MCSE-205

M.E. / M.Tech. (second semester)
EXAMINATION, june, 2012
(Garding/Non-Grading)
SOFT COMPUTING
(MCSE-205)

Time: three hours *Maximum Marks: GS: 70*
NGS:100

NOTE: attempt any five questions. all questions carry equal marks.

1. (a) explain what is meant by soft computing. differentiate between soft computing and hard computing. explain various soft computing techniques.
(b) explain artificial neural network. what is the necessity of activation function? explain commonly used activation function.

2. (a) state the characteristics of artificial neural network. explain weight, bias and threshold.
(b) explain the architecture of back propagation network. list various stages involved in training of backpropagation network.

3. (a) explain perceptron network training with and without bias by taking suitable examples.
(b) explain the following :
1. supervised learning
2. incremental learning
3. unsupervised learning

4. (a) sketch the architecture of full CPN and explain how CPN nets are used for function approximation.
(b) briefly explain what are support vector machines and discuss its architecture.

5. (a) define membership function and state its importance in fuzzy logic.
(b) with suitable example , explain the method by which membership value assignments are performed using genetic algorithms.

6. (a) compare and contrast traditional and genetic algorithm. state the importance of genetic algorithm.

(b) explain various types of crossover and mutation techniques.

7. (a) what are crisp relations? how are they different from fuzzy relation ? explain various properties of crisp relation and fuzzy relation.
(b) explain defuzzification. discuss various defuzzification methods.

8. write short notes on any four of the following :
(1) bayesian networks
(2) Mc culloch-pitts neuron models
(3) cohennan's self organization map
(4) fuzzy associative memory
(5) swarm intelligence.