 60 workers (\bar{X}_1) = Rs 340 Mean wage of 40 workers (\bar{X}_2) = ? $N_1 = 60$ and $N_2 = 40$</p> <p>Combined Mean ($\bar{X}_{1,2}$) = $\frac{N_1\bar{X}_1 + N_2\bar{X}_2}{N_1 + N_2}$</p> $324 = \frac{(60 \times 340) + (40 \times \bar{X}_2)}{60 + 40}$ $324 = \frac{20400 + (40 \times \bar{X}_2)}{100}$ $324 \times 100 = 20400 + 40\bar{X}_2$ $32400 = 20400 + 40\bar{X}_2$ $40\bar{X}_2 = 32400 - 20400$ $40\bar{X}_2 = 12000$ $\therefore \boxed{\bar{X}_2 = 300}$ <p>Thus, average mean wage of 40 workers is Rs 300.</p>	4

15	<p>Given :</p> $\bar{X} = 58 \text{ marks}$ $N = 24 \text{ students}$ $\bar{X} = \frac{\sum X}{N}$ $\sum X = \bar{X} \times N$ $\sum X = 58 \times 24$ $\sum X = 1392$ <p>Correct $\sum X = 1392 - 75 + 85 = 1402$</p> $\text{Correct Mean } (\bar{X}) = \frac{\sum X}{N} = \frac{1402}{24}$ <p>\therefore $\text{Correct Mean } (\bar{X}) = 58.4 \text{ marks}$</p> <p>Thus, new mean is 58.4 marks.</p>	4																																										
16	<p>In the given data, the class intervals are equal, i.e. 10. Hence, it can be assumed that class intervals of open-end classes are also equal to 10. This implies that the lower limit of the first class-interval is zero (i.e. 0-10) and the upper limit of the last class interval is 50 (i.e. 40-50). Thus, mean can be calculated by arranging the frequency distribution.</p> <table border="1" data-bbox="337 1045 1325 1518"> <thead> <tr> <th>Age (in years) (X)</th> <th>No. of Workers (f)</th> <th>Mid-value (m) $\left(\frac{l_1 + l_2}{2}\right)$</th> <th>d = m - A (A = 25)</th> <th>$d' = \frac{m - A}{i}$ (i = 10)</th> <th>fd'</th> </tr> </thead> <tbody> <tr> <td>0-10</td> <td>6</td> <td>5</td> <td>-20</td> <td>-2</td> <td>-8</td> </tr> <tr> <td>10-20</td> <td>10</td> <td>15</td> <td>-10</td> <td>-1</td> <td>-10</td> </tr> <tr> <td>20-30</td> <td>12</td> <td>25 (A)</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>30-40</td> <td>14</td> <td>35</td> <td>10</td> <td>1</td> <td>14</td> </tr> <tr> <td>40-50</td> <td>8</td> <td>45</td> <td>20</td> <td>2</td> <td>16</td> </tr> <tr> <td></td> <td>$\sum f = 50$</td> <td></td> <td></td> <td></td> <td>$\sum fd' = 12$</td> </tr> </tbody> </table> $\bar{X} = A + \frac{\sum fd'}{\sum f} \times i$ $\bar{X} = 25 + \frac{12}{50} \times 10$ $\bar{X} = 25 + 0.24 \times 10$ $\bar{X} = 25 + 2.4$ <p>\therefore $\bar{X} = 27.4$</p> <p>Thus, average age of workers in a factory is 27.4 years.</p>	Age (in years) (X)	No. of Workers (f)	Mid-value (m) $\left(\frac{l_1 + l_2}{2}\right)$	d = m - A (A = 25)	$d' = \frac{m - A}{i}$ (i = 10)	fd'	0-10	6	5	-20	-2	-8	10-20	10	15	-10	-1	-10	20-30	12	25 (A)	0	0	0	30-40	14	35	10	1	14	40-50	8	45	20	2	16		$\sum f = 50$				$\sum fd' = 12$	6
Age (in years) (X)	No. of Workers (f)	Mid-value (m) $\left(\frac{l_1 + l_2}{2}\right)$	d = m - A (A = 25)	$d' = \frac{m - A}{i}$ (i = 10)	fd'																																							
0-10	6	5	-20	-2	-8																																							
10-20	10	15	-10	-1	-10																																							
20-30	12	25 (A)	0	0	0																																							
30-40	14	35	10	1	14																																							
40-50	8	45	20	2	16																																							
	$\sum f = 50$				$\sum fd' = 12$																																							

OR

X	Deviation ($x = X - \bar{X}$) $\bar{X} = 7$	Square of Deviation (x^2)	Y	Deviation ($y = Y - \bar{Y}$) $\bar{Y} = 9$	Square of Deviation (y^2)	Multiple of Deviations (xy)
6	-1	1	9	0	0	0
2	-5	25	11	2	4	-10
10	3	9	14	5	25	15
4	-3	9	8	-1	1	3
8	1	1	7	-2	4	-2
12	5	25	5	-4	16	-20
$\sum X = 42$	$\sum x = 0$	$\sum x^2 = 70$	$\sum Y = 54$	$\sum y = 0$	$\sum y^2 = 50$	$\sum xy = -14$

$$r = \frac{-\sum xy}{\sqrt{\sum x^2 \times \sum y^2}}$$

$$r = \frac{-14}{\sqrt{70 \times 50}}$$

$$r = \frac{-14}{\sqrt{3500}}$$

$$r = \frac{-14}{59.16}$$

$$\therefore \boxed{r = -0.23}$$

17

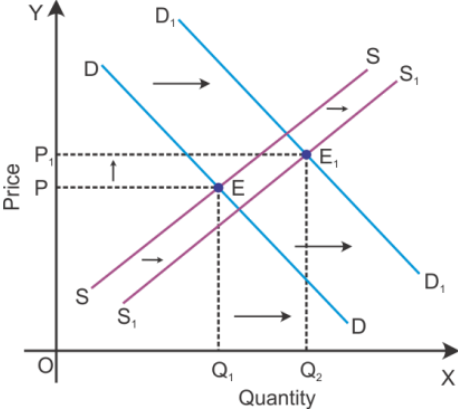
a. Samples provide better results than surveys because of the following reasons:

- i. **Less costly:** The sample method is less costly as only some items of the population are studied.
- ii. **Time saving:** This method saves a lot of time and energy of the investigator as fewer items of the population are studied.
- iii. **Easy identification of errors:** Errors under the sampling method can be easily identified and rectified as the number of items is small.
- iv. **Feasible for large population:** When the size of the population is large, the sampling method is feasible as the cost of conducting it is low.
- v. **Less non-sampling errors:** The number of non-sampling errors in the sampling method is less as a limited number of items are studied.

b.

6

	Univariate Frequency Distribution	Bivariate Frequency Distribution	
	The word 'Uni' refers to one.	The word 'Bi' refers to two.	
	This implies a series of statistical information representing the frequency distribution of one variable.	This implies a series of statistical information representing the frequency distribution of two variables such as production and sales of a particular product.	
	Examples: Marks of a Class VI student, income of an individual in a particular area	Example: Production and sales of a particular product	
Section B (Introductory Microeconomics)			
18	The correct option is (b). In the long run, if new firms are free to enter in the industry, then the firm's profit will be normal.		1
19	<p>The correct option is (c). The consumer equilibrium point is obtained when</p> $MRS_{XY} = \frac{P_X}{P_Y}$ <p>Hence, $\frac{P_X}{P_Y} = \frac{60}{30} = 2$</p> <p>Therefore, the value of MRS is equal to 2 in the state of equilibrium.</p>		1
20	The correct option is (d). Support price is an assured minimum price offered by the government to the farmers for the purchase of output. So market price is necessarily equal to or greater than support price.		1
21	<p>The correct option is (b). 0.6</p> <p>Price elasticity of demand (E_D)</p> $\Rightarrow \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$ $\Rightarrow E_D = -\frac{\Delta Q}{\Delta P} \times \frac{P_0}{Q_0}$ $\Rightarrow E_D = -\frac{-2}{1} \times \frac{6}{20} = 0.6$		1
22	<p>With an increase in output, AFC falls.</p> $AFC = \frac{TFC}{Q}$		1

23	<p>The correct option is (c). Perfect knowledge is one of the feature of perfect competition. Buyers and sellers are fully aware of the prevailing price in the market. They are also aware of the fact that homogeneous product is sold in the market.</p>	1
24	<p>The correct option is (a). At the point where MR is zero, TR is maximum. After this point, TR starts falling and MR becomes negative.</p> <p style="text-align: center;">OR</p> <p>The correct option is (b). Producer will be in equilibrium when MR=MC</p>	1
25	<p>The correct option is (b). When a good X reaches the point of satiety, the marginal utility of that good will be equal to zero. This is because the consumption of an additional unit of a good X causes no change in the total utility and it reaches maximum point at this level of consumption</p>	1
26	<p>The correct option is (a). A firm is a price taker under perfect competition market. As there are a large number of firms in perfect competition, no individual firm can influence the price. It takes the price as set by the industry.</p>	1
27	<p>Average Product will continue to rise when Marginal Product starts falling till Marginal Product is greater than Average Product.</p>	1
28	<p>According to utility analysis, a consumer is in equilibrium when</p> $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$ <p>When price of Good X falls, the ratio $\frac{MU_x}{P_x}$ increases so that $\frac{MU_x}{P_x} > \frac{MU_y}{P_y}$.</p> <p>To restore the equilibrium, the consumer would increase the consumption of Good X. With an increase in consumption, the marginal utility of Good X will increase. The consumer will continue to increase the consumption of Good X till $\frac{MU_x}{P_x}$ again becomes equal to $\frac{MU_y}{P_y}$.</p>	3
29	 <p>In the diagram, DD is the initial demand curve and SS is the initial supply curve. Point E is the initial equilibrium point where DD intersects SS. Correspondingly, OQ is the equilibrium quantity and OP is the equilibrium price. With the increase in demand, the demand curve shifts parallelly outwards to D'D'. On the other hand, with the increase in</p>	3

supply, the supply curve shifts parallelly outwards to $S'S'$. However, the increase in demand is more than the increase in supply. The new equilibrium is established at Point E' where $D'D'$ intersects $S'S'$. Here, both equilibrium price and equilibrium quantity have risen to OP_1 and OQ_1 , respectively.

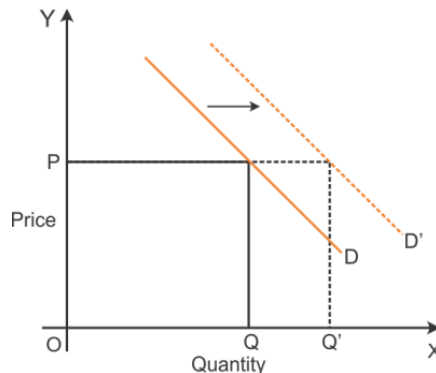
OR

Contraction of demand	Decrease in demand
Contraction of demand occurs due to change in the price of the commodity	Decrease in demand occurs due to change in factors other than price of the commodity
It is caused by increase in own price of the commodity.	It is caused by decrease in income, decrease in price of the substitute good, increase in the price of the complementary good and change in the taste and preferences of the consumers.
It is shown by upward movement along the demand curve.	It is shown by backward shift in the demand curve

30

Substitute goods refer to goods which can be consumed instead of each other. For example, tea and coffee are substitute goods. In case of substitute goods, the demand for a good shares a positive relation with the price of the substitute good.

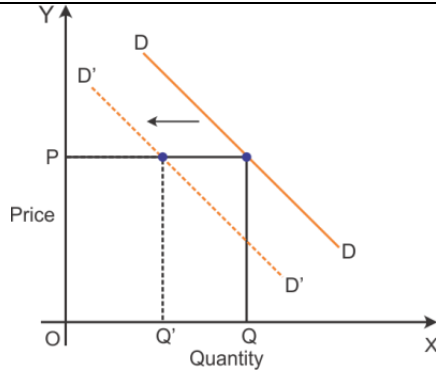
- i. **Increase in price of substitute good:** With an increase in the price of the substitute good, the demand of the concerned good increases. For example, with an increase in the price of coffee, the demand for tea increases.



According to the diagram, DD is the initial demand curve for tea. At price OP , OQ quantity of tea is demanded. With an increase in the price of coffee, the demand for tea increases. Accordingly, the demand curve for tea shifts parallelly rightwards to $D'D'$. Here, even at the existing price OP , the quantity demand of tea rises to OQ' .

- ii. **Fall in price of substitute good:** With a fall in the price of the substitute good, the demand of the concerned good falls. For example, with a fall in the price of coffee, the demand for tea increases.

4



According to the diagram, DD is the initial demand curve for tea. At price OP , OQ quantity of tea is demanded. With a fall in the price of coffee, the demand for tea falls. Accordingly, the demand curve for tea shifts parallelly leftwards to $D'D'$. Here, even at the existing price OP , the quantity demand of tea falls to OQ' .

31

<i>Output</i>	<i>Average Cost</i>	<i>Marginal Cost</i>	<i>Total Cost</i>
1	5	-	5
2	3	1	6
3	5	9	15
4	7	13	28
5	9	17	45

4

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This problem relates to what goods and services are to be produced and in what quantities. In every economy, the resources are limited. Accordingly, a choice must be made between various goods and services. Specifically, a choice must be made between consumer goods and capital goods. As both goods are necessary, a choice must be made with respect to the quantity of the goods which are to be produced. Producing more of one good would imply producing less of the other. Producing more of consumer goods improves the quality of life of the present generation; on the other hand, producing more of capital goods would improve the production capacity for the future. A suitable choice must be made keeping in mind the various factors.

In a market economy, the answer to the question of what to produce is determined by the profit motive. Goods and services which have a greater demand and command a greater price in the market are produced.

OR

Basis	Positive Economics	Normative economics
Meaning	Studies with what is or how the economic problem are originally solved.	Studies with what ought or how the economic problem should be solved.

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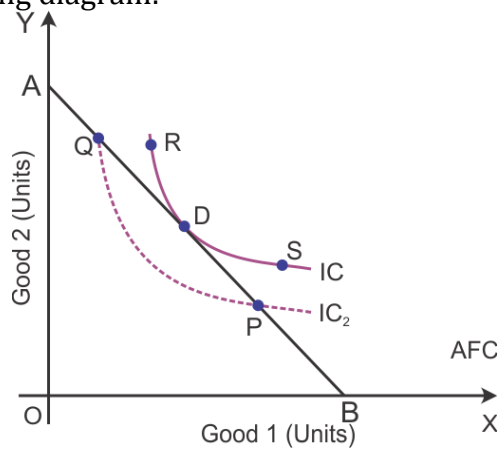
	<table border="1"> <tr> <td>Validity</td> <td>It can be verified with original data.</td> <td>It cannot be verified with original data.</td> </tr> <tr> <td>Aim</td> <td>It aims to provide original description of an economic activity.</td> <td>It aims to determine the principles.</td> </tr> <tr> <td>Suggestive</td> <td>It is based on set of collected facts.</td> <td>It is based on opinion of the individual.</td> </tr> <tr> <td>Example</td> <td>Prices and inequalities of income level in an economy.</td> <td>Government should generate more employment opportunities.</td> </tr> </table>	Validity	It can be verified with original data.	It cannot be verified with original data.	Aim	It aims to provide original description of an economic activity.	It aims to determine the principles.	Suggestive	It is based on set of collected facts.	It is based on opinion of the individual.	Example	Prices and inequalities of income level in an economy.	Government should generate more employment opportunities.							
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33	<p>According to the MR-MC approach, a producer strikes equilibrium at the point where the following two conditions are met</p> <ol style="list-style-type: none"> MR is equal to MC MC is rising <p>This can be understood with the help of the following example.</p> <table border="1"> <thead> <tr> <th><i>Output (units)</i></th> <th><i>Marginal Revenue (Rs)</i></th> <th><i>Marginal Cost (Rs)</i></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>5</td> <td>10</td> </tr> <tr> <td>2</td> <td>5</td> <td>5</td> </tr> <tr> <td>3</td> <td>5</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>5</td> </tr> <tr> <td>5</td> <td>5</td> <td>9</td> </tr> </tbody> </table> <p>The two conditions of equilibrium are met when 4 units of output are produced. At this point, MR and MC are equal to 5, and the producer maximises profits.</p> <p>MR is equal to MC at 2 units of output as well. However, at this point, MC is falling. So, this is not the equilibrium point.</p> <p style="text-align: center;">OR</p> <p>According to the indifference curve analysis, the consumer's equilibrium is struck at the point where the following two conditions are met:</p> <ol style="list-style-type: none"> MRS is equal to price ratio, i.e. $MRS = \frac{P_x}{P_y}$ Indifference curve is convex to the origin at the point of equilibrium <p>Condition 1</p> <p>MRS is equal to price ratio: MRS is the slope of the indifference curve and the price ratio is the slope of the budget line. So, at the point of equilibrium, MRS equals price ratio which implies that the indifference curve is tangent to the budget line. At this point, the rate at which the</p>	<i>Output (units)</i>	<i>Marginal Revenue (Rs)</i>	<i>Marginal Cost (Rs)</i>	1	5	10	2	5	5	3	5	3	4	5	5	5	5	9	6
<i>Output (units)</i>	<i>Marginal Revenue (Rs)</i>	<i>Marginal Cost (Rs)</i>																		
1	5	10																		
2	5	5																		
3	5	3																		
4	5	5																		
5	5	9																		

consumer is willing to substitute one good for the other is equal to the actual rate of substitution as defined by the market price. At all other points on the budget line other than the tangency point, the consumer receives a lower satisfaction.

Condition 2

At the point of tangency of the budget line and the indifference curve, the indifference curve must be convex to the origin, i.e. the MRS must fall. In other words, for every additional unit increase in consumption of one good, the consumer must be willing to sacrifice less and less units of the other good. That is the law of diminishing marginal utility must be followed.

The two conditions of consumer equilibrium can be understood with the help of the following diagram:



In the diagram, AB is the budget line. It represents the various combinations of two goods which are available to the consumer given his income and the prices of the two goods. The slope of the budget line is the price ratio which shows how much units of one good must be sacrificed by the consumer to increase the consumption of the other good by one unit.

IC is the indifference curve. It shows the various combinations of two goods, the consumption of which provides consumers the same level of satisfaction. The slope of IC is the MRS which shows how many units of one good the consumer is willing to sacrifice to increase consumption of the other good by one unit.

Point E is the point of equilibrium where IC is tangent to the budget line AB.

At all other points on the budget line other than the tangency point, the consumer receives a lower satisfaction.

For instance at Point P and Point F, the consumer is on a lower IC, thereby at a lower satisfaction level.

Similarly, at all the other points on the IC, the consumer is not at equilibrium. For instance at Point R, $MRS > \frac{P_x}{P_y}$. So, the consumer can

increase satisfaction by substituting more of Good X for Good Y. That is, he moves down along the IC till MRS equals price ratio again at Point E.

	<p>Similarly, at Point S, $MRS < \frac{P_x}{P_y}$. So, the consumer can increase satisfaction by substituting more of Good Y for Good X. That is, he moves up along the IC till MRS equals price ratio again at Point E.</p> <p>Thus, Point E is the point of equilibrium. A rational consumer would not wish to move away from this point.</p>	
34	<p>a. Large number of buyers and sellers: Under a perfect competition market, there are a large number of buyers and sellers such that each individual buyer or each individual seller constitutes only a small proportion of the total market. Consequently, no individual firm or individual buyer can influence the price in the market by altering the supply or demand of the commodity. This implies that in a perfect competition market, the price remains constant as determined by the industry. An individual firm is only a price taker.</p> <p>b. Free entry and exit: Under perfect competition, there is free entry and exit of firms. While new firms can enter the market, existing firms can leave the market.</p> <p>c. Homogenous product: In a perfectly competitive market, firms produce homogenous goods. Homogeneity of a product means that one unit of the good is a perfect substitute for another as there is no difference in the products.</p>	6