

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-IV • EXAMINATION – SUMMER • 2014

Subject Code: 2640009

Date: 03-06-2014

Subject Name: Soft Computing

Time: 10:30 am - 01:00 pm

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)** 1. State real life applications of Artificial Neural Network. **07**
2. State real life applications of Genetic Algorithm.
3. State real life applications of Fuzzy Logic.
4. Artificial Neural Network tries to simulate human brain's learning ability – State whether this statement is true or false.
5. What are fuzzy relations?
6. What is Boltzmann machine?
7. What is Hopfield Network?
- (b)** Explain the various selection techniques in Genetic Algorithm. **07**
- Q.2 (a)** Explain Architecture & Operation of Fuzzy Logic Control System. **07**
(b) Explain basic model of Artificial Neural Network. **07**
- OR**
- (b)** What is Radial Basis Function Network. **07**
- Q.3 (a)** What is Time Delay Neural Network. **07**
(b) Explain Simulated Annealing Network. **07**
- OR**
- Q.3 (a)** Explain Kohonen Self-Organizing Motor Maps with example. **07**
(b) Explain Adaptive Resonance Theory Network. **07**
- Q.4 (a)** What is Mc Culloh – Pits Neuron model. **07**
(b) Explain Fuzzy Rule Based System with example. **07**
- OR**
- Q.4 (a)** Explain Defuzzification methods in Fuzzy Logic Control System **07**
(b) What is Fixed Weight Competitive Networks. **07**
- Q.5 (a)** Explain working principle of Genetic algorithm. **07**
(b) State and explain different crossover techniques of Genetic Algorithm in detail. **07**
- OR**
- Q.5 (a)** State and explain mutation techniques of Genetic Algorithm in detail. **07**
(b) State and explain different encoding methods of Genetic Algorithm. **07**
