K17P 0191

Reg. No. : ....

Name : ....

**Third Semester M.C.A. Degree (Regular/Supplementary/Imp.)
Examination, January 2017
(2014 Admission Onwards)
(Elective – I) MCA3E04 : Soft Computing**

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **any ten** questions. **Each** question carries **three** marks.

(3×10=30)

1. What is soft computing ?

2. Compare Soft computing Vs Hard computing.

3. List the various types of soft computing techniques and mention some application areas for Neural Network.

4. Explain the working of a self-organizing map.

5. Why Hopfield network is called as recurrent neural network.

6. What is adaptive resonance theory ?

7. What are the properties of adaptive resonance theory ?

8. What is union in fuzzy set operation and intersection in Fuzzy Operation ?

9. How does the ANT Colony optimization differ from evolutionary programme of Genetic Algorithm (GA) and what are the parameters of GA ?

10. What is TABU search ?

11. Define linear and non-linear system.

12. What is a hybrid intelligent control ?

SECTION – B

Answer **all** questions. **Each** question carries **ten** marks.   **(5×10=50)**

13. a) Define Bidirectional Associative Memory (BAM) and its type.

    OR

    b) Explain Kohonen self organizing map.

14. a) State Charles Darwin theory of natural evolution.

    OR

    b) What is encoding in genetic algorithm ?

15. a) Explain linearly separable and linearly non-separable problem with suitable example.

    OR

    b) Discuss training algorithm of discrete hopfield network.

16. a) How crossover is performed ? Explain various crossover techniques of genetic algorithm.

    OR

    b) What do you understand by optimization ? Explain genetic algorithm in this context.

17. a) Fuzzy set is an extension of crisp set – Explain.

    OR

    b) Design a Lebbian network to implement logical OR function. Train the network with bipolar input and target.

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