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Question Paper Code :

**ANIL NEERUKONDA INSTITUTE OF TECHNOLOGY & SCIENCES
(AUTONOMOUS)**

M.Tech II-Semester Regular Examinations, May 2016

**Soft Computing
(Computer Science & Technology)**

Date:

Time: 3 hours

Max Marks: 60

Answer ONE Question from each unit

All questions carry equal marks

All parts of the question must be answered at one place only

UNIT-I

1. a) Define Artificial Neural Network. Explain different types of Neural Network with neat Diagram? (8M)
b) Write a Short note on Perceptron? (4M)
(OR)
2. a) Explain Model of Artificial Neuron. Write down the characteristics of Neural Networks. (6M)
b) What is Learning? Explain Different types of learning (6M)

UNIT-II

3. a) Explain the Architecture of a Back Propagation Network (8M)
b) Write down the applications of Back Propagation. (4M)
(OR)
4. a) Illustrate the different steps of the Back Propagation Algorithm. (8M)
b) Explain about Selection of various parameters in Back Propagation Network? (4M)

UNIT-III

5. a) What is Adaptive Resonance Theory. Explain the Structure of ART1 With neat Diagram? (8M)
b) Write Short Notes on Vector Quantization? (4M)
(OR)
6. a) Explain the Steps of ART2 Algorithm (8M)
b) Mention the applications of Adaptive Resonance Theory (4M)

UNIT-IV

7. a) Define Defuzzification. What are the different methods of Defuzzification Process and explain? (8M)
b) Elaborate on Fuzzy Inference System. (4M)
(OR)

8. a) Define the membership function and state its importance in fuzzy logic and also discuss the features of membership function? (6M)
b) Define Crisp set with its fundamental concept and mention the operation performed on crisp relation. (6M)

UNIT-V

9. a) Define creation of Offspring's in detail. Also write down the working principle of Genetic Algorithm and its application? (8M)
b) Write short notes on Cross over? (4M)
(OR)
10. a) Define Reproduction. Explain various method of selecting chromosomes? (8M)
b) Write short notes on Convergence of Genetic Algorithm? (4M)
