INDIAN SCHOOL AL WADI AL KABIR

DEPARTMENT OF COMMERCE

FINAL ASSESSMENT -XI 2025-26

ECONOMICS (030) ANSWER KEY

Q. NO	SECTION A – STATISTICS	MARKS
1	A: a	1
2	A: c	1
3	A: a	1
4	A: d	1
5	A: c	1
6	A: No correlation (Zero)	1
7	A: a	1
8	A: c	1
9	A; a	1
10	A: b	1
11	The highest frequency is 7, so 30–40 is the modal class. $Z = L_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$ $\text{Mode} = 30 + \left(\frac{7-4}{2(7)-4-6}\right) \times 10$ $= 30 + \left(\frac{3}{14-10}\right) \times 10$ $= 30 + \left(\frac{3}{4}\right) \times 10$ $= 30 + 7.5$ $\boxed{\text{Mode} = 37.5}$ **OR**	3

Size 'X'	Frequency(f)	Cf
0-10	3	3
10 -20	4	7
20 -30	2	9 cf
30 -40 (median class)	7 f	16
40 -50	10	26
	N=∑f= 26	

Median Item = size of $(N/2)^{th}$ item. =26/2 =size of 13^{th}

$$\text{itemM} = L_1 + \frac{N/2 - c.f}{f} \times i$$

= 30+ (13 – 9 / 7) x 10 = 35.71 **Median = 35.71**

12

ITEMS	PRICE IN 2005 (P_0)	PRICE IN 2020 (P_1)	WEIGHT (W)	$R=P_1/P_0$ X 100	RW
Food	100	2000	75	$\frac{200}{100} \times 100 = 200$	15,000
Clothing	20	25	10	$\frac{25}{20} \times 100 = 125$	1,250
Fuel and Lighting	15	20	5	$\frac{20}{15} \times 100 = 133.33$	666.65
House Rent	30	40	6	$\frac{40}{30} \times 100 = 133.33$	799.98
Miscellaneous	35	65	4	$\frac{65}{35} \times 100 = 185.71$	742.84
			$\Sigma W = 100$		$\Sigma RW = 18,459.47$

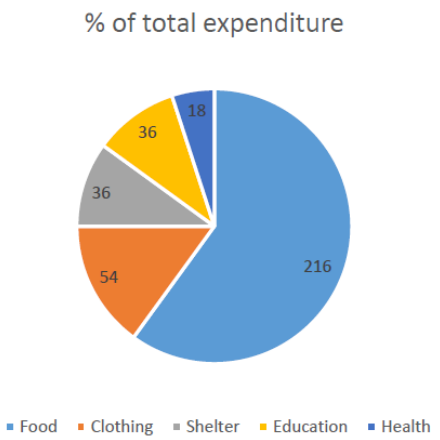
$$\text{Cost of Living (CPI)} = \frac{\Sigma WR}{\Sigma W} = \frac{18459.47}{100} = 184.59$$

3

13

Agular component
60x3.6=216
15x3.6=54
10x3.6=36
10x3.6=36
5x3.6=18

4

		
14	a. Positive correlation. As temperature increases, ice cream sales also increase. b. The paragraph states that "during hotter months, sales increased sharply" and "daily temperature and ice cream sales moved almost in the same direction throughout the year." This clearly indicates a positive relationship between temperature and sales. c. Because promotional discounts encouraged people to buy more ice creams, even when the temperature was not very high. (Non-temperature factors also influence sales. d. No, correlation does not always imply causation. Even though temperature and sales move together, other factors like discounts, festivals, or consumer preferences may also influence sales. Therefore, one variable increasing does not necessarily cause the other to increase.	4

15		4

Items	Year 2010 Price (P_0)	Year 2015 Price (P_1)	$R = \frac{P_1}{P_0} \times 100$
A	20	30	150
B	40	50	125
C	50	70	140
D	70	90	128.57
N= 4			$\Sigma\left(\frac{P_1}{P_0} \times 100\right)$ = 543.57

Simple Average of Price Relatives

$$= \frac{\Sigma\left(\frac{P_1}{P_0} \times 100\right)}{N}$$

P_{01} = 543.57/ 4

= 135.89

OR

$$\sum P_0Q_0 = 60 + 250 + 450 + 300 + 160 = 1220$$

$$\sum P_1Q_0 = 90 + 400 + 675 + 600 + 200 = 1965$$

$$\text{LPI} = \frac{1965}{1220} \times 100 \approx 161.07$$

$$\sum P_0Q_1 = 80 + 500 + 360 + 225 + 120 = 1285$$

$$\sum P_1Q_1 = 120 + 800 + 540 + 450 + 150 = 2060$$

$$\text{PPI} = \frac{2060}{1285} \times 100 \approx 160.31$$

16	a.	3+3

16. (a)

cf
12
30
65
(107) c.f
157
202
222
230

$N/\Sigma f = 230$

$L_1 = 40-50$

$f = 50$

M = Size of $N/2^{th}$ item

= Size of $\frac{230^{th}}{2}$ item

= 115^{th} item

$$\text{Median} = L_1 + \frac{N/2 - cf}{f} \times i$$

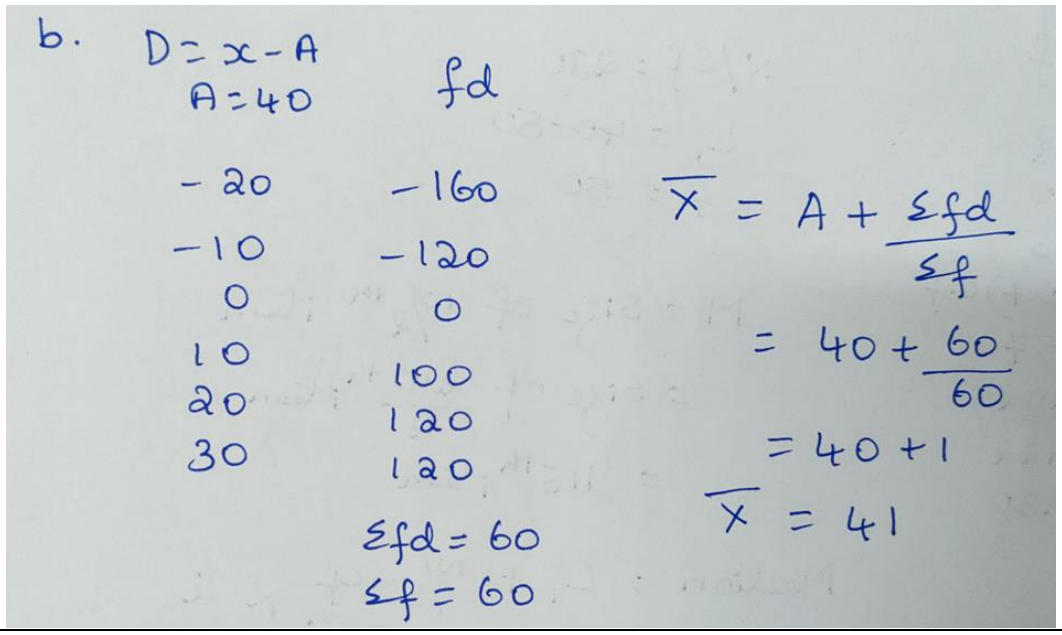
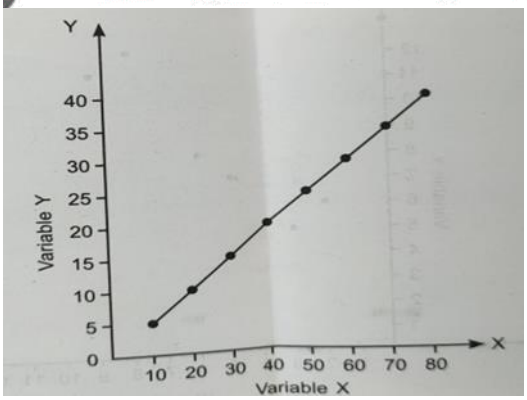
$$= 40 + \frac{\frac{230}{2} - 107}{50} \times 10$$

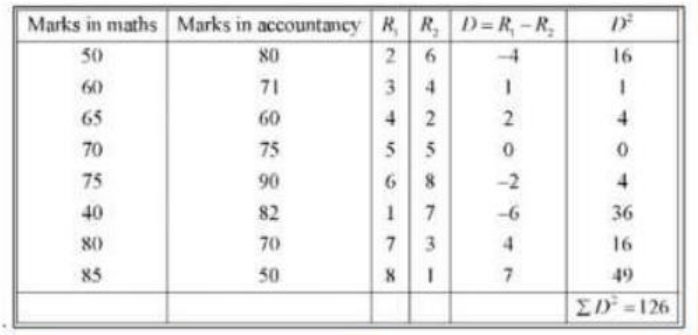
$$= 40 + \frac{115 - 107}{50} \times 10$$

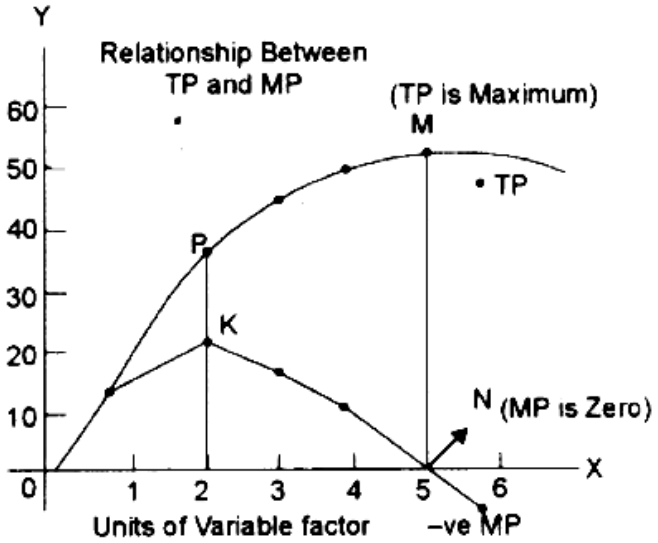
$$= 40 + \frac{8}{50} \times 10$$

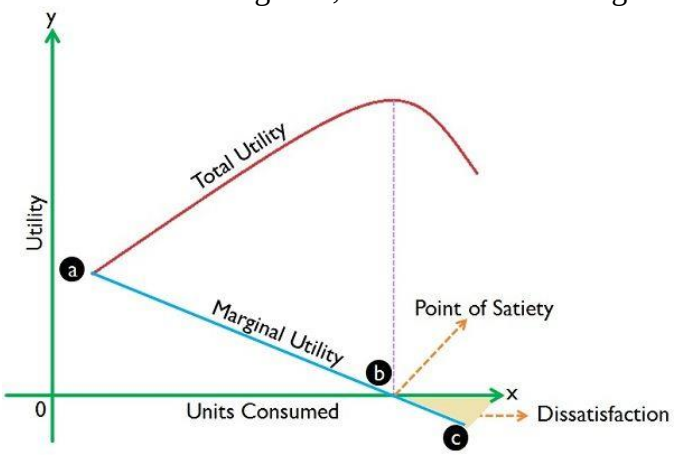
$$= 40 + 1.6$$

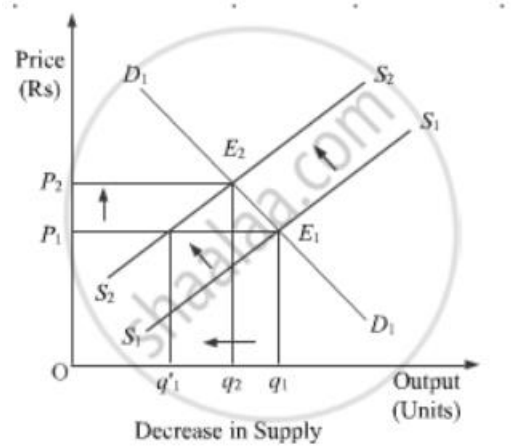
$M = \underline{41.6}$ years.

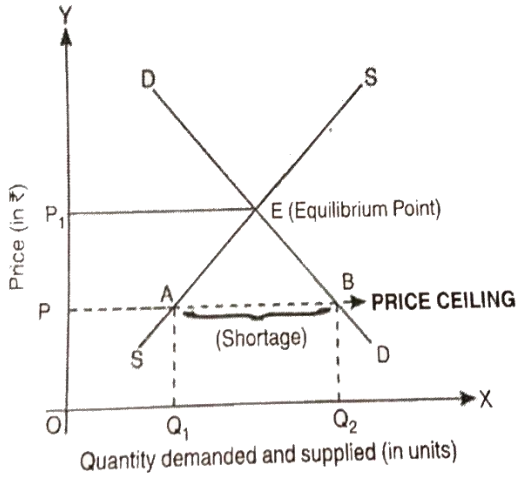
	b.  	
17	Properties of correlation: 1. The value of r is always between –1 and +1. 2. If the relationship between X and Y is positive, then r will be positive. 3. If the relationship between X and Y is negative, then r will be negative. 4. If there is no relationship between X and Y, then r will be zero. 5. The value of r will be +1 if the points, (x_i, y_i) lie on a straight line with positive slope. 6. The value of r will be +1 if the points, (x_i, y_i) lie on a straight line with positive slope.  OR	6

	 N=8 $\Rightarrow rk=\frac{1-6\sum D^2}{\left(N^3-N\right)}=\frac{1-6\times126}{512-8}\Rightarrow rk=0.5rk=\frac{1-6\sum D^2}{N^3-N}\Rightarrow rk=\frac{1-6\times126}{512-8}=0.5$	
	SECTION B – MICRO ECONOMICS	
18	A: d	1
19	A: d	1
20	A: c	1
21	A: a	1
22	A: c	1
23	A: b	1
24	A: d	1
25	A: a	1
26	A: c	1
27	A: b	1
28	a. Elasticity of Demand refers to the degree of responsiveness of quantity demanded of a good to a change in its price, or to changes in other factors like income or prices of related goods. b.	3

	• Initial price $P_1 = ₹4$ • Initial quantity $Q_1 = 100$ • New quantity $Q_2 = 75$ • Elasticity of demand $E_d = -1$ **Step 1: Calculate % change in quantity** $$\%\Delta Q = \frac{Q_2 - Q_1}{Q_1} \times 100$$ $$\%\Delta Q = \frac{75 - 100}{100} \times 100 = -25\%$$ **Step 2: Use elasticity formula** $$E_d = \frac{\%\Delta Q}{\%\Delta P}$$ $$-1 = \frac{-25\%}{\%\Delta P}$$ $$\%\Delta P = 25\%$$ **Step 3: Find new price** $$P_2 = P_1(1 + 0.25)$$ $$P_2 = 4 \times 1.25 = ₹5$$	
29	"When one factor of production is increased, keeping other factors constant, the total output (total product) initially increases at an increasing rate, then increases at a diminishing rate, and finally may decrease. This is known as the law of variable proportion." i) As long as MP is positive and increasing, TP increases at an increasing rate. (ii) When MP is positive but decreasing, TP increases at a diminishing rate. (iii) When MP = 0, TP is maximum and constant. (iv) When MP becomes negative, TP starts falling.  **OR**	3

	Basis of Distinction	**Implicit costs**	**Explicit costs**	
	Definition	Implicit costs are the costs of self-owned and self-supplied factors of production.	Explicit costs are the contractual money payments actually made to the owners of various factors of production.	
	Example	The owner of a firm may himself act as its manager. He does not pay any salary to himself.	The firm obtains land on lease and pays rent to the landlord.	
	Accounting	Not recorded in financial statements.	Recorded in financial statements.	
	Visibility	Hidden and not easily quantifiable.	Clearly visible and easily quantifiable.	
	Cash Outflow	There is no actual cash outflow.	Involves actual cash outflow.	
	Impact on Profit	Impacts economic profit but not accounting profit.	Impacts both accounting and economic profit.	
30	a. The law of diminishing marginal utility states that the marginal utility derived from the consumption of a commodity must decline as more and more units of that commodity is consumed at a point in time. Assumptions: a. The goods being consumed are identical. b. The units are consumed quickly with few breaks in between. c. Units are not too big or too small. d. The consumer's taste is constant. e. There's no change in the price of the goods or of their substitutes. b. When MU decreases, TU increases at a diminishing rate. When MU is zero, TU is constant and maximum. When MU is negative, TU starts diminishing.  **OR** In this case, the consumer is getting more marginal utility per rupee in case of good X as compared to Y. Therefore, he will buy more of X and less of Y. this will lead of fall in M UX and rise in M UY. The consumer will continue to buy more of X till M U X P X = M U Y P Y (Explain)	4
31	A producer is in equilibrium when: a. MC = MR			4

	b. MC is rising after equilibrium output From the table: MC = MR at 6th unit (MC = 24, MR = 24) MC starts rising after 6 units (MC at 7th unit = 26 > 24) Producer is equilibrium at 6 units of output MC= MR MC rising after 6 th level of output-	
32	When the market for a good is in equilibrium, supply equals demand: Now, suppose there is an increase in the price of an input (like labor, raw materials, etc.). Effect on supply: Higher input costs → Producing each unit becomes more expensive → Supply decreases. This is represented by a leftward shift of the supply curve (from S to S1). Effect on equilibrium: With demand constant (ceteris paribus), the new equilibrium occurs at the intersection of the demand curve (D) and the new supply curve (S1). Equilibrium price rises because producers need to charge more to cover higher costs. Equilibrium quantity falls because higher price reduces the quantity demanded.  Decrease in Supply	4
33	a. False: With increase in income, the demand for normal and superior good increase, but the demand for inferior good decreases. b. True. A consumer is in equilibrium when the rate at which they are willing to substitute one good for another (MRS) equals the rate at which the market allows substitution (price ratio). Thus, equilibrium condition: $$MRS_{XY} = \frac{P_X}{P_Y}$$ c. False. A budget set refers to all bundles of goods that a consumer can afford with their given income and prices—whether satisfaction is same or not.	6

	Bundles that give the same satisfaction form an indifference curve, not a budget set. OR • An indifference curve is a curve that represents all the combinations of goods that give the same satisfaction to the consumer • Budget line is a graphical representation which shows all the possible combinations of the two goods that a consumer can buy with the given income and prices of commodities. b) a. IC is strictly Convex to origin i.e. MRSxy is always diminishing Reason: Due to the law of diminishing marginal utility a consumer is always willing to sacrifice lesser units of a commodity for every additional unit of another good. b. Higher indifference curve represents larger bundles of goods i.e. bundles which contain more of both or more of at least one. It is assumed that consumer's preferences are monotonic i.e. he always prefers larger bundle as it gives him higher satisfaction	
34	Maximum price ceiling is the legislated or government-imposed maximum level of price that can be charged by the seller. Usually, the government fixes this maximum price much below the equilibrium price, in order to preserve the welfare of the poorer and vulnerable section of the society. Maximum Price Ceiling is normally imposed by the government on goods needed by masses, like wheat, rice, sugar etc  	6