



Reg. No. :

Name :

Eighth Semester B.Tech. Degree Examination, May 2013

(2008 Scheme)

08.805 (1) : FUZZY SET THEORY AND APPLICATIONS

(Elective – III) (R)

Time: 3 Hours

Max. Marks : 100

PART – A

Short answer questions

All questions are **compulsory**.

(10×4=40 Marks)



1. Explain in detail about the fuzzy set operations.
2. State any four properties of Fuzzy relations.
3. Explain the Cosine Amplitude method.
4. Describe Fuzzification with the comparisons of fuzzy and crisp sets.
5. Write short notes on linguistic hedges.
6. Define the logical connectives of disjunction and conjunction of a Classical Logic.
7. Explain any two forms of Implication operations.
8. Write short notes on fuzzy controllers.
9. Explain Fuzzy Image Processing.
10. How is fuzzy clustering done ?



PART – B

Descriptive / Analytical / Problem solving questions

Answer **one** question out of two from **each** Module.

(3×20=60 Marks)

Module – I

11. Write short notes on :

- i) Inductive reasoning
- ii) Tolerance and equivalence relations
- iii) Properties of Crisp relations.

OR

12. i) Describe the Max-Min method.

- ii) A physician analyzes different samples of an infected organ (S) and classifies as not infected, moderately infected and Seriously infected. Five samples are given below :

Samples	S1	S2	S3	S4	S5
Not infected	0.6	0.3	0.1	0.9	0.8
Moderately infected	0.4	0.5	0.3	0.1	0.1
Seriously infected	0.0	0.2	0.6	0.0	0.1

Find the similarity relation R, using the Max-Min method.

Module – II

13. Explain (i) λ -cut for fuzzy relations.

- (ii) Any two methods of defuzzification.

OR

14. Describe in detail about Fuzzy Rule Based Systems.

Module – III

15. Explain how Fuzzy Neural Networks are organized ?

OR

16. a) Explain Fuzzy Information Retrieval methods.

- b) How do fuzzy databases differ from conventional databases ?