M.E. First Semester (Computer Science & Information Technology) (New-CGS)

13183 : Elective-I : Expert System Design & Intelligent System : 1 RNME 5

P. Pages : 2

Time : Three Hours

* 0 7 4 7 *

AW - 3603

Max. Marks : 80

Notes : 1. Assume suitable data wherever necessary.
2. Illustrate your answer necessary with the help of neat sketches.

1. a) Define Expert System. Explain its characteristics. **6**

b) Explain Heuristic search giving example. **7**

OR

2. a) Explain the difference between monotonic and non monotonic revision. **7**

b) Explain the concept related to TMS's keeping work of dependency. **6**
i) Relaxation in N/W ii) Belling revision

3. a) Explain in detail various methods used to acquire knowledge. **6**

b) Explain various conflict resolution mechanisms. **7**

OR

4. a) Explain frame system for representing real world knowledge. **7**

b) Explain object oriented analysis and design for expert systems. **6**

5. a) What is Defuzzification? Explain any two defuzzification methods in brief. **7**

b) What is fuzzy expert system? Explain general inference process of fuzzy expert system. **7**

OR

6. a) Describe the concept of fuzzy sets in your own words. **7**

b) Explain hardware realization of analog fuzzy controller giving example. **7**

7. a) Compare supervised learning with unsupervised learning. Give suitable example to explain. **7**

b) What is simple artificial neuron? How artificial neuron learns? **7**

OR

8. a) Explain various applications of neural computing. **7**

b) What is the role of hidden layers in neural networks? **7**

9. a) Name and describe the main features of genetic algorithm. 4

b) Define the terms chromosome, fitness function, crossover and mutation as used in genetic algorithms. Explain how genetic algorithm works. 9

OR

10. a) Explain machine learning classifier system with the help of block diagram. 7

b) Explain the use of genetic algorithms for network training. 6

11. a) What is Ant colony optimization technique? Explain giving example. 7

b) How does Swarm intelligence work? Explain. 6

OR

12. a) State the various types of Ant colony models. Explain Aco algorithm for travelling salesman problem. 8

b) Explain various principles in Swarm intelligence. 5

****