CLASS: IMSc   SEMESTER: I
BRANCH: QEDS   SESSION: MO/2022

SUBJECT: ED105 INTRODUCTION TO ECONOMICS AND ESSENTIAL MATHEMATICS
TIME: 03 Hours   FULL MARKS: 50

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

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Q.1(a)	Solve the following system of linear equations using matrix method: $2X_1 - X_2 + 3x_3 = 9$ $X_1 - 3X_2 - 2X_3 = 0$ $3X_1 + 2X_2 - X_3 = -1$	[5]	1
Q.1(b)	Explain the concept of elasticity. What are the different measures of elasticity?	[5]	1
Q.2(a)	The demand function for two commodities X and Y are: $P_1 = 20-3x$ and $P_2 = 15-7y$. The cost function is $C = 45 + 7x + 6y$. Determine the quantities that maximize the profit of the producer and find the maximum profit.	[5]	2
Q.2(b)	Minimize the expenditure function $5q_1 + 4q_2$ subject to the utility function $q_1^{0.4}q_2^{0.6} = 550$.	[5]	2
Q.3(a)	Explain positive and normative economics.	[5]	3
Q.3(b)	Discuss the three central questions in economics.	[5]	3
Q.4(a)	Define opportunity cost in the context of production possibility frontier (PPF). Explain with diagram.	[5]	4
Q.4(b)	What is the difference between public goods and private goods?	[5]	4
Q.5(a)	What is the difference between change in quantity demanded and change in demand?	[5]	5
Q.5(b)	Explain the concepts of producer surplus and consumer surplus with diagram.	[5]	5

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