M.C.A. - I (Two Year Programme) (New CBCS Pattern) Semester-II

PSMCAT202 - Paper-II : Soft Computing Techniques

P. Pages : 2 **GUG/S/25/13643**

Time : Three Hours * 2 1 1 4 * Max. Marks : 80

Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labelled diagram wherever necessary.
3. Avoid vague answers and write relevant answer to specific questions.

Either:

1. a) Explain types of soft computing techniques in detail. **8**

b) Write and explain A* Algorithm. **8**

OR

c) Explain types of control strategies in soft computing. **8**

d) Give the difference between soft computing and hard computing. **8**

Either:

2. a) Discuss taxonomy of neural network. **8**

b) Write a detail note on ADALINE. **8**

OR

c) Explain Multi-Layer neural network with example. **8**

d) Write a note on: **8**
i) Supervised learning.
ii) Unsupervised learning.

Either:

3. a) Give the properties of crisp sets. By using given data **8**
$X = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
$A = \{1, 2, 3, 4, 5\}$
$B = \{3, 4, 5, 6\}$

b) Explain decomposition and aggression of Fuzzy rule in detail. **8**

OR

c) Explain why defuzzification is important in fuzzy logic. **8**

d) Write a detail note on crisp relation and fuzzy relation. **8**

Either:

4. a) Explain cross over and inheritance operator in detail. **8**

b) Write a detail note on convergence of genetic algorithm. **8**

OR

c) How genetic algorithm is different from other traditional method? Explain. **8**

d) Explain the types of Reproduction operator in genetic algorithm. **8**

5. Solve all the questions.

a) Explain Best first search technique in brief. **4**

b) Give difference between AI and ANN. **4**

c) Explain application of fuzzy logic in brief. **4**

d) Write a short note on encoding. **4**

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