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Roll No

IT-802**B.E. VIII Semester****Examination, June 2017****Soft Computing****Time : Three Hours****Maximum Marks : 70**

- Note :** i) Attempt any five questions. All questions carry equal marks.
 ii) All parts of each question are to be attempted at one place.
 iii) Assume suitable value for missing data, if any.

1. a) Differentiate the supervised and unsupervised learning. 7
 b) Derive the weight change expression for the weight between hidden and output layer in EBPA network. Consider hyperbolic tangent function as the activation function. Use momentum factor in your weight adjustment formula. 7
2. a) What is the signification of Widrow's learning for linear associative network? 7
 b) State the training procedure of Kohonen layer and Grossberg layer in counter propagation network. 7
3. a) Justify why Artificial Neural Network is called adaptive system during training. 7
 b) Name some application of Kohonen self-organizing network. What are the properties of adaptive resonance theory? 7

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4. a) Discuss the basic or standard fuzzy sets operation. What is decision making? What are its steps? 7
 b) Analyse the Training and Testing operation of a Recurrent Neural Network. 7
5. a) Explain how the clusters are formed in an ART network. 7
 b) Discuss the categorization of bit-wise operators. Describe tournament selection strategy. 7
6. a) What are the applications of genetic algorithm? Describe tournament selection strategy. 7
 b) Draw the architecture of Hopfield net. design Hopfield net for 4 bit bipolar pattern. The training pattern are I sample S1 [1, 1, -1, -1] II sample S2 [-1, 1, -1, 1] III sample S3 [-1, -1, -1, -1, 1] 7
7. a) Illustrate any one defuzzification method with an example? 7
 b) Explain the difference between conventional control and fuzzy control system. 7
8. a) Explain the significance of adjustment of free parameters when implementing Genetic Algorithm. 7
 b) How is Genetic Algorithm differ from traditional algorithm? Classify the types of coding employed in Genetic Algorithm? 7

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