2017

MATHEMATICS

PAPER: MTC 402

FUZZY LOGIC AND CONTROL SYSTEM

FULL MARKS: 80

TIME: 3 HOURS

The figures in the margin indicate full marks for the questions

1. **Answer any four questions :** 5X4=20

   (a) What is fuzzy logic and Fuzzy Proposition? Write the fundamental difference between classical proposition and fuzzy proposition.

   (b) Write about unconditional and unqualified proposition with example.

   (c) Write about conditional and qualified proposition with example.

   (d) What is fuzzy quantifier? Explain fuzzy quantifiers of second kind with example.

   (e) Write briefly about composition rule of inference.

2. **Answer any two questions :** 10X2=20

   (a) Write briefly with diagram about the explanatory inference knowledge and acquisition module of fuzzy expert system.

   (b) Define fuzzy implications. Write the reasonable axioms of fuzzy implications.

   (c) Explain Multiconditional approximate reasoning.

3. **Answer any two questions :** 10X2=20

   (a) Write an overview of fuzzy controllers.

   (b) What are defuzzification methods? Explain

   (c) Write the steps to discuss the main issues involve in the design of fuzzy controller for stabilizing an inverted pendulum.

4. **Answer any four questions :** 5X4=20

(a) Write on application of fuzzy set theory for determination of symptom of diseases of a patient.

(b) Explain on individual decision making with example.

(c) Write on multiperson decision making.

(d) Discuss fuzzy ranking method with example.

(e) Write briefly about multistage decision making.

****