Printed Pages: 01 | Sub Code: ECS-088

Paper Id: 1 1 0 8 1 4 | Roll No.

B TECH
(SEM VIII) THEORY EXAMINATION 2017-18
SOFT COMPUTING

Time: 3 Hours | *Total Marks: 100*

Note: **1.** Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 10 = 20**

a. What are the assumptions made in artificial neural networks?
b. Write the applications of neural networks?
c. What is a membership function in a fuzzy set?
d. Discuss linear severability?
e. What are Fuzzy Controllers?
f. List various applications of soft computing.
g. Discuss a self organizing map?
h. What is meant by threshold logic unit?
i. Why we use genetic algorithm?
j. What are the applications of fuzzy logic?

SECTION B

2. Attempt any *three* of the following: **10 x 3 = 30**

a. What are the features inherited by ANN from biological neurons?
b. What is Defuzzification? Explain all the three methods which are used in Defuzzification with an example?
c. Draw the architecture of a simple perceptron.
d. Explain optimization of traveling salesman problem using genetic algorithms.
e. What are the various internet search techniques based on genetic algorithms?

SECTION C

3. Attempt any *one* part of the following: **10 x 1 = 10**

(a) Differentiate the three types of training networks.
(b) Explain Self Organizing Map and its training algorithms.

4. Attempt any *one* part of the following: **10 x 1 = 10**

(a) What are the characteristics of artificial neural?
(b) How is weight adjustment done in backpropagation network?

5. Attempt any *one* part of the following: **10 x 1 = 10**

(a) Explain Rosenblatt's perceptron model with example.
(b) Draw the architecture of a backpropagation network.

6. Attempt any *one* part of the following: **10 x 1 = 10**

(a) Differentiate between linearly separable patterns and non-linearly separable patterns with examples.
(b) What are the fuzzy modifiers? Explain with examples.

7. Attempt any *one* part of the following: **10 x 1 = 10**

(a) What are fuzzy sets? Discuss the operations of fuzzy sets.
(b) Write short notes on the following:
(i) Recurrent Networks
(ii) Fuzzy Relations

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