

Reg. No.:



Name:

University of Kerala

U9065

Second Semester FYUGP Degree Examination, April 2025

Discipline Specific Core Course

ECONOMICS

UK2DSCECO100 - Tools for Economic Analysis

Academic Level: 100-199

Time: 2 Hours(120 Mins)

Max. Marks: 56

Part A.6 Marks:Time 5 Minutes.(Cognitive Level :Remember(RE)/Understand(UN)) Objective Type.1 mark each,
Answer all questions

Qn No.	Question	CL	CO
1	If $A=\{1,2,3,4\}$ and $B=\{3,4,5,6\}$, what is $A \cup B$? Options : A) $\{1,2,3,4\}$ B) $\{3,4\}$ C) $\{1,2,3,4,5,6\}$ D) $\{5,6\}$	RE	1
2	In which quadrant do the given points lie (4,2). Options : A)I Quadrant B)III Quadrant C)II Quadrant D)IV Quadrant	RE	1
3	What is the mode of the numbers 2, 4, 4, 6, 4, 8? Options : A)2 B)4 C)6 D)8	UN	1
4	What does the term 'a' represent in the consumption function, $C = a + bY$? Options : A)The total income of the family B) The marginal propensity to consume C)The total consumption of a family D)Autonomous consumption	UN	2
5	In the function $y=f(x)$, x is called the Options : A)Dependent variable B)Value of the function C)Independent variable D)None of the above	UN	2
6	Solve the following system of simultaneous equations: $x+y=6$ $x-y=2$ What is the value of x? Options : A)2 B)4 C)3 D)5	UN	1

Part B.10 Marks.Time:20 Minutes (Cognitive Level:Understand(UN)/Apply(AP))Two-three sentences.2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	What is production function?	UN	2
8	Describe the merits of mean as an average?	UN	4
9	A market demand curve is given by $D = 50 - 5p$. Find the maximum price anybody will pay for the commodity when the demand is zero.	AP	2
10	Plot the graph of the function $y = x + 2$ for $x = -2$ to $x = 2$	AP	4
11	1. Solve $7(x - 2) + 8(x - 3) - 22 = x + 10$	AP	1

Part C.16 Marks. Time: 35 Minutes. (Cognitive Level : Apply (AP) / Analyse (AN)) Short Answer. 4 marks each, Answer all 4 questions, choosing among options * within each question

Qn No.	Question	CL	CO														
12	A) 12.Find $A \cup (B \cap C)$, $A \cap B$, $B \cap C$, $A \cap (B \cap C)$. If $A = \{1, 2, 3\}$, $B = \{2, 4, 6\}$ and $C = \{1, 4, 5\}$. OR B) Draw a histogram and frequency polygon from the following data <table><tr><th>Marks</th><th>No. of students</th></tr><tr><td>0 – 10</td><td>4</td></tr><tr><td>10 – 20</td><td>6</td></tr><tr><td>20 – 30</td><td>10</td></tr><tr><td>30 – 40</td><td>8</td></tr><tr><td>40 – 50</td><td>5</td></tr><tr><td>50 – 60</td><td>7</td></tr></table>	Marks	No. of students	0 – 10	4	10 – 20	6	20 – 30	10	30 – 40	8	40 – 50	5	50 – 60	7	AP	3, 3
Marks	No. of students																
0 – 10	4																
10 – 20	6																
20 – 30	10																
30 – 40	8																
40 – 50	5																
50 – 60	7																
13	A) Solve the following system of simultaneous equations using the substitution method: $2x + 3y = 12$, $4x - y = 5$ OR B) Define production function. The production function of a firm is given by $Q = 4 K^{0.5} L^{0.5}$ where K is capital and L is labour. If the firm employs 16 units of capital and 25 units of labour, determine the total output?	AP	1, 3														
14	A) 2.Discuss monotonically increasing and decreasing functions, logarithmic functions, revenue functions and functions of two variables? OR B) Analyze the different subclasses or categories of the polynomial functions.	AN	1, 2														
15	A) What is the role of data in Economic Analysis? Differentiate primary and secondary data with examples. OR B)	AN	4, 2														

Qn No.	Question	CL	CO
	A tea company in Munnar finds that its demand for packaged green tea can be modelled by a given demand function: $D(p) = -2p^2 + 40p$ (Where: $D(p)$ is the quantity demanded (in boxes) and p is the price per box (in ₹)) Find: 1. Find the quantity demanded if price = ₹10. Find the quantity demanded when $P = ₹0$ and $P = ₹25$ and then plot the graph of the demand function.		

Part D.24 Marks.Time: 60 Minutes.(Cognitive Level :Analyse(AN)/Evaluate(EV)/Create(CR)) Long Answer 6 Marks each.Answer all 4 questions choosing among options * within each question

Qn No.	Question	CL	CO												
16	A) The runs scored by two batsmen in five innings are given below. Find who is more consistent batsman with the help of coefficient of variation. <table><tr><td>A</td><td>25</td><td>50</td><td>45</td><td>30</td><td>70</td></tr><tr><td>B</td><td>10</td><td>70</td><td>50</td><td>20</td><td>95</td></tr></table> OR B) What is market equilibrium? Examine while the market demand curve is given by $Q_d=200-P$ and Supply curve is given as $Q_s= 40+P$. find the equilibrium price and equilibrium quantity.	A	25	50	45	30	70	B	10	70	50	20	95	AN	4, 2
A	25	50	45	30	70										
B	10	70	50	20	95										
17	A) A text book publisher finds that the production costs to each book are Rs.25 and that the fixed cost are Rs. 15,000. If each book can be sold for Rs 45, determine cost function, revenue function and break-even point. OR B) If $A = \{2, 4, 6, 8\}$ and $B = \{6, 8, 10, 12\}$, find: a) $A \cup B$ b) $A \cap B$ c) $A - B$ d) $B - A$	EV	2, 2												

Qn No.	Question	CL	CO														
	e) Find the Cartesian product A X B and write any 3 ordered pairs																
18	A) Distinguish between discrete and continuous frequency table? Draw a frequency curve to the following frequency distribution. <table><tr><td>Marks</td><td>10 - 20</td><td>20 – 30</td><td>30 – 40</td><td>40 – 50</td><td>50 – 60</td><td>60 – 70</td></tr><tr><td>No. of students</td><td>5</td><td>9</td><td>15</td><td>20</td><td>12</td><td>7</td></tr></table> OR B) What is a system of simultaneous equations? Solve the following simultaneous equations: $3x + 2y = 16$ $2x - y = 2$	Marks	10 - 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	No. of students	5	9	15	20	12	7	EV	4, 1
Marks	10 - 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70											
No. of students	5	9	15	20	12	7											
19	A) Create a system of equations to represent this: A ticket for an adult costs ₹x, and for a child it costs ₹y. A group of 3 adults and 4 children pays ₹220, and another group of 2 adults and 3 children pays ₹170. Find the cost of each ticket. OR B) Create two sets A and B with 5 and 4 elements, respectively, and where their union has exactly 6 elements. Show the sets and the calculation.	CR	1, 1														