

Code No: RT42024C

R13

Set No. 1

IV B.Tech II Semester Supplementary Examinations, July/August- 2017

AI TECHNIQUES

(Electrical and Electronics Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

PART-A (22 Marks)

1. a) Explain briefly unsupervised learning with neat sketch? [4]
- b) Enumerate various activation functions with their mathematical models [4]
- c) Briefly explain feed forwards neural network with schematic block diagram. [4]
- d) Distinguish between crisp set and fuzzy set with suitable example. [4]
- e) What is basic hybrid system? [3]
- f) Enumerate various applications of AI techniques. [3]

PART-B (3x16 = 48 Marks)

2. a) What is artificial intelligence? How to find out whether a computer is showing intelligent behavior or not? [8]
- b) Discuss about the learning tasks. [8]
3. a) Explain McCulloch- Pitt Neural Network Model with schematic block diagram. [8]
- b) What is single layer Feed Forward Neural network? List out the limitations of perceptron model. [8]
4. Explain in detail Radial Basis Function (RBF) neural networks with schematic block diagram. [16]
5. a) Given $U = \{5,20,30,40,50,60,70,80\}$ and fuzzy sets A and B are defines as follows :
 $A = \{(20,0.1), (30,0.2), (40,0.4)\}$
 $B = \{(20,0.8), (30,0.6), (40,0.5)\}$
Find (i) $A \cup B$ (ii) $A \cap B$ (iii) $A \ominus B$ (iv) $A \oplus B$. [8]
- b) What is uncertainty? Discuss about the fuzzy relations. [8]
6. Explain the six Membership value assignment methods with suitable examples [16]
7. Illustrate the concept of economic load dispatch and how genetic algorithm is helping in the economic load dispatch problems. [16]