

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER– IV• EXAMINATION – WINTER 2015

Subject Code: 2640009

Date: 09/12/ 2015

Subject Name: Soft Computing

Time: 10.30 a.m. To 01.00 p.m.

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Explain the terms with respect to Artificial Neural Networks. **07**
1. Weights
 2. Threshold
 3. Bias
 4. Learning Rate
 5. Momentum Factor
 6. Vigilance Parameter
 7. Linear Separability
- (b)** Explain Perceptron networks for Artificial Neural Networks. **07**
- Q.2 (a)** What is Back-Propagation network? Explain giving examples. **07**
- (b)** Explain Radial Basic Function Network. **07**
- OR**
- (b)** Discuss Auto Associative Memory Network. **07**
- Q.3 (a)** What is meant by Bidirectional Associative Memory. **07**
- (b)** Explain Hopfield Networks. **07**
- OR**
- Q.3 (a)** Explain Kohonen Self-Organizing Feature Maps. **07**
- (b)** Discuss Adaptive Resonance Theory Network. **07**
- Q.4 (a)** Explain Simulated Annealing Network. **07**
- (b)** Explain architecture and operation of Fuzzy Logic Control Systems. **07**
- OR**
- Q.4 (a)** Explain Basic Fuzzy Set Operations. **07**
- (b)** Explain Fuzzy Relations in detail. **07**
- Q.5 (a)** Explain defuzzification methods available for Fuzzy Logic Control Systems. **07**
- (b)** Explain different ways of encoding of chromosomes in Genetic Algorithms. **07**
- OR**
- Q.5 (a)** Explain different selection methods in Genetic Algorithm with examples. **07**
- (b)** What is meant by crossover and mutation in Genetic Algorithm? What will happen if mutation is not performed in Genetic Algorithm? **07**
