

SET**A**

**INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2022**

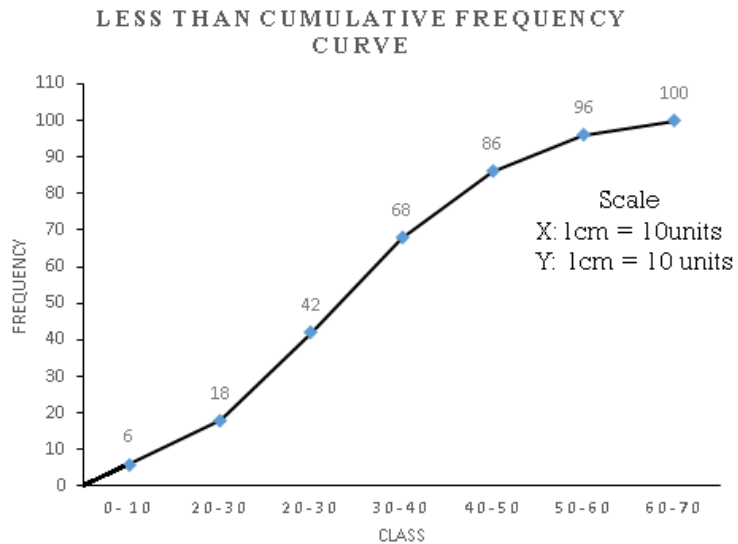
CLASS: XI

ECONOMICS (030)

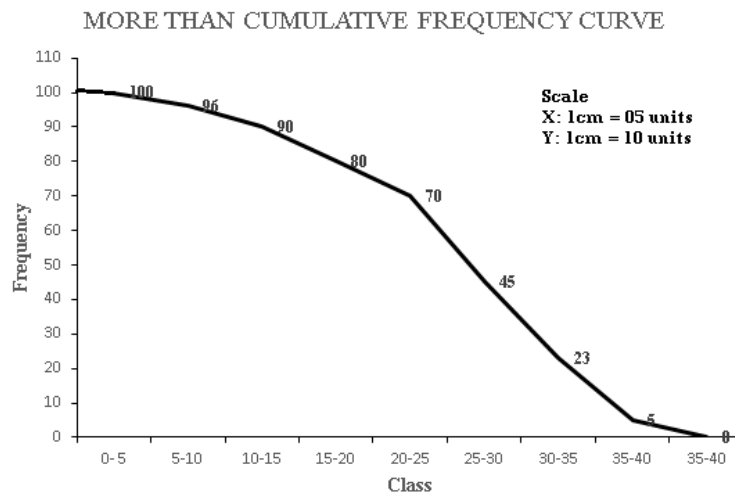
Max. Marks: 80

Q. No	VALUE POINTS	MARKS SPLIT UP
1	Distribution	1- Mark
2	Presentation, interpretation	1- Mark
3	(C) Secondary data OR (A) Primary data	1- Mark
4	(B) They are difficult to interpret and hard to score.	1- Mark
5	True OR False	1- Mark
6	(D) The class midpoints	1- Mark
7	Raw data	1- Mark
8	(A) Chronological Classification	1- Mark
9	(C) Class mark	1- Mark
10	(A) Arithmetic Mean OR (B) The simple average of these two middle values	1- Mark
11	<ol style="list-style-type: none"> 1. It presents facts in a definite form. 2. It helps in condensing mass data into a few numerical measures (such as mean, variance etc.) 3. It facilitates comparison. 4. It helps in prediction. 5. It helps in the formulation of plans and policies. 	Any three 1 X 3 = 3 - Marks

12



OR



1-Mark for conversion to less than
2 – Marks for Construction of Ogive

Check for Scale, Labelling and Neatness.

13

1. Primary data
2. False
3. 10 years
4. (A) Census of India and NSSO

1 X 4 = 4 - Marks

14

S.N.	Marks (x)	Assumed Mean (A)	dx (x-A)
1	15		- 25
2	20		- 20
3	30		- 10
4	22		- 18
5	25		- 15
6	18		-22
7	40	40	0
8	50		10
9	55		15
10	65		25
N= 10	Σx= 340		Σdx= - 60

Direct Method

2-Marks – Direct Method formula
1 Mark – finding $\sum x$ & N
1 – Mark substitution of values & Final answer

2 – Marks – Assumed mean Method
1-Mark – formula
1 Mark –

$$\bar{X} = \frac{\Sigma x}{N} = \frac{340}{10} = 34 \qquad \bar{X} = \mathbf{34}$$

Assumed Mean Method

$$\bar{X} = A + \frac{\Sigma dx}{N} = 40 + \frac{-60}{10} = 40 - 6 \quad \bar{X} = 34$$

OR

Marks	No. of students (f)	Mid-value (X)	dx (X-A)	fdx
0-10	3	5	- 30	-90
10-20	8	15	- 20	-160
20-30	8	25	- 10	-80
30-40	10	A----- 35	0	0
40-50	7	45	10	70
50-60	5	55	20	100
60-70	5	65	30	150
70-80	4	75	40	160
	$\Sigma f = 50$			$\Sigma fx = 150$

Arithmetic mean (Assumed mean method)

$$\bar{X} = A + \frac{\Sigma dfx}{\Sigma f} = 35 + \frac{150}{50} = 35 + 3 = 38 \quad \bar{X} = 38$$

Arithmetic mean = 38

finding dx
and $\sum dx$

1 – Mark
Formula
1 Mark –
finding dx
and $\sum fx$
1 – Mark
substitution
of values
1- Mark –
Final answer

15

Marks	No. of students (f)	cf
0-10	6	6
10-20	16	22
20-30	16	38
30-40	20	58
40-50	14	72
50-60	10	82
60-70	10	92
70-80	8	100

Median

$$M = \left(\frac{N}{2}\right) \text{th term} = \left(\frac{100}{2}\right) \text{th term} = 50\text{th term}$$

Median Class = 30-40

$$M = l_1 + \frac{\frac{N}{2} - cf}{f} \times i = 30 + \frac{50 - 38}{20} \times 10$$

Median = 36

1-Mark – formula	
1 Mark – finding cf	
1 – Mark substitution of values	
1- Mark – Final answer	

16

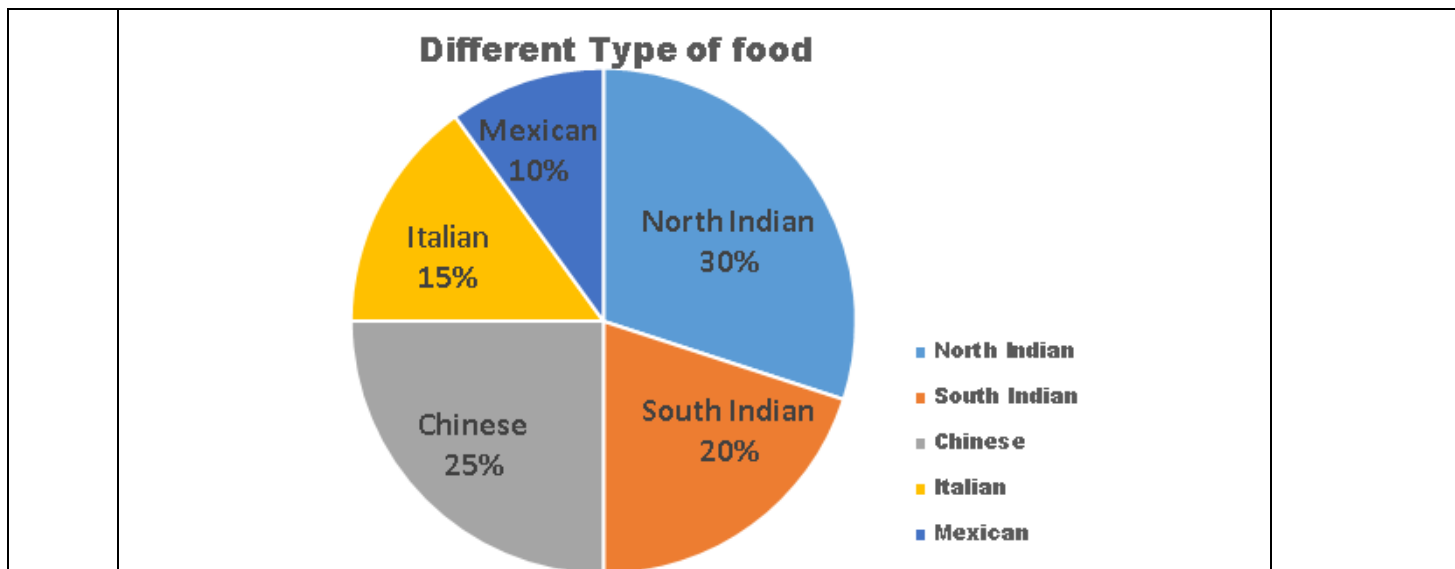
A continuous variable can take any numerical value. It may take integral values (1, 2, 3, 4, ...), fractional values ($1/2$, $2/3$, $3/4$, ...), and values that are not exact fractions ($\sqrt{2} = 1.414\dots$), etc.

A discrete variable can take only certain values. Its value changes only by finite “jumps”. It “jumps” from one value to another but does not take any intermediate value between them.

2 – Marks for continuous

2 – Mark for Discrete

	<table><tr><th>Variable</th><th>Tally bars</th><th>Frequency</th></tr><tr><td>15</td><td> </td><td>14</td></tr><tr><td>16</td><td> </td><td>18</td></tr><tr><td>17</td><td> </td><td>10</td></tr><tr><td>18</td><td> </td><td>6</td></tr><tr><td>19</td><td> </td><td>2</td></tr><tr><td></td><td></td><td>$\Sigma f = 50$</td></tr></table> <p style="text-align: center;">OR</p> <p>Inclusive class intervals In this case, values equal to the lower and upper limits of a class are included in the frequency of that same class. Both the upper and the lower class limits are included in the Inclusive Method.</p> <p>Exclusive class intervals In this case, the value equal to either the upper or the lower class limit is excluded from the frequency of that class. Either the upper class limit or the lower class limit is excluded in the Exclusive Method.</p> <table><tr><th>Class Intervals</th><th>Tally bars</th><th>Frequency</th></tr><tr><td>1 – 6</td><td> </td><td>11</td></tr><tr><td>7 – 12</td><td> </td><td>9</td></tr><tr><td>13 – 18</td><td> </td><td>10</td></tr><tr><td>19 – 24</td><td> </td><td>5</td></tr><tr><td>25 – 30</td><td> </td><td>6</td></tr><tr><td>31 – 36</td><td> </td><td>3</td></tr><tr><td></td><td></td><td>$\Sigma f = 44$</td></tr></table>	Variable	Tally bars	Frequency	15		14	16		18	17		10	18		6	19		2			$\Sigma f = 50$	Class Intervals	Tally bars	Frequency	1 – 6		11	7 – 12		9	13 – 18		10	19 – 24		5	25 – 30		6	31 – 36		3			$\Sigma f = 44$	<p>2 Marks for Tally bars and frequency</p> <p>1 – Mark for Inclusive</p> <p>1 – Mark for Exclusive</p> <p>2 – Marks for Class intervals</p> <p>2 Marks for Tally bars and frequency</p>
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		$\Sigma f = 44$																																													
17	<p>Pie diagram is a circle divided into various segments showing the percent values of a data series. It is also known as sector diagram.</p> <table><tr><th>Type of food</th><th>No. of people</th><th>% of people</th><th>Angle on Pie</th></tr><tr><td>North Indian</td><td>150</td><td>30%</td><td>108°</td></tr><tr><td>South Indian</td><td>100</td><td>20%</td><td>72°</td></tr><tr><td>Chinese</td><td>125</td><td>25%</td><td>90°</td></tr><tr><td>Italian</td><td>75</td><td>15%</td><td>54°</td></tr><tr><td>Mexican</td><td>50</td><td>10%</td><td>36°</td></tr><tr><td></td><td>500</td><td>100 %</td><td>360°</td></tr></table>	Type of food	No. of people	% of people	Angle on Pie	North Indian	150	30%	108°	South Indian	100	20%	72°	Chinese	125	25%	90°	Italian	75	15%	54°	Mexican	50	10%	36°		500	100 %	360°	<p>2 Marks for Pie Diagram definition</p> <p>2 Marks - Conversion of data as % and Angle on Pie</p> <p>2 Marks for construction of pie diagram.</p> <p>Check Labelling, title and proper construction.</p>																	
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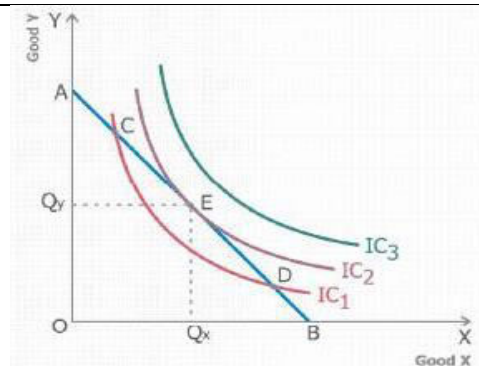
PART – B: INTRODUCTORY MICROECONOMICS (40 Marks)

18	(B) Scarcity of economic resources OR (A) Economic behaviour of individual economic decision making units	1- Mark
19	(C) Relative prices and availability of factor of production	1- Mark
20	(B) It shows various combination of two goods which an economy can produce with a given amount of resources	1- Mark
21	(D) Assertion is false but Reason is true	1- Mark
22	(B) 25 utils	1- Mark
23	(A) Inverse	1- Mark
24	(A) Substitutes OR (B) Complements	1- Mark
25	(C) A change in quantity demanded. OR (B) Distribution of Income	1- Mark
26	(B) Greater application of variable factors	1- Mark
27	(C) Average product	1- Mark
28	When resources are shifted from the production of one good to the production of the other good, marginal opportunity cost rises because resources are use specific. When resources are shifted from their specialized use, efficiency will suffer as loss of output on one good for every additional unit of output of the other good produced. Hence MOC rises.	3-Marks for the explanation. Can use example also for explanation.
29		1½ - Marks for Average

		Units of labour	TP of labour	AP	MP	
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	<table><tr><td>1</td><td>20</td><td>20</td><td>20</td></tr><tr><td>2</td><td>36</td><td>18</td><td>16</td></tr><tr><td>3</td><td>48</td><td>16</td><td>12</td></tr><tr><td>4</td><td>56</td><td>14</td><td>8</td></tr><tr><td>5</td><td>60</td><td>12</td><td>4</td></tr><tr><td>6</td><td>60</td><td>10</td><td>0</td></tr><tr><td>7</td><td>56</td><td>8</td><td>-4</td></tr></table> <p style="text-align: center;">OR</p> <table><tr><td>Units of labour</td><td>TP of labour</td><td>AP</td><td>MP</td></tr><tr><td>1</td><td>3</td><td>3</td><td>3</td></tr><tr><td>2</td><td>8</td><td>4</td><td>5</td></tr><tr><td>3</td><td>15</td><td>5</td><td>7</td></tr><tr><td>4</td><td>21</td><td>5.25</td><td>6</td></tr><tr><td>5</td><td>24</td><td>4.8</td><td>3</td></tr><tr><td>6</td><td>25</td><td>4.16</td><td>1</td></tr></table>	1	20	20	20	2	36	18	16	3	48	16	12	4	56	14	8	5	60	12	4	6	60	10	0	7	56	8	-4	Units of labour	TP of labour	AP	MP	1	3	3	3	2	8	4	5	3	15	5	7	4	21	5.25	6	5	24	4.8	3	6	25	4.16	1	<p>Product 1½ - Marks for Marginal Product</p> <p>1½ - Marks for Total Product 1½ - Marks for Average Product</p>
1	20	20	20																																																							
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5	24	4.8	3																																																							
6	25	4.16	1																																																							
30	<p>Production possibility curve is drawn on the assumption that the given resources are fully and efficiently employed.</p> <p>Due to the earthquake, production facilities are destroyed, which implies loss of productive resources. This will cause the PPC to shift to the left</p> <div></div>	<p>2 Marks – Explanation 2 – Marks diagram</p> <p>2 + 2 = 4 Marks</p>																																																								
31	<p>1. (D) The prices of goods and the income of consumer</p> <p>2. Giffen goods</p> <p>3. Negative</p> <p>4. (B) Leftward shift of the demand curve</p>	<p>1 X 4 = 4 Marks</p>																																																								
32	<p>Good - X %ΔP = 5%, %ΔQ = 10%</p> $Ep_x = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}} = \frac{-10\%}{-5\%} = 2$ <p>Ep_x = 2</p> <p>Good – Y %ΔP = 20%, %ΔQ = - 10%</p> $Ep_y = \frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}} = \frac{-10\%}{20\%} = 0.5$ <p>Ep_y = 0.5 Good X is more elastic since Ep_x > Ep_y</p>	<p>1-Mark Formula 1-Mark Substitution of values 1- mark – final answer 1- mark – Type of elasticity</p>																																																								

	<p style="text-align: center;">OR</p> <p>Suppose original price to be ₹ ‘p’ per unit. ΔQ = 3 units, ΔP = - 1 Q = 30. Given Ep = - 1.5</p> <table border="1"><thead><tr><th>Price (₹)</th><th>Quantity (units)</th></tr></thead><tbody><tr><td>P</td><td>30</td></tr><tr><td></td><td>33 (30 + 3)</td></tr></tbody></table> <p>$E_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} = -1.5 = \frac{3}{-1} \times \frac{P}{30}$ $= 3P = 45 = \frac{45}{3} = 15 \quad P = 15$ Original Price P = ₹ 15 per unit</p>	Price (₹)	Quantity (units)	P	30		33 (30 + 3)	<p>1-Mark Formula 2-Marks - Substitution of values and calculation 1- mark – final answer</p>
Price (₹)	Quantity (units)							
P	30							
	33 (30 + 3)							
33	<p>The Law of Equi-marginal utility states that the consumer will get maximum satisfaction if the marginal utility of the last rupee of expenditure on each good is the same.</p> <p>Suppose a consumer consumes only two goods. Let these goods be X and Y. The consumer is in equilibrium when he allocates his income in two goods X and Y in such a manner that he derives maximum satisfaction. Given the consumer’s income and prices of the two goods (Px and Py):</p> <p>The necessary condition for the consumer to be in equilibrium in case of equi-marginal utility will be:</p> <p style="text-align: center;">$\frac{MU_x}{MU_y} = \frac{P_x}{P_y} = \text{MU of the last rupee spent on each good}$</p> <p>If $\frac{MU_x}{MU_y} > \frac{P_x}{P_y}$ the consumer will not be in equilibrium. The satisfaction derived by consuming Commodity X is greater than the satisfaction derived by consuming Commodity Y. The consumer will reallocate his income by spending more on commodity X. Buying more of X reduces MUx. Px remaining unchanged $\frac{MU_x}{P_x}$ also reduces.</p> <p>If $\frac{MU_x}{MU_y} < \frac{P_x}{P_y}$ the consumer will not be in equilibrium. The satisfaction derived by consuming Commodity Y is greater than the satisfaction derived by consuming Commodity X. The consumer will reallocate his income by spending more on commodity Y. Buying more of Y reduces MUy. Py remaining unchanged $\frac{MU_y}{P_y}$ also reduces.</p> <p style="text-align: center;">OR</p> <p>Consumer’s equilibrium means maximum satisfaction level of the consumer, given his money income and prices of the two goods in the market.</p> <p>The two conditions of consumer’s equilibrium under Indifference Curve Analysis (Ordinal Utility Analysis) are:</p> <ol style="list-style-type: none">1. Marginal Rate of Substitution (MRS) and Price Ratio must be equal, i.e. $MRS = \frac{P_x}{P_y}$2. MRS must be diminishing as consumption of good X increases. <p>Diagrammatically, the two conditions of consumer’s equilibrium under indifference curve analysis are:</p>	<p>2- Marks for the two conditions 2 – Marks for the diagram 2 – Marks for the explanation</p> <p>2- Marks for the two conditions 2 – Marks for the diagram 2 – Marks for the explanation</p>						



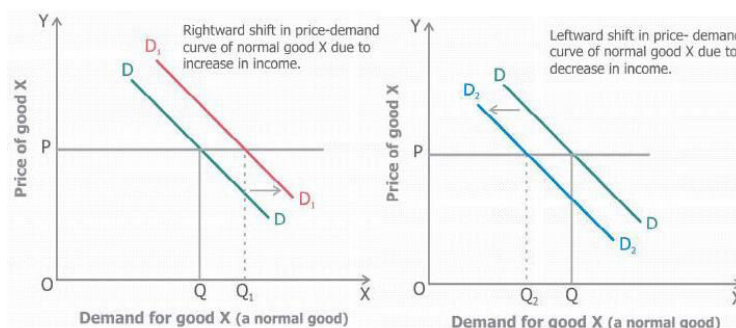
1. Budget line is tangential to a particular indifference Curve at a unique combination of the two goods. It is because if the budget line is tangent to an indifference curve at a point, the slope of the indifference curve and the slope of budget line are equal (i.e., $MRS = P_x/P_y$) at that point.
2. The indifference curve is strictly convex to the origin at equilibrium. This is because MRS diminishes as consumption of good X increases.

34

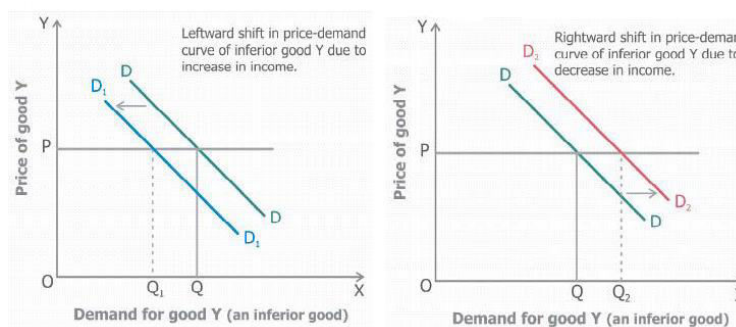
Change in income of the consumer.

The effect of change in income on demand for a good depends on whether it is a normal good or an inferior good.

Normal good is any good whose demand increases as the consumer's income increases, and decreases as the consumer's income decreases.



Inferior good is any good whose demand falls as the consumer's income increases, and as the consumer's income decreases, the demand for it rises.



Change in prices of related goods

Related goods are either substitutes or complements.

Substitute goods are those goods which can be used in place of one another, for satisfaction of a particular want. An increase in price of a substitute good makes the given good relatively cheaper and vice versa

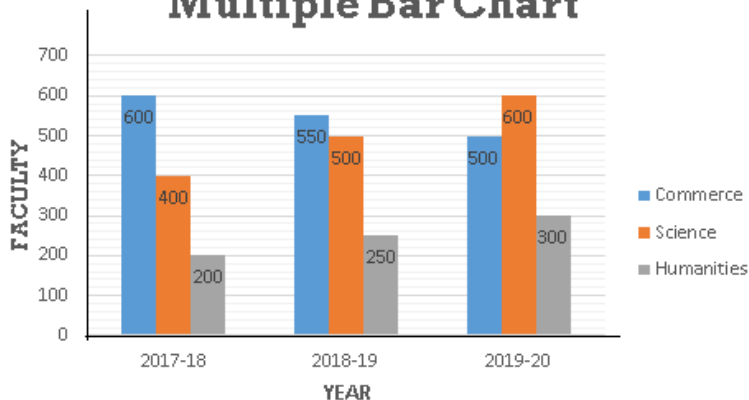
Complementary goods are those goods which are consumed (or used) jointly/together to satisfy a given want. An increase in price of the complementary good reduces its demand, which in turn decreases the demand for the given good at the same price.

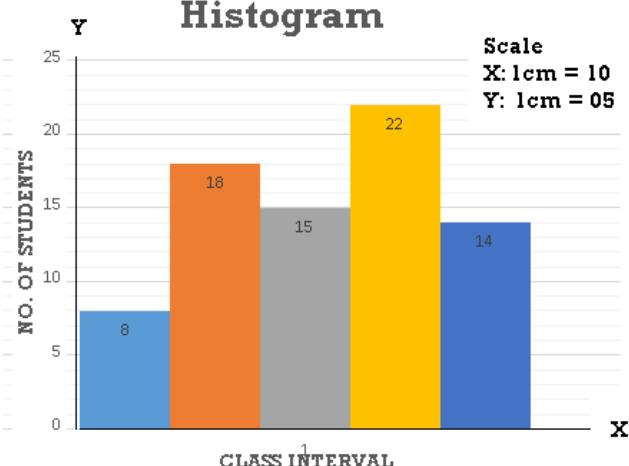
3 – Marks –
change in
income
3 – Marks –
Change in
prices of
related goods

SET**B**

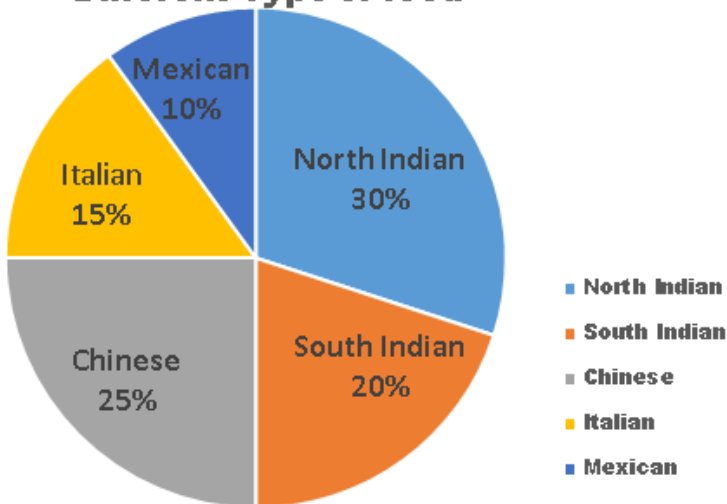
**INDIAN SCHOOL MUSCAT
HALF YEARLY EXAMINATION 2022**

CLASS: XI**ECONOMICS (030)****Max. Marks: 80**

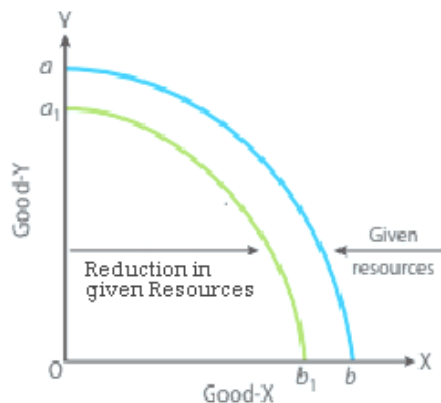
SET	VALUE POINTS	MARKS SPLIT UP
1	(A) Arithmetic Mean OR (B) The simple average of these two middle values	1- Mark
2	(A) Chronological Classification	1- Mark
3	Raw data	1- Mark
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5	Presentation, interpretation	1- Mark
6	(C) Secondary data OR (A) Primary data	1- Mark
7	(D) The class midpoints	1- Mark
8	True OR False	1- Mark
9	(B) They are difficult to interpret and hard to score.	1- Mark
10	(C) Class mark	1- Mark
11	<p style="text-align: center;">Multiple Bar Chart</p>  <p style="text-align: center;">OR</p>	<p>2 – Marks for Construction</p> <p>1 Mark for Check for Scale, Labelling and Neatness.</p>

	<p style="text-align: center;">Histogram</p>  <p style="text-align: right;">Scale X: 1cm = 10 Y: 1cm = 05</p>	<p>2 – Marks for Construction</p> <p>1 Mark for Check for Scale, Labelling and Neatness.</p>																											
12	<ol style="list-style-type: none"> 1. It presents facts in a definite form. 2. It helps in condensing mass data into a few numerical measures (such as mean, variance etc.) 3. It facilitates comparison. 4. It helps in prediction. 5. It helps in the formulation of plans and policies. 	<p>Any three 1 X 3 = 3 - Marks</p>																											
13	<p style="text-align: center;">Calculate Median</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Age (in years)</th><th>No. of persons</th><th>cf</th></tr> </thead> <tbody> <tr><td>20-25</td><td>50</td><td>50</td></tr> <tr><td>25-30</td><td>70</td><td>120</td></tr> <tr><td>30-35</td><td>100</td><td>220</td></tr> <tr><td>35-40</td><td>180</td><td>400</td></tr> <tr><td>40-45</td><td>150</td><td>550</td></tr> <tr><td>45-50</td><td>120</td><td>670</td></tr> <tr><td>50-55</td><td>70</td><td>740</td></tr> <tr><td>55-60</td><td>60</td><td>800 N</td></tr> </tbody> </table> <p>Median</p> $M = \left(\frac{N}{2}\right)^{\text{th}} \text{ term} = \left(\frac{800}{2}\right)^{\text{th}} \text{ term} = 400^{\text{th}} \text{ term}$ <p>Median Class = 35-40</p> $M = l_1 + \frac{\frac{N}{2} - cf}{f} \times i = 35 + \frac{400 - 220}{180} \times 5 = 35 + 5 = 40$ <p>Median = 40</p>	Age (in years)	No. of persons	cf	20-25	50	50	25-30	70	120	30-35	100	220	35-40	180	400	40-45	150	550	45-50	120	670	50-55	70	740	55-60	60	800 N	<p>1-Mark – formula 1 Mark – finding cf 1 – Mark substitution of values 1- Mark – Final answer</p>
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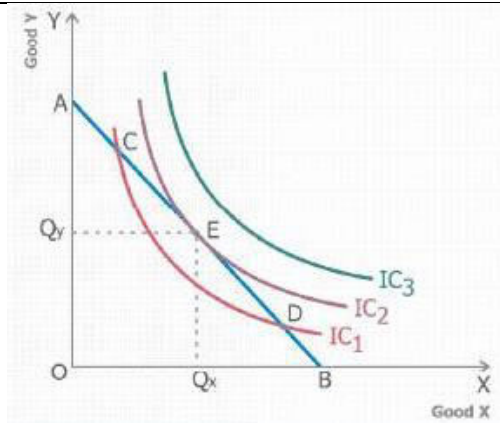
15	<table><tr><th>S.N.</th><th>Marks (x)</th><th>Assumed Mean (A)</th><th>dx (x-A)</th></tr><tr><td>1</td><td>15</td><td></td><td>- 25</td></tr><tr><td>2</td><td>20</td><td></td><td>- 20</td></tr><tr><td>3</td><td>30</td><td></td><td>- 10</td></tr><tr><td>4</td><td>22</td><td></td><td>- 18</td></tr><tr><td>5</td><td>25</td><td></td><td>- 15</td></tr><tr><td>6</td><td>18</td><td></td><td>-22</td></tr><tr><td>7</td><td>40</td><td>40</td><td>0</td></tr><tr><td>8</td><td>50</td><td></td><td>10</td></tr><tr><td>9</td><td>55</td><td></td><td>15</td></tr><tr><td>10</td><td>65</td><td></td><td>25</td></tr><tr><td>N= 10</td><td>Σx= 340</td><td></td><td>Σdx= - 60</td></tr></table>	S.N.	Marks (x)	Assumed Mean (A)	dx (x-A)	1	15		- 25	2	20		- 20	3	30		- 10	4	22		- 18	5	25		- 15	6	18		-22	7	40	40	0	8	50		10	9	55		15	10	65		25	N= 10	Σx= 340		Σdx= - 60	<p>2-Marks – Direct Method formula 1 Mark – finding Σx & N 1 – Mark substitution of values & Final answer</p> <p>2 – Marks – Assumed mean Method 1-Mark – formula 1 Mark – finding dx and Σdx</p>	
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	N= 10	Σx= 340		Σdx= - 60																																															
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16	<p>Pie diagram is a circle divided into various segments showing the percent values of a data series. It is also known as sector diagram.</p>			2 Marks for Pie Diagram definition 2 Marks - Conversion of data as % and Angle on Pie 2 Marks for construction of pie																																															
	<table><tr><th>Type of food</th><th>No. of people</th><th>% of people</th><th>Angle on Pie</th></tr><tr><td>North Indian</td><td>150</td><td>30%</td><td>108°</td></tr><tr><td>South Indian</td><td>100</td><td>20%</td><td>72°</td></tr><tr><td>Chinese</td><td>125</td><td>25%</td><td>90°</td></tr><tr><td>Italian</td><td>75</td><td>15%</td><td>54°</td></tr><tr><td>Mexican</td><td>50</td><td>10%</td><td>36°</td></tr><tr><td></td><td>500</td><td>100%</td><td>360°</td></tr></table>	Type of food	No. of people		% of people	Angle on Pie	North Indian	150	30%	108°	South Indian	100	20%	72°	Chinese	125	25%	90°	Italian	75	15%	54°	Mexican	50	10%	36°		500	100%	360°																					
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	<p style="text-align: center;">Different Type of food</p>  <p> ■ North Indian ■ South Indian ■ Chinese ■ Italian ■ Mexican </p>	<p>diagram.</p> <p>Check Labelling, title and proper construction.</p>																																																			
17	<p>A continuous variable can take any numerical value. It may take integral values (1, 2, 3, 4, ...), fractional values ($\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, ...), and values that are not exact fractions ($\sqrt{2} = \sqrt{1.414}$), etc.</p> <p>A discrete variable can take only certain values. Its value changes only by finite “jumps”. It “jumps” from one value to another but does not take any intermediate value between them.</p> <table border="1"> <thead> <tr> <th>Variable</th><th>Tally bars</th><th>Frequency</th></tr> </thead> <tbody> <tr> <td>15</td><td> </td><td>14</td></tr> <tr> <td>16</td><td> </td><td>18</td></tr> <tr> <td>17</td><td> </td><td>10</td></tr> <tr> <td>18</td><td> </td><td>6</td></tr> <tr> <td>19</td><td> </td><td>2</td></tr> <tr> <td></td><td></td><td>$\Sigma f = 50$</td></tr> </tbody> </table> <p style="text-align: center;">OR</p> <p>(a) Chronological classification: The raw data grouped according to time. Such a classification is known as a Chronological Classification. Data is classified either in ascending or in descending order with reference to time such as years, quarters, months, weeks, etc.</p> <p>(b) Spatial classification: Data classified with reference to geographical locations such as countries, states, cities, districts, etc.</p> <table border="1"> <thead> <tr> <th>Variable</th><th>Tally bars</th><th>Frequency</th></tr> </thead> <tbody> <tr> <td>15 - 20</td><td> </td><td>4</td></tr> <tr> <td>20 - 25</td><td> </td><td>4</td></tr> <tr> <td>25 - 30</td><td> </td><td>10</td></tr> <tr> <td>30 - 35</td><td> </td><td>8</td></tr> <tr> <td>35 - 40</td><td> </td><td>5</td></tr> <tr> <td>40 - 45</td><td> </td><td>9</td></tr> <tr> <td>45 - 50</td><td> </td><td>3</td></tr> <tr> <td>50 - 55</td><td> </td><td>3</td></tr> <tr> <td></td><td></td><td>$\Sigma f = 40$</td></tr> </tbody> </table>	Variable	Tally bars	Frequency	15		14	16		18	17		10	18		6	19		2			$\Sigma f = 50$	Variable	Tally bars	Frequency	15 - 20		4	20 - 25		4	25 - 30		10	30 - 35		8	35 - 40		5	40 - 45		9	45 - 50		3	50 - 55		3			$\Sigma f = 40$	<p>1 – Mark for Inclusive</p> <p>1 – Mark for Exclusive</p> <p>2 – Marks for Class intervals</p> <p>2 Marks for Tally bars and frequency</p>
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PART – B: INTRODUCTORY MICROECONOMICS (40 Marks)																																																														
18	(C) Average product	1- Mark																																																												
19	(C)A change in quantity demanded. OR (B) Distribution of Income	1- Mark																																																												
20	(A) Substitutes OR (B) Complements	1- Mark																																																												
21	(B) Scarcity of economic resources OR (A) Economic behaviour of individual economic decision making units	1- Mark																																																												
22	(C) Relative prices and availability of factor of production	1- Mark																																																												
23	(B) It shows various combination of two goods which an economy can produce with a given amount of resources	1- Mark																																																												
24	(A) Inverse	1- Mark																																																												
25	(B) Greater application of variable factors	1- Mark																																																												
26	(D) Assertion is false but Reason is true	1- Mark																																																												
27	(B) 25 utils	1- Mark																																																												
28	<table><tr><td>Units of labour</td><td>TP of labour</td><td>AP</td><td>MP</td></tr><tr><td>1</td><td>20</td><td>20</td><td>20</td></tr><tr><td>2</td><td>36</td><td>18</td><td>16</td></tr><tr><td>3</td><td>48</td><td>16</td><td>12</td></tr><tr><td>4</td><td>56</td><td>14</td><td>8</td></tr><tr><td>5</td><td>60</td><td>12</td><td>4</td></tr><tr><td>6</td><td>60</td><td>10</td><td>0</td></tr><tr><td>7</td><td>56</td><td>8</td><td>-4</td></tr></table> OR <table><tr><td>Units of labour</td><td>TP of labour</td><td>AP</td><td>MP</td></tr><tr><td>1</td><td>3</td><td>3</td><td>3</td></tr><tr><td>2</td><td>8</td><td>4</td><td>5</td></tr><tr><td>3</td><td>15</td><td>5</td><td>7</td></tr><tr><td>4</td><td>21</td><td>5.25</td><td>6</td></tr><tr><td>5</td><td>24</td><td>4.8</td><td>3</td></tr><tr><td>6</td><td>25</td><td>4.16</td><td>1</td></tr></table>	Units of labour	TP of labour	AP	MP	1	20	20	20	2	36	18	16	3	48	16	12	4	56	14	8	5	60	12	4	6	60	10	0	7	56	8	-4	Units of labour	TP of labour	AP	MP	1	3	3	3	2	8	4	5	3	15	5	7	4	21	5.25	6	5	24	4.8	3	6	25	4.16	1	1½ - Marks for Average Product 1½ - Marks for Marginal Product 1½ - Marks for Total Product 1½ - Marks for Average Product
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6	25	4.16	1																																																											
29	The given statement is true. Scarcity of resources is the root cause of an economic problem. We live in a world of scarcity. All of us want better food, clothing, housing, schooling, Entertainment, etc. But resources are not enough to meet all our wants. Even	3-Marks for the explanation.																																																												

	the richest economy (like USA) cannot satisfy all the needs of people. Scarcity of resources gives rise to the problem of choice, i.e., economic problem. If resources were available in plenty, there would not have been any problem of choice.	Can use example also for explanation.												
30	<table border="1"><thead><tr><th>Price (₹)</th><th>Quantity (units)</th></tr></thead><tbody><tr><td>1</td><td>40</td></tr><tr><td>?</td><td>36</td></tr></tbody></table> $E_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} = 1 = \frac{4}{\Delta P} \times \frac{1}{40}$ $= 10\Delta P = 1 \qquad \Delta P = \frac{1}{10} = 0.10 \qquad P = 0.10$ <p>Original Price P = ₹1 per unit New Price = P + ΔP = 1 + 0.10 = ₹1.10p</p> <p style="text-align: center;">OR</p> <table border="1"><thead><tr><th>Price (₹)</th><th>Quantity (units)</th></tr></thead><tbody><tr><td>10</td><td>40</td></tr><tr><td>ΔP = ₹ 2</td><td>?</td></tr></tbody></table> $E_p = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} = 2 = \frac{\Delta Q}{2} \times \frac{10}{40}$ $= \Delta Q = 16$ <p>Original Quantity = 40Kg New Quantity = Q + ΔQ = 40 + 16 = 56 Units</p>	Price (₹)	Quantity (units)	1	40	?	36	Price (₹)	Quantity (units)	10	40	ΔP = ₹ 2	?	<p>1-Mark Formula 1-Mark Substitution of values 1- mark – final answer 1- mark – Type of elasticity</p> <p>1-Mark Formula 2-Marks - Substitution of values and calculation 1- mark – final answer</p>
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1	40													
?	36													
Price (₹)	Quantity (units)													
10	40													
ΔP = ₹ 2	?													
31	<p>Production possibility curve is drawn on the assumption that the given resources are fully and efficiently employed.</p> <p>Due to the earthquake, production facilities are destroyed, which implies loss of productive resources. This will cause the PPC to shift to the left</p> 	<p>2 Marks – Explanation 2 – Marks diagram</p> <p>2 + 2 = 4 Marks</p>												
32	<ol style="list-style-type: none">(D) The prices of goods and the income of consumerGiffen goodsNegative(B) Leftward shift of the demand curve	1 X 4 = 4 Marks												
33	<p>Law of Demand states that other things remaining unchanged, there is a negative (or inverse) relation between demand for a commodity and its price.</p> <p>In other words, when price of the commodity increases, demand for it falls and when price of the commodity decreases, demand for it rises, other factors remaining the same.</p> <p>1. Law of diminishing MU (Principle of MU = Price): As we consume more</p>	<p>2 – Marks Law of demand 2 – Marks Law of diminishing</p>												

	<p>and more units of a commodity, marginal utility (MU) of each successive unit consumed goes on diminishing due to the operation of law of diminishing marginal utility. Therefore, we will be willing to pay less for each successive unit. Thus, we will buy more units of a commodity only when its price falls.</p> <ol style="list-style-type: none"> 2. Income effect: When price of a good falls, the purchasing power (real income) of the consumer increases as he will be able to purchase more quantity of the good with the same money income. This phenomenon is called as income effect. 3. Substitution effect: When price of good X falls, it becomes relatively cheaper than good Y. So, the consumer maximizes his utility by substituting good X for good Y. This phenomenon is called as substitution effect 	<p>MU 1 – Mark Income effect 1 – Mark Substitution effect</p>
34	<p>The Law of Equi-marginal utility states that the consumer will get maximum satisfaction if the marginal utility of the last rupee of expenditure on each good is the same.</p> <p>Suppose a consumer consumes only two goods. Let these goods be X and Y. The consumer is in equilibrium when he allocates his income in two goods X and Y insuch a manner that he derives maximum satisfaction. Given the consumer's income and prices of the two goods (P_x and P_y):</p> <p>The necessary condition for the consumer to be in equilibrium in case of equi-marginal utility will be:</p> $\frac{MU_X}{MU_Y} = \frac{P_X}{P_Y} = MU \text{ of the last rupee spent on each good}$ <p>If $\frac{MU_X}{MU_Y} > \frac{P_X}{P_Y}$ the consumer will not be in equilibrium. The satisfaction derived by consuming Commodity X is greater than the satisfaction derived by consuming Commodity Y. The consumer will reallocate his income by spending more on commodity X. Buying more of X reduces MU_x. P_x remaining unchanged $\frac{MU_x}{P_x}$ also reduces.</p> <p>If $\frac{MU_X}{MU_Y} < \frac{P_X}{P_Y}$ the consumer will not be in equilibrium. The satisfaction derived by consuming Commodity Y is greater than the satisfaction derived by consuming Commodity X. The consumer will reallocate his income by spending more on commodity Y. Buying more of Y reduces MU_y. P_y remaining unchanged $\frac{MU_y}{P_y}$ also reduces.</p> <p style="text-align: center;">OR</p> <p>Consumer's equilibrium means maximum satisfaction level of the consumer, given his money income and prices of the two goods in the market.</p> <p>The two conditions of consumer's equilibrium under Indifference Curve Analysis (Ordinal Utility Analysis) are:</p> <ol style="list-style-type: none"> 1. Marginal Rate of Substitution (MRS) and Price Ratio must be equal, i.e. $MRS = \frac{P_x}{P_y}$ 2. MRS must be diminishing as consumption of good X increases. <p>Diagrammatically, the two conditions of consumer's equilibrium under indifference curve analysis are:</p>	<p>2- Marks for the two conditions 2 – Marks for the diagram 2 – Marks for the explanation</p> <p>2- Marks for the two conditions 2 – Marks for the diagram 2 – Marks for the explanation</p>



1. Budget line is tangential to a particular indifference Curve at a unique combination of the two goods. It is because if the budget line is tangent to an indifference curve at a point, the slope of the indifference curve and the slope of budget line are equal (i.e., $MRS = P_x/P_y$) at that point.
2. The indifference curve is strictly convex to the origin at equilibrium. This is because MRS diminishes as consumption of good X increases.

SET**C**

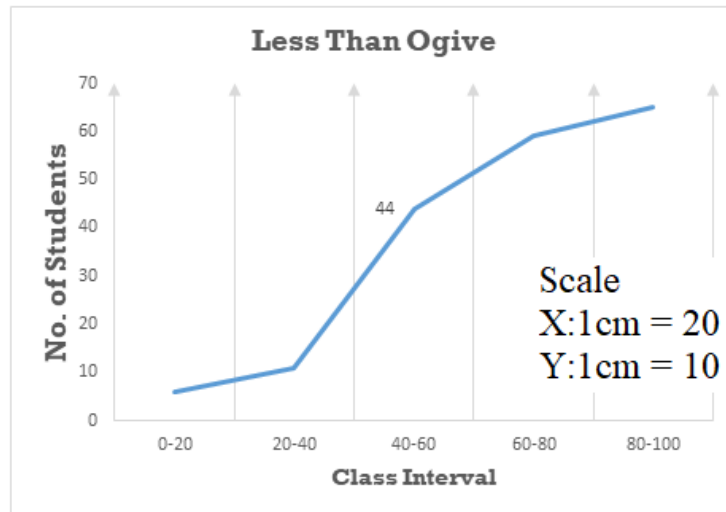
INDIAN SCHOOL MUSCAT
 HALF YEARLY EXAMINATION 2022
ECONOMICS (030)

CLASS: XI

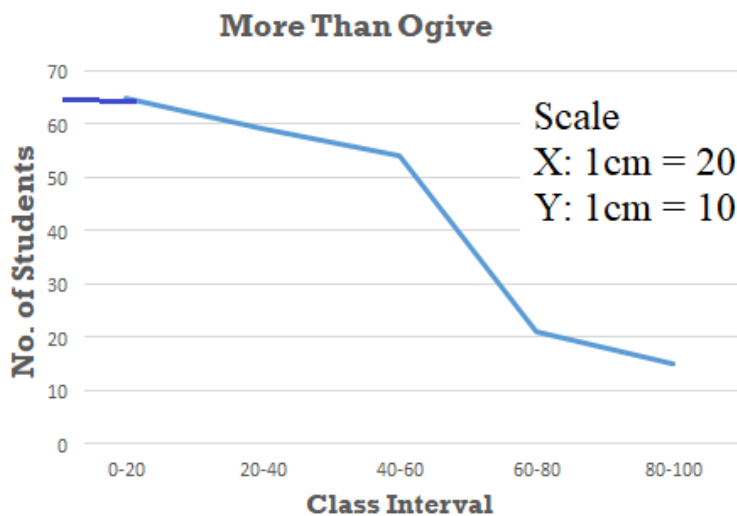
Max. Marks: 80

Q. No	VALUE POINTS	MARKS SPLIT UP
1	True False OR	1- Mark
2	(D) The class midpoints	1- Mark
3	(A) Chronological Classification	1- Mark
4	(C) Class mark	1- Mark
5	Raw data	1- Mark
6	(A) Arithmetic Mean OR (B) The simple average of these two middle values	1- Mark
7	Distribution	1- Mark
8	Presentation, interpretation	1- Mark
9	(C) Secondary data OR (A) Primary data	1- Mark
10	(B) They are difficult to interpret and hard to score.	1- Mark
11	1. It presents facts in a definite form. 2. It helps in condensing mass data into a few numerical measures (such as mean, variance etc.) 3. It facilitates comparison. 4. It helps in prediction. 5. It helps in the formulation of plans and policies. (any three)	1 X 3 = 3 Marks

12



OR



1-Mark for conversion to less than
2 – Marks for Construction of Ogive

Check for Scale, Labelling and Neatness.

1-Mark for conversion to More than
2 – Marks for Construction of Ogive

Check for Scale, Labelling and Neatness.

13

S.N.	Marks (x)	Assumed Mean (A)	dx (x-A)
1	15		- 25
2	20		- 20
3	30		- 10
4	22		- 18
5	25		- 15
6	18		-22
7	40	40	0
8	50		10
9	55		15
10	65		25
N= 10	Σx= 340		Σdx= - 60

Direct Method

$$\bar{X} = \frac{\Sigma x}{N} = \frac{340}{10} = 34$$

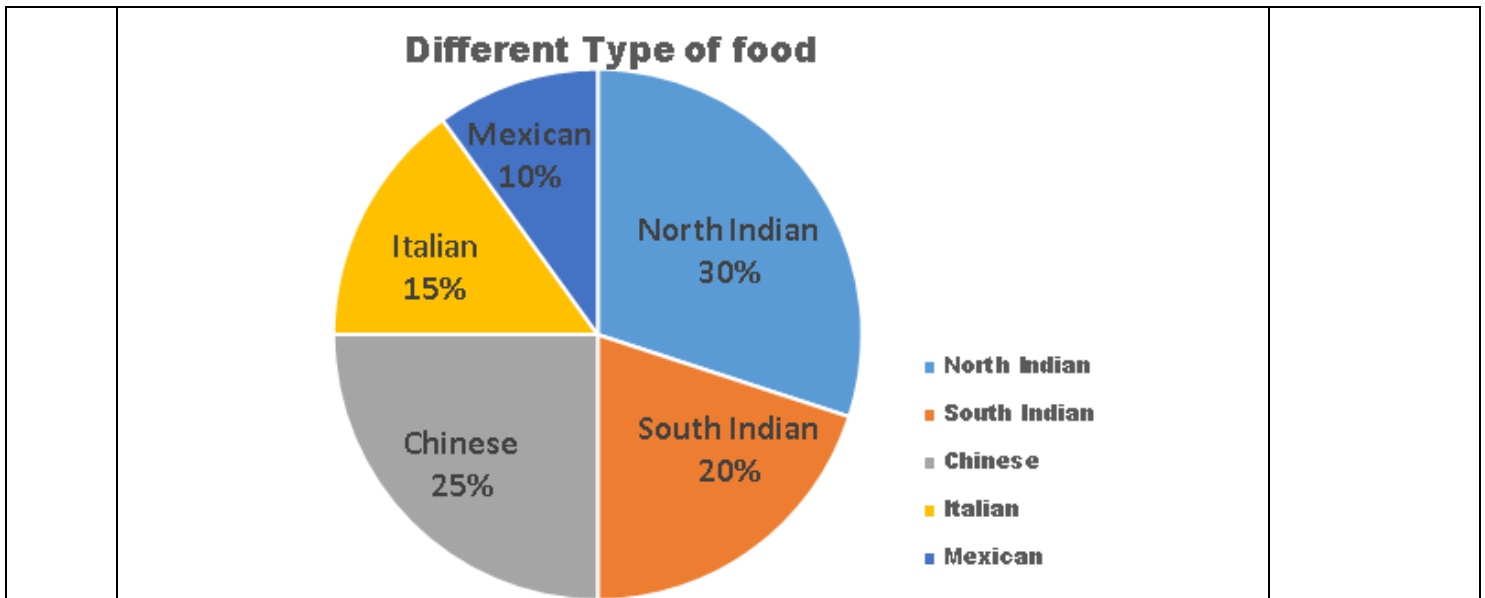
$$\bar{X} = 34$$

2-Marks – Direct Method formula
1 Mark – finding Σx & N
1 – Mark substitution of values & Final answer

2 – Marks – Assumed mean Method
1-Mark – formula
1 Mark – finding dx and Σdx

	<p>Assumed Mean Method</p> $\bar{X} = A + \frac{\Sigma dx}{N} = 40 + \frac{-60}{10} = 40 - 6 \qquad \bar{X} = 34$ <p style="text-align: center;">OR</p> <table><tr><th>Marks</th><th>No. of students (f)</th><th>Mid-value (X)</th><th>dx (X-A)</th><th>fdx</th></tr><tr><td>0-10</td><td>3</td><td>5</td><td>- 30</td><td>-90</td></tr><tr><td>10-20</td><td>8</td><td>15</td><td>- 20</td><td>-160</td></tr><tr><td>20-30</td><td>8</td><td>25</td><td>- 10</td><td>-80</td></tr><tr><td>30-40</td><td>10</td><td>A----- 35</td><td>0</td><td>0</td></tr><tr><td>40-50</td><td>7</td><td>45</td><td>10</td><td>70</td></tr><tr><td>50-60</td><td>5</td><td>55</td><td>20</td><td>100</td></tr><tr><td>60-70</td><td>5</td><td>65</td><td>30</td><td>150</td></tr><tr><td>70-80</td><td>4</td><td>75</td><td>40</td><td>160</td></tr><tr><td></td><td>Σf = 50</td><td></td><td></td><td>Σfx = 150</td></tr></table> <p>Arithmetic mean (Assumed mean method)</p> $\bar{X} = A + \frac{\Sigma dfx}{\Sigma f} = 35 + \frac{150}{50} = 35 + 3 = 38 \qquad \bar{X} = 38$ <p>Arithmetic mean = 38</p>	Marks	No. of students (f)	Mid-value (X)	dx (X-A)	fdx	0-10	3	5	- 30	-90	10-20	8	15	- 20	-160	20-30	8	25	- 10	-80	30-40	10	A----- 35	0	0	40-50	7	45	10	70	50-60	5	55	20	100	60-70	5	65	30	150	70-80	4	75	40	160		Σf = 50			Σfx = 150	<p>1 – Mark Formula 1 Mark – finding dx and Σfx 1 – Mark substitution of values 1- Mark – Final answer</p>
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30-35	18	95																																																		
35-40	5	100 N																																																		
15	<ol style="list-style-type: none">Primary dataFalse10 years(A) Census of India and NSSO	<p>1 X4 = 4 - Marks</p>																																																		
16	<p>A continuous variable can take any numerical value. It may take integral values (1, 2, 3, 4, ...), fractional values (1/2, 2/3, 3/4, ...), and values that are not exact fractions ($\sqrt{2}$</p>	<p>2 – Marks for continuous</p>																																																		

	<p>$=\sqrt{1.414.}$), etc.</p> <p>A discrete variable can take only certain values. Its value changes only by finite “jumps”. It “jumps” from one value to another but does not take any intermediate value between them.</p> <table><tr><th>Variable</th><th>Tally bars</th><th>Frequency</th></tr><tr><td>15</td><td> </td><td>14</td></tr><tr><td>16</td><td> </td><td>18</td></tr><tr><td>17</td><td> </td><td>10</td></tr><tr><td>18</td><td> </td><td>6</td></tr><tr><td>19</td><td> </td><td>2</td></tr><tr><td></td><td></td><td>$\Sigma f = 50$</td></tr></table> <p style="text-align: center;">OR</p> <p>Inclusive class intervals</p> <p>In this case, values equal to the lower and upper limits of a class are included in the frequency of that same class. Both the upper and the lower class limits are included in the Inclusive Method.</p> <p>Exclusive class intervals</p> <p>In this case, the value equal to either the upper or the lower class limit is excluded from the frequency of that class. Either the upper class limit or the lower class limit is excluded in the Exclusive Method.</p> <table><tr><th>Class Intervals</th><th>Tally bars</th><th>Frequency</th></tr><tr><td>1 – 6</td><td> </td><td>11</td></tr><tr><td>7 – 12</td><td> </td><td>9</td></tr><tr><td>13 – 18</td><td> </td><td>10</td></tr><tr><td>19 – 24</td><td> </td><td>5</td></tr><tr><td>25 – 30</td><td> </td><td>6</td></tr><tr><td>31 – 36</td><td> </td><td>3</td></tr><tr><td></td><td></td><td>$\Sigma f = 44$</td></tr></table>	Variable	Tally bars	Frequency	15		14	16		18	17		10	18		6	19		2			$\Sigma f = 50$	Class Intervals	Tally bars	Frequency	1 – 6		11	7 – 12		9	13 – 18		10	19 – 24		5	25 – 30		6	31 – 36		3			$\Sigma f = 44$	<p>2 – Mark for Discrete</p> <p>2 Marks for Tally bars and frequency</p> <p>1 – Mark for Inclusive</p> <p>1 – Mark for Exclusive</p> <p>2 – Marks for Class intervals</p> <p>2 Marks for Tally bars and frequency</p>
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17	<p>Pie diagram is a circle divided into various segments showing the percent values of a data series. It is also known as sector diagram.</p> <table><tr><th>Type of food</th><th>No. of people</th><th>% of people</th><th>Angle on Pie</th></tr><tr><td>North Indian</td><td>150</td><td>30%</td><td>108°</td></tr><tr><td>South Indian</td><td>100</td><td>20%</td><td>72°</td></tr><tr><td>Chinese</td><td>125</td><td>25%</td><td>90°</td></tr><tr><td>Italian</td><td>75</td><td>15%</td><td>54°</td></tr><tr><td>Mexican</td><td>50</td><td>10%</td><td>36°</td></tr><tr><td></td><td>500</td><td>100%</td><td>360°</td></tr></table>	Type of food	No. of people	% of people	Angle on Pie	North Indian	150	30%	108°	South Indian	100	20%	72°	Chinese	125	25%	90°	Italian	75	15%	54°	Mexican	50	10%	36°		500	100%	360°	<p>2 Marks for Pie Diagram definition</p> <p>2 Marks - Conversion of data as % and Angle on Pie</p> <p>2 Marks for construction of pie diagram.</p> <p>Check Labelling, title and proper construction.</p>																	
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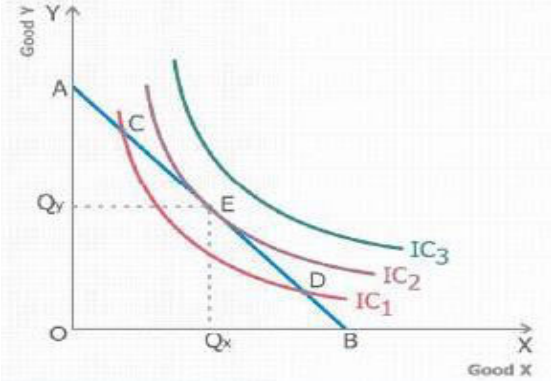


PART – B: INTRODUCTORY MICROECONOMICS (40 Marks)

18	(D) Assertion is false but Reason is true	1- Mark
19	(B) 25 utils	1- Mark
20	(A) Inverse	1- Mark
21	(B) Greater application of variable factors	1- Mark
22	(B) Scarcity of economic resources OR (A) Economic behaviour of individual economic decision making units	1- Mark
23	(C) Average product	1- Mark
24	(C) Relative prices and availability of factor of production	1- Mark
25	(B) It shows various combination of two goods which an economy can produce with a given amount of resources	1- Mark
26	(A) Substitutes OR (B) Complements	1- Mark
27	(C) A change in quantity demanded. OR (B) Distribution of Income	1- Mark
28	When resources are shifted from the production of one good to the production of the other good, marginal opportunity cost rises because resources are use specific. When resources are shifted from their specialized use, efficiency will suffer as loss of output on one good for every additional unit of output of the other good produced. Hence MOC rises.	3-Marks for the explanation. Can use example also for explanation.

29		<table><tr><td>Units of labour</td><td>TP of labour</td><td>AP</td><td>MP</td></tr><tr><td>1</td><td>20</td><td>20</td><td>20</td></tr><tr><td>2</td><td>36</td><td>18</td><td>16</td></tr><tr><td>3</td><td>48</td><td>16</td><td>12</td></tr><tr><td>4</td><td>56</td><td>14</td><td>8</td></tr><tr><td>5</td><td>60</td><td>12</td><td>4</td></tr><tr><td>6</td><td>60</td><td>10</td><td>0</td></tr><tr><td>7</td><td>56</td><td>8</td><td>-4</td></tr></table>	Units of labour	TP of labour	AP	MP	1	20	20	20	2	36	18	16	3	48	16	12	4	56	14	8	5	60	12	4	6	60	10	0	7	56	8	-4	1½ - Marks for Average Product 1½ - Marks for Marginal Product <
	Units of labour	TP of labour	AP	MP																															
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	7	56	8	-4																															

	<p>Due to the earthquake, production facilities are destroyed, which implies loss of productive resources. This will cause the PPC to shift to the left</p>	<p>2 – Marks diagram 2 + 2 = 4 Marks</p>
33	<p>The Law of Equi-marginal utility states that the consumer will get maximum satisfaction if the marginal utility of the last rupee of expenditure on each good is the same.</p> <p>Suppose a consumer consumes only two goods. Let these goods be X and Y. The consumer is in equilibrium when he allocates his income in two goods X and Y insuch a manner that he derives maximum satisfaction. Given the consumer’s income and prices of the two goods (P_x and P_y):</p> <p>The necessary condition for the consumer to be in equilibrium in case of equi-marginal utility will be:</p> $\frac{MU_X}{MU_Y} = \frac{P_X}{P_Y} = \textbf{MU of the last rupee spent on each good}$ <p>If $\frac{MU_X}{MU_Y} > \frac{P_X}{P_Y}$ the consumer will not be in equilibrium. The satisfaction derived by consuming Commodity X is greater than the satisfaction derived by consuming Commodity Y. The consumer will reallocate his income by spending more on commodity X. Buying more of X reduces MU_x. P_x remaining unchanged $\frac{MU_x}{P_x}$ also reduces.</p> <p>If $\frac{MU_X}{MU_Y} < \frac{P_X}{P_Y}$ the consumer will not be in equilibrium. The satisfaction derived by consuming Commodity Y is greater than the satisfaction derived by consuming Commodity X. The consumer will reallocate his income by spending more on commodity Y. Buying more of Y reduces MU_y. P_y remaining unchanged $\frac{MU_y}{P_y}$ also reduces.</p> <p style="text-align: center;">OR</p> <p>Consumer’s equilibrium means maximum satisfaction level of the consumer, given his money income and prices of the two goods in the market.</p> <p>The two conditions of consumer’s equilibrium under Indifference Curve Analysis (Ordinal Utility Analysis) are:</p> <ol style="list-style-type: none"> 1. Marginal Rate of Substitution (MRS) and Price Ratio must be equal, i.e. $\textbf{MRS} = \frac{P_x}{P_y}$ 2. MRS must be diminishing as consumption of good X increases. <p>Diagrammatically, the two conditions of consumer’s equilibrium under indifference curve analysis are:</p>	<p>2- Marks for the two conditions 2 – Marks for the diagram 2 – Marks for the explanation</p> <p>2- Marks for the two conditions 2 – Marks for the diagram 2 – Marks for the explanation</p>

	 <p>1. Budget line is tangential to a particular indifference Curve at a unique combination of the two goods. It is because if the budget line is tangential to an indifference curve at a point, the slope of the indifference curve and the slope of budget line are equal (i.e., $MRS = P_x/P_y$) at that point.</p> <p>2. The indifference curve is strictly convex to the origin at equilibrium. This is because MRS diminishes as consumption of good X increases.</p>	
34	<p>(a) Nature of the good: If the good is a necessity like food, its demand is not likely to be affected much by change in its price. So, demand for necessities is price-inelastic ($e_D < 1$) because in case of price change, it becomes difficult to reduce the consumption of the good. On the other hand, demand for luxuries (e.g., luxury car or mobile phone) is price-elastic ($e_D > 1$), because with rise in price, consumers may reduce demand for luxuries.</p> <p>(b) Availability of close substitutes of the good: If close substitutes are easily available, e.g. pulses; if the price of a variety of pulses rises, consumers can shift to some other variety of pulses which is a close substitute. So, demand for such a good is price-elastic. Larger the number of substitutes available, more is the choice before the consumer and so more elastic is the demand. On the other hand, if close substitutes are not available, e.g. salt, water etc., the demand is price inelastic.</p> <p>(c) Proportion of income spent on the good: Higher the proportion of income spent on a good, higher is its price elasticity of demand. It is because a change in price of a high priced good has substantial effect on the budget of the consumer. Thus, level of price of the good affects elasticity of demand. Demand for a high priced good (e.g. expensive clothes, mobile phones, etc.) is price-elastic, $e_D > 1$, because a change in price of a high priced good has substantial effect on the budget of the consumer. Demand for a low priced good (e.g. salt, toothpaste, match box, newspapers, etc.) is price-inelastic, $e_D < 1$ because a very small proportion of a consumer's income</p>	<p>2 – Marks Nature of the Good</p> <p>2 – Marks Availability of close substitutes</p> <p>2 Marks Proportion of income spent on the good</p>