SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x8=16)

Q.23 Explain the concept of fuzzy qualifiers. Describe how linguistic hedges are used to modify fuzzy sets. (CO3)

Q.24 Explain in detail different fuzzy operations. (CO2)

Q.25 Write short note on the following:

a) Decomposition theorems in fuzzy set (CO2)

b) Fuzzy relation Equations (CO3)

No. of Printed Pages : 4 223864A

Roll No. .....

6th Sem. / Artificial Intelligence & Machine Learning
Sub. : Fuzzy Logic & Applications

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (6x1=6)

Q.1 The result of adding two fuzzy numbers is : (C02)

a) A crisp Number b) A fuzzy Number

c) A random number d) An uncertain Number

Q.2 Who introduced Fuzzy Logic? (C01)

a) Lotfi A. Zadeh b) George Boole

c) Claude Shannon d) Alan Turing

Q.3 The Operation on Fuzzy Sets are : (C02)

a) Union b) Intersection

c) Complement d) All

Q.4 Fuzzy Measure concept is on : (C03)

a) Probability b) Possibility

c) Belief d) All

Q.5 The application of Fuzzy logic is : (C04)

a) Aerospace b) Business

c) Pattern Recognition d) All

Q.6 Possibility Theory concept is based on : (CO3)

a) Probability b) Possibility

c) Necessity d) All

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 A fuzzy relation is a _____ set of ordered pairs. (Fuzzy / Crisp) (CO3)

Q.8 Fuzzy addition is approximate, while crisp addition is exact. (True / False) (CO2)

Q.9 Image, speech and text are pattern recognition applications of fuzzy logic. (True/False) (CO4)

Q.10 The Union of two fuzzy sets is a _____ (Crisp/ Fuzzy) set. (CO2)

Q.11 A crisp set is a set with _____ (Sharp / Vague) boundaries. (CO1)

Q.12 Fuzzy relations are characterized by_____ functions. (Union/ membership) (CO3)

SECTION-C

Note: Short answer type Questions. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 Explain Binary relations on single set with one example. (CO3)

Q.14 Write the applications of Fuzzy logic in pattern recognition. (CO4)

Q.15 What is the purpose of the membership function in Fuzzy Logic? (CO1)

Q.16 What are the characteristics of fuzzy sets. (CO1)

Q.17 What are crisp and fuzzy relations? (CO3)

Q.18 Explain Union and Intersection fuzzy operations. (CO2)

Q.19 Explain Possibility versus Probability Theory. (CO3)

Q.20 Explain Classical sets in fuzzy logic. Give one example. (CO1)

Q.21 What are Fuzzy Numbers? Give one example. (CO2)

Q.22 How Fuzzy Logic is helpful in defense Sector? (CO4)