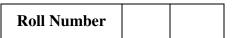# INDIAN SCHOOL MUSCAT
SECOND TERM EXAMINATION
ECONOMICS (030)

CLASS: XI   TERM 2   Max. Marks: 40

MARKING SCHEME

QN	SET	VALUE POINTS	MARKS SPLIT UP
1.	A	1. Helpful in formulation of policies. 2. Measuring inflation 3. Measuring changes in standard of living. 4. Fixing and increasing salaries of employees.　　(Any two) **OR** 1. Quantitatively expressed. 2. Measure relative changes. 3. They are averages.　　(Any two)	1 + 1 = 2Marks
	B	Standard deviation is the square root of the mean of the squares of the deviations of the values from the mean. Formula $$\sigma = \sqrt{\dfrac{\Sigma dx^2}{N}} \quad \textbf{OR} \quad \sigma = \sqrt{\dfrac{\left(\Sigma(X - \overline{X})^2\right)}{N}}$$ **OR** **Merits** 1. Based on all values. 2. Rigidly defined. 3. Least affected by fluctuations of sampling. **Demerits** 1. Difficult to calculate. 2. Affected by extreme values. 3. Cannot be used for comparison.	1 + 1 = 2Marks Two Merits ½ Mark each Two Demerits ½ Mark each ½ x4 = 2 Marks
	C	**Relation between TC and TVC** 　(a) Total cost can never be zero, even when the level of output is zero, because fixed cost is positive and constant at zero level of output. 　(b) As the level of output increases, Total Cost also increases due to increase in variable cost 　(c) TC and TVC are S shaped (they rise initially at a decreasing rate, then at a constant rate & finally at an increasing rate) due to law of variable proportions. 　(d) TC and TVC curves parallel to each other.	½ Mark each ½ x4 = 2 Marks 1 Mark

		OR	Definition 1 Mark for shape 1+ 1 = 2 Marks
		Average Fixed Cost: - Fixed cost per unit output. AFC $= \frac{TFC}{Output}$ AFC curve is a rectangular hyperbola. Since TFC remains constant, AFC keeps falling with increase in output but never reaches zero.	

2.	A	Standard deviation is the square root of the mean of the squares of the deviations of the values from the mean. Formula $$\sigma = \sqrt{\frac{\Sigma dx^2}{N}} \quad \textbf{OR} \quad \sigma = \sqrt{\frac{(\Sigma(X - \overline{X})^2)}{N}}$$ **OR**	1 + 1 = 2Marks
		Merits 4. Based on all values. 5. Rigidly defined. 6. Least affected by fluctuations of sampling. **Demerits** 4. Difficult to calculate. 5. Affected by extreme values. 6. Cannot be used for comparison.	Two Merits ½ Mark each Two Demerits ½ Mark each ½ x4 = 2 Marks
	B	**Positive Correlation:** 1. Price and Supply 2. Income and Expenditure. **Negative Correlation:** 1. Price and Demand 2. 2. Temperature and Sale of woolens (Any other valid examples)	Two Positive Correlation ½ Mark each Two Negative Correlation ½ Mark each ½ x4 = 2 Marks
	C	The statement is false because MP is rate of change in TP. Hence TP keeps increasing even when MP is falling but is positive.	1 Mark for Justification 1 Mark for reason 1 + 1 = 2 Marks

3.	A	**Positive Correlation:** 1. Price and Supply 2. Income and Expenditure. **Negative Correlation:** 1. Price and Demand 2. Temperature and Sale of woolens (Any other valid examples)	Two Positive Correlation ½ Mark each Two Negative Correlation ½ Mark each ½ x4 = 2 Marks
	B	1. Helpful in formulation of policies. 2. Measuring inflation 3. Measuring changes in standard of living. 4. Fixing and increasing salaries of employees. (Any two) **OR** 1. Quantitatively expressed.	1 + 1 = 2Marks

		2. Measure relative changes. 3. They are averages. (Any two)	
	C	(a) Index numbers is a statistical tool for measuring relative change in a group of related variables over two or more different times. (b) (i) Laspeyre's Method (ii) Paasche's Method	1 + ½ + ½ = 2 Marks

4.	A	**Relation between TC and TVC** 　(e) Total cost can never be zero, even when the level of output is zero, because fixed cost is positive and constant at zero level of output. 　(f) As the level of output increases, Total Cost also increases due to increase in variable cost 　(g) TC and TVC are S shaped (they rise initially at a decreasing rate, then at a constant rate & finally at an increasing rate) due to law of variable proportions. 　(h) TC and TVC curves parallel to each other. **OR** Average Fixed Cost: - Fixed cost per unit output. AFC = $\frac{TFC}{Output}$ AFC curve is a rectangular hyperbola. Since TFC remains constant, AFC keeps falling with increase in output but never reaches zero.	½ Mark each ½ x4 = 2 Marks 1 Mark Definition 1 Mark for shape 1+ 1 = 2 Marks
	B	The statement is false because MP is rate of change in TP. Hence TP keeps increasing even when MP is falling but is positive.	1 Mark for Justification 1 Mark for reason 1 + 1 = 2 Marks
	C	Standard deviation is the square root of the mean of the squares of the deviations of the values from the mean. Formula $$\sigma = \sqrt{\frac{\Sigma dx^2}{N}} \quad \textbf{OR} \quad \sigma = \sqrt{\frac{(\Sigma(X - \overline{X})^2)}{N}}$$ **OR** **Merits** 　1. Based on all values. 　2. Rigidly defined. 　3. Least affected by fluctuations of sampling. **Demerits** 　1. Difficult to calculate. 　2. Affected by extreme values. 　3. Cannot be used for comparison.	1 + 1 = 2Marks Two Merits ½ Mark each Two Demerits ½ Mark each ½ x4 = 2 Marks

5.	A	The statement is false because MP is rate of change in TP. Hence TP keeps increasing even when MP is falling but is positive.	1 Mark for Justification 1 Mark for reason 1 + 1 = 2 Marks

	B	(a) Marginal cost is equal to average cost (b) Marginal cost also rises **OR** Define Average Variable Cost. Explain the shape of the AVC curve. Average Variable Cost: - Variable cost per unit output. $AVC = \frac{TVC}{Output}$ AVC curve is a 'U" shaped curve due to returns to factor.	1 +1 =2 marks
	C	**Positive Correlation:** 3. Price and Supply 4. Income and Expenditure. **Negative Correlation:** 3. Price and Demand 4. Temperature and Sale of woolens (Any other valid examples)	Two Positive Correlation ½ Mark each Two Negative Correlation ½ Mark each ½ x4 = 2 Marks

6.	A				1 X 3 =3 Marks
		Consumer price index	**Wholesale price index**		
		1. Based on retail prices	1. Based on wholesale prices.		
		2. Includes services also	2. Does not include services.		
		3. Used to measure cost of living	3.Used to measure rate of inflation		

OR

(a) Selection of base year: Base year should be a normal year, free from abnormalities like wars, earthquakes, floods, fires, famines, pandemic etc.

1 ½ +1 ½ Marks each

(b) Selection of items: Items selected should be representative and should be an important part of the consumption pattern.

1 ½ + 1 ½ = 3 Marks

	B	**Marks obtained by students (X)**	**dx (x - $\overline{X}$)**	**dx^2**	1 mark for 'dx' and 'dx^2' 1 Mark for formula 1 mark for final answer 1+1+1 = 3 Marks
		14	- 2	4	
		12	- 4	16	
		16 - A	0	0	
		20	4	16	
		18	2	4	
		22	6	36	
				Σdx^2 = 76	

N =6

$$\sigma = \sqrt{\frac{\Sigma dx^2}{N}} = \sqrt{\frac{76}{6}} = \sqrt{12.66} \quad \sigma = 3.55$$

	C	Given P= ₹50 ΔP = 20 ΔQ = 25 Es = 2 Q = ? final output =? $Es = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$ $2 = \frac{25}{20} \times \frac{50}{Q}$ $= Q = \frac{125}{4}$ 31 units (approx) **Q = 31 units** **Final output = Q + ΔQ = 31 + 25 = 56 units**	1 Mark for formula 1 mark for finding 'Q' 1 mark for finding 'final output' 1+1+1 = 3 marks

7.	A	

7. A

Marks obtained by students (X)	dx (x - $\overline{X}$)	dx^2
14	- 2	4
12	- 4	16
16 - A	0	0
20	4	16
18	2	4
22	6	36
		$\Sigma dx^2 = 76$

N = 6

$$\sigma = \sqrt{\frac{\Sigma dx^2}{N}} = \sqrt{\frac{76}{6}} = \sqrt{12.66} \quad \sigma = 3.55$$

1 mark for 'dx' and 'dx^2'
1 Mark for formula
1 mark for final answer

1+1+1 = 3 Marks

B

Consumer price index	Wholesale price index
1. Based on retail prices	1. Based on wholesale prices.
2. Includes services also	2. Does not include services.
3. Used to measure cost of living	3.Used to measure rate of inflation

1 X 3 =3 Marks

OR

(c) Selection of base year: Base year should be a normal year, free from abnormalities like wars, earthquakes, floods, fires, famines, pandemic etc.

(d) Selection of items: Items selected should be representative and should be an important part of the consumption pattern.

1 ½ +1 ½ Marks each

1 ½ + 1 ½ = 3 Marks

C

Units of capital	Units of labour	Total product	AP
2	1	10	**10**
2	2	24	**12**
2	3	40	**13.33**
2	4	50	**12.5**
2	5	58	**11.6**
2	6	64	**10.66**
2	7	68	**9.71**
2	8	68	**8.5**
2	9	60	**6.66**

3 Marks

8. A

Units of capital	Units of labour	Total product	MP
2	1	10	**10**
2	2	24	**14**
2	3	40	**16**
2	4	50	**10**
2	5	58	**8**
2	6	64	**6**
2	7	68	**4**
2	8	68	**0**
2	9	60	-8

3 Marks

	B	Units of capital	Units of labour	Marginal product	TP		3 Marks
		2	1	10	10		
		2	2	14	24		
		2	3	16	40		
		2	4	10	50		
		2	5	8	58		
		2	6	6	64		
		2	7	4	68		
		2	8	0	68		
		2	9	-8	60		
	C	Stage 1: (Increasing Returns to factor) Units of labour 1 to 3 Stage 2: (Diminishing Returns to factor) Units of labour 4 to 8 Stage 3: (Negative Returns to factor) Units of labour 8 to 9					3 Marks

9.	A	Stage 1: (Increasing Returns to factor) Units of labour 1 to 3 – MP 10, 14, 18 Stage 2: (Diminishing Returns to factor) Units of labour 4 to 8 – MP 10, 8, 6,4, 0 Stage 3: (Negative Returns to factor) Units of labour 8 to 9 – MP 0, -8	3 Marks
	B	Stage 1: (Increasing Returns to factor) - Marginal product increases Stage 2: (Diminishing Returns to factor) Marginal product diminishes but remains positive Stage 3: (Negative Returns to factor) – Marginal product becomes negative	3 Marks

	C				1 mark for 'dx' and 'dx^2' 1 Mark for formula 1 mark for final answer 1+1+1 = 3 Marks

Marks obtained by students (X)	dx (x - $\overline{X}$)	dx^2
14	- 2	4
12	- 4	16
16 - A	0	0
20	4	16
18	2	4
22	6	36
		$\Sigma dx^2 = 76$

N = 6

$$\sigma = \sqrt{\frac{\Sigma dx^2}{N}} = \sqrt{\frac{76}{6}} = \sqrt{12.66} \quad \sigma = 3.55$$

10.	A	Given P= ₹5 ΔP = 15 ΔQ = 15 Es = 0.5 Q = ? final output =? $Es = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$ $0.5 = \frac{15}{15} \times \frac{5}{Q}$ $= 0.5Q = 5$ $Q = \frac{5}{0.5}$ 10 units **Q = 50 units** **Final output = Q + ΔQ = 10 + 15 = 25 units**	1 Mark for formula 1 mark for finding 'Q' 1 mark for finding 'final output' 1+1+1 = 3 marks
	B	Given P= ₹200 ΔP = ₹50 ΔQ = 50 Es = 1 Q =? final output =? $Es = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$ $1 = \frac{50}{50} \times \frac{200}{Q}$ $= Q = 200$units	1 Mark for formula 1 mark for finding 'Q' 1 mark for

		Q = 200 units	finding 'final output' 1+1+1 = 3 marks
		Q = 200 units **Final output = Q - ΔQ = 200 + 50 = 150 units**	finding 'final output' 1+1+1 = 3 marks

	C	Consumer price index	Wholesale price index	1 X 3 =3 Marks
		1. Based on retail prices	1. Based on wholesale prices.	
		2. Includes services also	2. Does not include services.	
		3. Used to measure cost of living	3.Used to measure rate of inflation	

OR

(e) Selection of base year: Base year should be a normal year, free from abnormalities like wars, earthquakes, floods, fires, famines, pandemic etc.

(f) Selection of items: Items selected should be representative and should be an important part of the consumption pattern.

1 ½ +1 ½ Marks each

1 ½ + 1 ½ = 3 Marks

11.	A

Scatter Diagram

Perfect Negative Correlation

2 marks for construction
2 marks for labelling
1 mark for interpretation
2+2+1=5 Marks

OR

X	Y	$x = X - 34$	$y = Y - 35$	$x2$	$y2$	xy
48	45	14	10	196	100	140
35	20	1	-15	1	225	-15
17	40	-17	5	289	25	-85
23	25	-11	-10	121	100	110
47	45	13	10	169	100	130
ΣX =170	ΣY =175	Σx =0	Σy =0	Σx2 =776	Σy2 =550	Σxy =280

2 marks for 'Arithmetic mean
1 mark for formulas
2 marks for calculating correlation coefficient

2+1+2 = 5 Marks

$$\bar{X} = \frac{\Sigma X}{N} = \frac{170}{5} \quad \bar{X} = 34 \quad\quad \bar{Y} = \frac{\Sigma Y}{N} = \frac{175}{5} \quad \bar{Y} = 35$$

$$\sigma_X = \sqrt{\frac{\Sigma dx^2}{N}} = \sqrt{\frac{776}{5}} = \sqrt{155.2} \quad \sigma = 12.45$$

$$\sigma_Y = \sqrt{\frac{\Sigma dy^2}{N}} = \sqrt{\frac{550}{5}} = \sqrt{110} \quad \sigma = 10.48$$

$$r = \frac{\Sigma XY}{N \, \sigma_X \sigma_Y} = \frac{280}{5 \, x \, 12.45 \, x \, 10.48} = \frac{280}{652.38} = 0.42$$

r = 0.42

	B	<table><tr><th colspan="2">Contraction of supply</th><th colspan="2">Decrease in supply</th></tr><tr><td>1.</td><td>Decrease in quantity supplied due to decrease in price of the commodity.</td><td>1.</td><td>Decrease in supply due to factors other than price of the commodity.</td></tr><tr><td>2.</td><td>Other factors remain constant.</td><td>2.</td><td>Price remains constant.</td></tr><tr><td>3.</td><td>Leads to downward movement along the supply curve.</td><td>3.</td><td>Leads to leftward shift in the supply curve.</td></tr></table>		1 X 3 = 3 Marks

b) Homogeneous product implies that each firm sells an identical product. The products sold in the market are perfect substitutes and this is the reason that each firm sells the product at same price as that by the rival firm. There exists a uniform market price and an individual firm has no influence over the market price.

2 Marks for the explanation

| C | <table><tr><th colspan="2">Extension in supply</th><th colspan="2">Increase in supply</th></tr><tr><td>4.</td><td>Increase in quantity supplied due to increase in price of the commodity.</td><td>4.</td><td>Increase in supply due to factors other than price of the commodity.</td></tr><tr><td>5.</td><td>Other factors remain constant.</td><td>5.</td><td>Price remains constant.</td></tr><tr><td>6.</td><td>Leads to rightward movement along the supply curve.</td><td>6.</td><td>Leads to rightward shift in the supply curve.</td></tr></table> | 1 X 3 = 3 Marks |

b) Free entry and exit of firms implies that there are no barriers to entry and exit of firms in the market. If the industry is earning supernormal profits, new firms can enter the market and if industry is suffering losses, existing firms and leave the market at their free will. Implication of this feature is that a firm always earns normal profit in the long run.

2 Marks for the explanation

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12. A

(a) Minimum Support Price is also known as 'Price Ceiling'.
Impacts:
1. Income stability to farmers.
2. Financial burden on the government.

3 Marks

(b) Shortage of food grains leads to decrease in supply of food grain. Demand remaining same, there is excess demand in the market. Excess demand puts upward pressure on the price. This leads to contraction in demand and extension in supply and the equilibrium price of food grains increases.

2 Marks

3 + 2 = 5 Marks

B

Scatter Diagram

2 marks for construction
2 marks for labelling
1 mark for interpretation
2+2+1=5 Marks

Perfect Negative Correlation

OR

X	Y	$x = X - 34$	$y = Y - 35$	x^2	y^2	xy
48	45	14	10	196	100	140
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r = 0.42

2 marks for 'Arithmetic mean
1 mark for formulas
2 marks for calculating correlation coefficient

2+1+2 = 5 Marks

C

(a) Minimum Support Price is also known as 'Price Ceiling'.
   Impacts:
   1. Income stability to farmers.
   2. Financial burden on the government.
(b) Shortage of food grains leads to decrease in supply of food grain. Demand remaining same, there is excess demand in the market. Excess demand puts upward pressure on the price. This leads to contraction in demand and extension in supply and the equilibrium price of food grains increases.

1 mark for definition
1+1 for impacts
1+1+1=3marks

2 marks for the explanation

13.	A			

Extension in supply	**Increase in supply**
Increase in quantity supplied due to increase in price of the commodity.	Increase in supply due to factors other than price of the commodity.
Other factors remain constant.	Price remains constant.
Leads to rightward movement along the supply curve.	Leads to rightward shift in the supply curve.

1 X 3 = 3 Marks

b) Free entry and exit of firms implies that there are no barriers to entry and exit of firms in the market. If the industry is earning supernormal profits, new firms can enter the market and if industry is suffering losses, existing firms and leave the market at their free will. Implication of this feature is that a firm always earns normal profit in the long run.

2 Marks for the explanation

B

(a) Minimum Support Price is also known as 'Price Ceiling'.
   Impacts:
   1. Income stability to farmers.
   2. Financial burden on the government.
(b) Shortage of food grains leads to decrease in supply of food grain.

1 mark for definition
1+1 for impacts
1+1+1=3marks

2 marks for the

		Demand remaining same, there is excess demand in the market. Excess demand puts upward pressure on the price. This leads to contraction in demand and extension in supply and the equilibrium price of food grains increases.	explanation
	C		2 marks for construction 2 marks for labelling 1 mark for interpretation 2+2+1=5 Marks

Scatter Diagram

Perfect Negative Correlation

OR

X	Y	$x = X - 34$	$y = Y - 35$	$x2$	$y2$	xy
48	45	14	10	196	100	140
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ΣX =170	ΣY =175	Σx =0	Σy =0	Σx2 =776	Σy2 =550	Σxy =280

2 marks for 'Arithmetic mean
1 mark for formulas
2 marks for calculating correlation coefficient

2+1+2 = 5 Marks

$$\bar{X} = \frac{\Sigma X}{N} = \frac{170}{5} \qquad \bar{X} = 34 \qquad \bar{Y} = \frac{\Sigma Y}{N} = \frac{175}{5} \qquad \bar{Y} = 35$$

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r = 0.42