



Reg. No. :

Name :

**Second Semester M.Tech. Degree Examination, December 2016
(2013 Scheme)
COMPUTER SCIENCE
RCE 2008 : Soft Computing**

Time : 3 Hours

Max. Marks : 60

Instruction : Answer *any two* questions from *each* Module.

MODULE – I

(2×10=20 Marks)

1. Compare and contrast biological neuron and artificial neuron.
2. a) Define neural net architecture and give its classification.
b) Discuss in detail about different learning methods.
3. Using linear separability concept, obtain the response for NAND function.

MODULE – II

(2×10=20 Marks)

4. Design a Hebb net to implement logical AND function.
 - a) Binary inputs and targets.
 - b) Binary inputs and bipolar targets.
5. List and explain in detail the various methods employed for the membership value assignment.
6. a) Define Defuzzification.
b) State the necessity of defuzzification process.
c) Explain the different methods of defuzzification process.

MODULE – III

(2×10=20 Marks)

7. Explain a GA-based BPNN system.
8. a) List the characteristics of genetic programming.
b) What is meant by multimodal optimization ?
9. Determine the maximum of function $x \cdot x^5 \cdot (0.007x + 2)$ using genetic algorithm by writing a program.