



# INDIAN SCHOOL AL WADI AL KABIR

## DEPARTMENT OF COMMERCE

CLASS -XI- ASSESSMENT- I -2023-24

DATE: /09/2023

ANSWER KEY- ECONOMICS

MARKS: 80

Q. No.	SECTION A: STATISTICS	Marks																											
1	A: a	1																											
2	A: d	1																											
3	A: d	1																											
4	A: a	1																											
5	A: b	1																											
6	A: b	1																											
7	A: b	1																											
8	A: c	1																											
9	A: b	1																											
10	A: c	1																											
11	<p><b>MULTIPLE BAR DIAGRAM</b></p> <p>Legend: BIRTH RATE (Brown), DEATH RATE (Orange)</p> <table border="1"><thead><tr><th>YEAR</th><th>BIRTH RATE</th><th>DEATH RATE</th></tr></thead><tbody><tr><td>1931-40</td><td>46</td><td>36</td></tr><tr><td>1941-50</td><td>45</td><td>31</td></tr><tr><td>1951-60</td><td>40</td><td>27</td></tr><tr><td>1961-70</td><td>42</td><td>23</td></tr><tr><td>1971-80</td><td>41</td><td>19</td></tr><tr><td>1981-90</td><td>37</td><td>15</td></tr><tr><td>1991-2000</td><td>32.5</td><td>11.5</td></tr><tr><td>2020-21</td><td>22.5</td><td>7.3</td></tr></tbody></table> <p>Key- 1mk Axes- ½ mk</p>	YEAR	BIRTH RATE	DEATH RATE	1931-40	46	36	1941-50	45	31	1951-60	40	27	1961-70	42	23	1971-80	41	19	1981-90	37	15	1991-2000	32.5	11.5	2020-21	22.5	7.3	3
YEAR	BIRTH RATE	DEATH RATE																											
1931-40	46	36																											
1941-50	45	31																											
1951-60	40	27																											
1961-70	42	23																											
1971-80	41	19																											
1981-90	37	15																											
1991-2000	32.5	11.5																											
2020-21	22.5	7.3																											

Scale- ½ mk  
 Drawing- 1 mk

12

3

Marks	Frequency (f)	Cumulative Frequency
10-20	42	42
20-30	38	80 (c.f.)
( $l_1$ ) 30-40	120 (f)	200
40-50	84	284
50-60	48	332
60-70	36	368
70-80	31	399
N = 399		

$$\begin{aligned}
 M &= \text{Size of } \left(\frac{N}{2}\right)\text{th item} \\
 &= \text{Size of } \left(\frac{399}{2}\right)\text{th item} \\
 &= \text{Size of } 199.5\text{th item}
 \end{aligned}$$

Hence, median lies in the class 30-40.

Colu- ½ mk  
 Size - 1 mk  
 Formula- ½ mk  
 Calcul-1 mk

$$\begin{aligned}
 M &= l_1 + \frac{\frac{N}{2} - c.f.}{f} \times i \\
 &= 30 + \frac{\frac{399}{2} - 80}{120} \times 10 \\
 &= 30 + \frac{199.5 - 80}{120} \times 10 = 30 + \frac{119.5}{120} \times 10 \\
 &= 30 + 9.96 = 39.96
 \end{aligned}$$

13

a. A measurable characteristic which takes different value at different points of time and in different circumstance is called a variable. Different variable varies differently and depending on the way they vary, they are broadly classified into two types.

Discrete and Continuous variable.

A discrete variable is one that can only take on a specific set of values, while a continuous variable is one that can take on any value within a certain range. The main difference between discrete and continuous variables is that discrete variables can be counted, while continuous variables can be measured.

For example, the number of children in a family is a discrete variable, because it can only take on whole number values such as 0, 1, 2, etc. On the other hand, the height of a person is a continuous variable, because it can take on any value within a certain range, such as between 1 and 2 meters

b.

i. A frequency distribution is a representation, either in a graphical or tabular format, that displays the number of observations within a given interval.

ii. Exclusive series is that series in which the upper limit is not included in that class and is included in upcoming class. The exclusive series is a type of continuous series. For

2+2

2-mk-

1 mk

defi+ 1

mk eg

2 -mk-

example: - 0-110, 110-120, 120-130, 130-140, 140-150 we can see that upper limit of the class is included in the next class interval.

1mk  
+1mk

14  
A: d  
A: d (1 – mark each)  
A: a  
A: c

4

15

Marks (X)	Mid-value $\left(m = \frac{l_1 + l_2}{2}\right)$	Number of Students or Frequency (f)	Deviation (d = m - A) (A = 25)	Multiple of Deviation and Frequency (fd)
0-10	$\frac{0 + 10}{2} = 5$	20	5 - 25 = -20	20 × -20 = -400
10-20	$\frac{10 + 20}{2} = 15$	24	15 - 25 = -10	24 × -10 = -240
20-30	$\frac{20 + 30}{2} = 25$	40	25 - 25 = 0	40 × 0 = 0
30-40	$\frac{30 + 40}{2} = 35$	36	35 - 25 = +10	36 × +10 = +360
40-50	$\frac{40 + 50}{2} = 45$	20	45 - 25 = +20	20 × +20 = +400
		$\Sigma f = 140$		$\Sigma fd = 120$

$$\begin{aligned} \bar{X} &= A + \frac{\Sigma fd}{\Sigma f} \\ &= 25 + 0.86 \\ &= 25.86 \end{aligned}$$

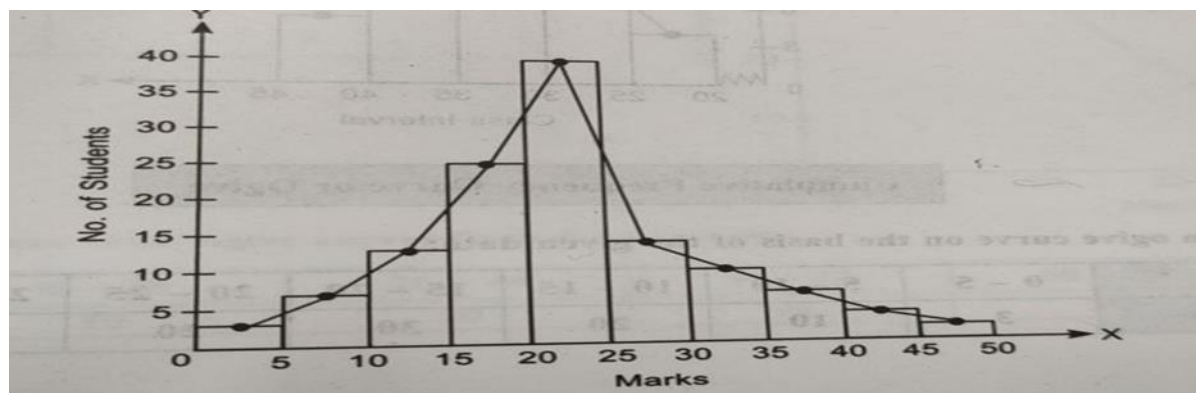
Columns - 1/2 mk each

Formula - 1/2 mk

Final ans n calculation - 1.1/2 mk

4

16



2+2+2

17

6

Class Interval (X)	Mid-value ( $m = \frac{l_1 + l_2}{2}$ )	Frequency (f)	Deviation ( $d = m - A$ ) ( $A = 45$ )	Step-deviation ( $d' = \frac{d}{C}$ ) ( $C = 10$ )	Multiple of Step-deviation and Frequency ( $fd'$ )
0-10	5	12	-40	-4	-48
10-20	15	16	-30	-3	-48
20-30	25	32	-20	-2	-64
30-40	35	52	-10	-1	-52
40-50	45	42	0	0	0
50-60	55	32	10	1	32
60-70	65	18	20	2	36
70-80	75	12	30	3	36
		$\Sigma f = 216$			$\Sigma fd' = -108$

 $\frac{1}{2}$  mk $\frac{1}{2}$  mk

1mk

1mk

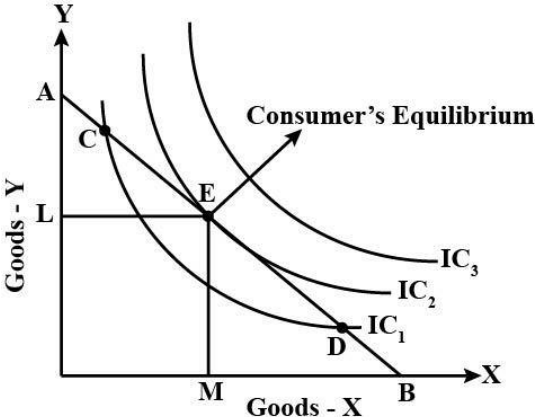
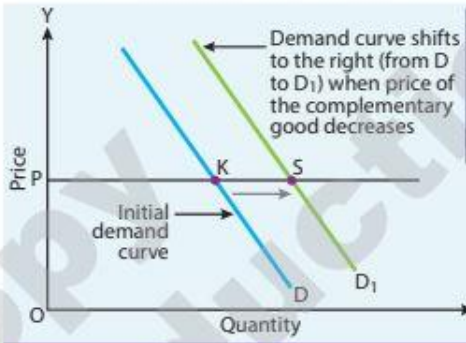
1mk

Formula –  $\frac{1}{2}$  mkCaL n Final ans- 1.  $\frac{1}{2}$  mk

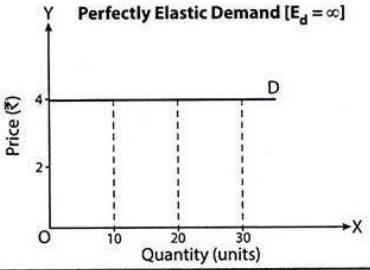
$$\begin{aligned}\bar{X} &= A + \frac{\Sigma fd'}{\Sigma f} \times C \\ &= 45 + \frac{-108}{216} \times 10 \\ &= 45 - 5 = 40\end{aligned}$$

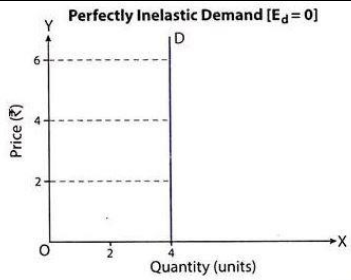
**SECTION B: MICRO ECONOMICS**

18	A: c	1
19	A: d	1
20	It means that the consumer prefers a particular bundle over the other bundle if the former consists of at least more of one good and no less of the other good.	1
21	A: d	1
22	A: b	1
23	A: a	1
24	A: a	1
25	A: a	1
26	A: b	1
27	A: a	1

28	<p><b>Q. 1. What does movement along PPC indicate?</b>  <b>Ans.</b> Movement along PPC indicates marginal opportunity cost or marginal rate of transformation.</p> <p><b>Q.2. PPC is concave to the origin. What does it indicate?</b>  <b>Ans.</b> It indicates that, as resources are shifted from Opportunity-1 to Opportunity-2, marginal opportunity cost tends to rise.</p> <p><b>Q.3. What is the Slope of PPC? What does it show?</b>  <b>Ans.</b> Slope of PPC refers to MRT (marginal rate of transformation). It shows the amount of Good-Y that needs to be sacrificed for producing every additional unit of Good-X. Slope of PPC = <math>\frac{\Delta Y}{\Delta X}</math>. It is also called marginal opportunity cost.</p> <p>[<b>Note:</b> There is no difference between marginal opportunity cost and marginal rate of transformation. Both are indicated by the slope of PPC.]</p>	1+ 1+ 1/2 + 1/2
29	<p>Indifference curve analysis:  An indifference curve depicts all the combinations of two goods that provide the consumer with equal satisfaction. When the Budget line is tangent to the indifference curve, a consumer will be in equilibrium, according to the indifference curve approach.  (Draw n Explain the graphs)</p>  <p>Diagram- 1mk  Explanation of the graph- 2- mk</p>	3
30	<p>a. Substitute goods: Pepsi n Cola – Explain.  Diag -1mk  Expl – 1 mk</p> <p>b.</p> <p>Use a diagram and economic theory to analyse the impact on the demand for cars in India.</p> <p>s. When the prices of petrol and diesel are cut, the demand for cars is expected to rise. Because car and petrol are complementary goods. It implies that demand curve for cars will shift to the right. More cars are demanded at their existing price. Fig. 17 illustrates this situation.</p> <p>Initially PK cars were purchased. As price of petrol and diesel decreases, PS cars are purchased even when price of cars is constant. Accordingly, demand curve for cars shifts forward from D to D<sub>1</sub>.</p>  <p>Same as first one.</p>	2+2
31	<p>a. When prices rise demand falls  b. Rises  c. A given period of time and given price</p>	4



	<p>d. Giffen goods 1 mark each</p>									
32	<p>The production function of a firm depicts the relationship between the inputs used in the production process and the final output. It specifies how many units of different inputs are needed in order to produce the maximum possible output.</p> <p>In short run, a firm cannot change all the inputs, which means that the output can be increased (decreased) only by employing more (less) of the variable factor (labour). It is generally assumed that in short run a firm does not have sufficient or enough time to vary its fixed factors such as, installing a new machine, etc. Hence, the output levels vary only because of varying employment levels of the variable factor.</p> <p>In long run, a firm can change all its inputs, which means that the output can be increased (decreased) by employing more (less) of both the inputs – variable and fixed factors. In the long run, all inputs (including capital) are variable and can be changed according to the required levels of output</p> <p><b>Defi-1 mk</b> <b>S.R – 1.1/2 mk</b> <b>L.R – 1.1/2 mk</b></p>	4								
33	<p>a. 1. The demand for textbooks is inelastic because even if the price rises the demand will never change. – 1 mk</p> <p>2. The demand for cars is elastic as it is a luxury good so when the price of a car goes up, the demand for it comes down- 1 mk</p> <p>b.</p> <table border="1" data-bbox="272 915 1273 1096"> <tr> <td>New Quantity (Q<sub>1</sub>) = 500 units</td> <td>Rise in Price (ΔP) = ₹ 10</td> </tr> <tr> <td>Original Quantity (Q) = 600 units</td> <td>Original Price (P) = ₹ 30</td> </tr> <tr> <td>Change in Quantity (ΔQ) = -100 units</td> <td>New Price (P<sub>1</sub>) = ₹ 40</td> </tr> <tr> <td colspan="2" style="text-align: center;">Elasticity of Demand (ED) = ?</td> </tr> </table> $\text{Price Elasticity of demand (ED)} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q} = \frac{-100}{10} \times \frac{30}{600} = (-)0.5$ <p>ED = (-)0.5 (Demand is inelastic as ED &lt; 1)</p> <p>Negative sign indicates the inverse relationship between price and quantity demanded.</p> <p>½ mk Formula – ½ mk Ans n Expl – 1 mk</p> <p>c. The horizontal demand curve parallel to X-axis implies that the elasticity of demand is infinite. – 1 mk</p>  <p>The demand curve parallel to Y-axis implies that the elasticity of demand is Zero- 1 mk</p>	New Quantity (Q <sub>1</sub> ) = 500 units	Rise in Price (ΔP) = ₹ 10	Original Quantity (Q) = 600 units	Original Price (P) = ₹ 30	Change in Quantity (ΔQ) = -100 units	New Price (P <sub>1</sub> ) = ₹ 40	Elasticity of Demand (ED) = ?		2+2+2
New Quantity (Q <sub>1</sub> ) = 500 units	Rise in Price (ΔP) = ₹ 10									
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Elasticity of Demand (ED) = ?										



34

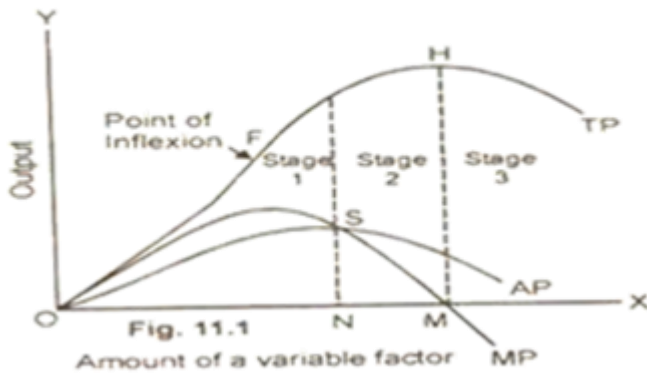
**a.** The term average product refers to the average output (or products) produced by each input – 1 mk

M.P: the extra output that results from adding one unit of the input to the existing combination of productive factors. 1- mk

**b.** Law of variable proportion or returns to variable factor - This law state that keeping other factors of production constant, when only one variable factor is increased, in the beginning total physical product increases at an increasing rate, then increases at a decreasing rate and ultimately decline. - 2 -mk

**c.**

**Graph of Law of variable Proportions**



Graph n Explain- 2 mks

2+2+2