CS - 801

B.E. VIII Semester

Examination, December 2012

Soft Computing

Time : Three Hours

Maximum Marks : 100 *Minimum Pass Marks :35*

Note: Attempt any five questions.
All questions carry equal marks.

1. (a) What are various types of production systems? Also discuss their characteristics? 10

   (b) What is propositional logic? Explain the knowledge representation using propositional logic. 10

OR

2. (a) What do you understand by Heuristic? Explain hill climbing method. Compare it with generate and test method. 10

   (b) Differentiate the following : 10

   (i) Monotonic and Non Monotonic Reasoning

   (ii) Forward and Backward Reasoning

3. (a) Explain the algorithm for ADALINE and MADALINE network. 10

   (b) State and explain Hebb's learning rule. 10

OR

4. (a) Show using an example that multilayer perceptors (MLP) can successfully implement XOR logic, while simple perceptor-cannot. 10

   (b) Explain the problem of linear separability. How EX-OR gate problem be implemented using ANN? 10

5. (a) Discuss the characteristics and applications of ART network? 10

   (b) Draw and discuss the configuration of recurrent network. 10

OR

6. (a) Explain how Boltzmann machine can be used to overcome the problem associated with Hopfield nets? 10

   (b) What are the differences in learning approach of Counter propagation Network (CPN) to feed forward network? 10

7. (a) Differentiate the following : 10

   (i) Fuzzy set and crisp set

   (ii) Fuzzy relation and Crisp relation.

   (b) Explain fuzzy decision making with the help of an example. 10

OR

8. (a) Explain generalized Modus Ponens (GMP) and generalized Modus Tollens (GMT) with the help of an example. 10

   (b) Discuss various modes of fuzzy reasoning in detail? 10

9. (a) What is genetic algorithm? Compare and contrast genetic algorithm and traditional algorithm. 10

(b) Give a brief note on applications and advances in Genetic Algorithm? 10

OR

10. (a) Describe generation cycle of genetic algorithm? 10

b) Write short notes on : 10

(i) Inheritance Operator

(ii) Cross Over

(iii) Mutation Operator

(iv) Bitwise Operator