No. of Printed Pages : 2

BICSE-004

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

Term-End Examination

00856

June, 2016

BICSE-004 : FUZZY SYSTEMS

Time : 3 hours *Maximum Marks : 70*

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

1. (a) Compare and contrast between crisp variables and fuzzy variables. Give example. *5*

(b) Explain how uncertainty and impressionism can be modelled with fuzzy logic theory. *5*

2. (a) What are the different forms of uncertainty in information world ? Explain briefly. *5*

(b) Differentiate between "Crisp sets" and "Fuzzy sets". *5*

3. (a) Give the overview of fuzzy controllers and describe the general scheme of a fuzzy controller with diagram. *5*

(b) What are the different defuzzification methods in fuzzy control ? *5*

4. (a) Explain the concept of fuzzy databases completely. *5*

(b) Define the multicriteria decision making and explain it with suitable examples. *5*

5. Prove that properties of symmetry, reflexivity and transivity (or lack of these properties) are preserved under inversion of both and fuzzy relations. *10*

6. Describe the Genetic algorithm and show how it can be useful in fuzzy system. *10*

7. Explain intelligent solution for "Pattern Recognition for fingerprints" using fuzzy logic. *10*

8. (a) Describe Fuzzy Bayesian Decision Method. *5*

(b) What do you understand by cluster ? Explain fuzzy c-means clustering. *5*

9. What is Hartley function and how is it related to U-uncertainty ? Give proper mathematical expressions. *10*

10. Write short notes on any ***two*** of the following.: *2×5=10*

(a) Advantages of fuzzy logic control over the artificial neural networks

(b) Limitation of the recurrent back propagation algorithm

(c) Adaptive Resonance theory

(d) Hopfield Networks