Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CSE) (2011 Onwards E-III) (Sem.–7,8)

SOFT COMPUTING

Subject Code : BTCS-911

Paper ID : [A2993]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

Answer briefly :

1. What is soft computing?
2. What is Ant Colony Optimization?
3. What do you mean by neural network architecture?
4. Explain delta rule.
5. State Perceptron learning algorithm.
6. Differentiate between fuzzy set and Crisp set.
7. What is Defuzzification?
8. What are the features of membership function?
9. What are limitations of fuzzy system?
10. State the operations on fuzzy set.

SECTION-B

11. Explain fuzzy decision making with the help of an example.

12. Explain characteristics and application of ART (Adaptive Resonance Theory) network.

13. What are the differences in learning approach of Counter Propagation Network (CPN) to feed forward network?

14. What is the motivation of using fuzzy logic in control application? Discuss.

15. Explain the working principle of genetic algorithms. What do you understand by fitness function?

SECTION-C

16. Define following operations on fuzzy set giving numerical example :

    a. Union

    b. Intersection

    c. Complement

    d. Product

    e. Difference

17. Explain the Kohnen's self-organizing network in detail.

18. Explain in detail swarm Intelligence with valid examples.