

**B.Tech. – VIEP – COMPUTER SCIENCE AND  
ENGINEERING (BTCSVI)**

**00735 Term-End Examination**

**June, 2017**

**BICSE-004 : FUZZY SYSTEMS**

*Time : 3 hours*

*Maximum Marks : 70*

**Note :** Answer any **seven** questions. Assume missing data, if any. All questions carry equal marks.

1. (a) Describe the concept of fuzzy set. 5  
(b) Find some examples of interval-valued L-fuzzy sets, level 2 fuzzy sets and type 2 fuzzy sets. 5
2. (a) Define fuzzy neural networks. What are the basic features of resulting networks ? 5  
(b) Represent finite fuzzy automations and write down the steps to create relations. 5
3. Explain multi-valued logic and compare it with classical and fuzzy logic. 4+6
4. (a) What is the inference from conditional fuzzy propositions ? Explain the compositional inference with the help of diagrams. 5  
(b) What are the steps in inference qualified propositions ? 5

5. Discuss the role of the following : 3+3+4
- (a) Selection
  - (b) Cross-Over
  - (c) Mutation in the context of genetic algorithms
6. (a) What is the relation between fuzzy truth with values and probabilities? 5
- (b) What are the different forms of uncertainty in the information world ? 5
7. Describe the complete fuzzy inference system with various propositions. Give an example to show various cases. 10
8. (a) Briefly explain the fuzzy information retrieval based on fuzzy sets. 5
- (b) Write the decision-making components and explain them. 5
9. (a) Define fuzzy neural networks. What are the basic features of resulting networks ? 5
- (b) Represent finite fuzzy automation and write down the steps to create its relations. 5
10. Write short notes on the following : 2×5=10
- (a) Fuzzy Neural Networks
  - (b) Fuzzy Morphisms