

# **AE-828**

M.Sc. (Final)  
Term End Examination, 2016-17

## **COMPUTER SCIENCE**

Soft Computing Techniques

*Time* : Three Hours]      [*Maximum Marks* : 100

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**Note** : Answer **all** questions. All questions carry equal marks.

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### **Unit-I**

1. (a) Write the different tools of soft computing.
- (b) How software computing is different from hardware computing ?

**OR**

- (a) Write the benefits and application of soft computing.
- (b) What are the requirements of soft computing ?

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**Unit-II**

2. (a) What is Neural Network ? Explain with its architecture.
- (b) Write the difference between supervised and unsupervised learning.

**OR**

- (a) Explain Hopfield Network.
- (b) Explain the following :
- (i) Associative memories
- (ii) Memory based learning

**Unit-III**

3. (a) What is  $\alpha$ -cuts ? Write the properties of  $\alpha$ -cuts.
- (b) What do you mean by linguistic variable Fuzzy relations ?

**OR**

- (a) Write the aggregation operations of Fuzzy logic.
- (b) Explain about membership function of Fuzzy logic.

**Unit-IV**

4. (a) What do you mean by Genetic Algorithm ?

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(b) Write the different techniques of Selection.

**OR**

(a) Write short notes on Crossover and Mutation.

(b) Describe Binary Chromosome with example.

**Unit-V**

5. (a) Write short note on MATLAB.

(b) Describe the design of Neuro-fuzzy Model.

**OR**

(a) Differentiate between Neuro genetic and Fuzzy genetic technique.

(b) Write the application of Hybrid Soft Computing.

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