

M.Sc.(Computer Science) - II (CBCS Pattern) Semester - III  
**PSCST10 - Paper-II : Soft Computing Techniques**

P. Pages : 2

Time : Three Hours



**GUG/S/23/11233**

Max. Marks : 80

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- Notes :
1. All questions are compulsory and carry equal marks.
  2. Draw neat and labelled diagrams wherever necessary.
  3. Avoid vague answers and write answers relevant and specific to questions only.

**Either:**

1. a) What is soft computing? Differentiate between soft computing verses Hard computing. **8**
- b) What is NLP? Explain the weak and strong slot and filler structures with example. **8**

**OR**

- c) Explain AO\* algorithm in detail. **8**
- d) Explain in detail Breadth first search. **8**

**Either:**

2. a) Explain Biological neuron as well as structure and function of single neuron. **8**
- b) Write a note on: **8**
  - i) ADALINE
  - ii) MADALINE

**OR**

- c) What is MLP? Explain its different activation functions. **8**
- d) What is ANN? Explain single layer network. **8**

**Either:**

3. a) Discuss in brief about fuzzy interface system. **8**
- b) What is Fuzzy set theory? Differentiate between fuzzy set verses crisp set. **8**

**OR**

- c) Explain the features of membership functions in detail. **8**
- d) Write a note on Decomposition & Aggregation of Fuzzy Rule. **8**

**Either:**

- |           |    |  |          |
|-----------|----|--|----------|
| <b>4.</b> | a) | What is genetic Algorithm? Explain working principle of Genetic Algorithm. | <b>8</b> |
|           | b) | Explain Generation cycle in detail.  | <b>8</b> |

**OR**

- |           |    |   |          |
|-----------|----|---|----------|
|           | c) | What are the differences and similarities between G. A.? Explain.   | <b>8</b> |
|           | d) | What is genetic modelling? Explain inheritance operators in detail. | <b>8</b> |
| <b>5.</b> |    | Attempt all the questions.  |          |
|           | a) | Write a short note on production system.                            | <b>4</b> |
|           | b) | Explain in brief linear separability.                               | <b>4</b> |
|           | c) | Write a note on crisp logic.  | <b>4</b> |
|           | d) | Explain Genetic operator in detail.                                 | <b>4</b> |

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