

INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION)

CLASS: B.TECH  
BRANCH: EEE

SEMESTER: VII  
SESSION: MO/2022

SUBJECT: EE427 SOFT COMPUTING TECHNIQUES

TIME: 2 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 25.
  2. Candidates attempt for all 25 marks.
  3. Before attempting the question paper, be sure that you have got the correct question paper.
  4. The missing data, if any, may be assumed suitably.
  5. Tables/Data handbook/Graph paper etc. to be supplied to the candidates in the examination hall.
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Q1	(a)	What is meant by fuzzy logic system?	[2]	CO1	BL1
Q1	(b)	Discuss uncertainty in information with a suitable example.	[3]	CO1	BL2
Q2	(a)	What is a fuzzy set?	[2]	CO2	BL1
Q2	(b)	What is the role of membership function in fuzzy logic?	[3]	CO2	BL1
Q3	(a)	What is meant by universe of discourse??	[2]	CO1	BL1
Q3	(b)	Explain the operation of fuzzy sets with a suitable example	[3]	CO3	BL2
Q4	(a)	Discuss the various special features of the membership function.	[2]	CO3	BL1
Q4	(b)	What is meant by implication?	[3]	CO2	BL1
Q5	(a)	Explain the terms with suitable examples. a) Fuzziness b) Power set c) Union of two sets.	[2]	CO1	BL2
Q5	(b)	If $A = \{(x_1, 0.5), (x_2, 0.7), (x_3, 0)\}$ be the fuzzy set of young people and $B = \{(x_1, 0.5), (x_2, 0.7), (x_3, 0)\}$ be the fuzzy set of middle-aged people than find out a) Find the intersection of fuzzy sets A and B b) Find the product of fuzzy sets A and B c) Find the difference of fuzzy sets A and B	[3]	CO3	BL3

:::::: 30/09/2022 :::::M