

M. Tech. 2nd Semester (CSE) CBCS Scheme
Examination, July-2022

SOFT COMPUTING

Paper-MTCSE22C1

Time allowed : 3 hours]

[Maximum marks : 100

Note : Question No. 1 is compulsory. Attempt total five questions by selecting at least one question from each section.

1. Explain the following :
 - (a) Explain M-P model. How linear separability and achieved in this model ?
 - (b) What are fuzzy propositions, explain with examples.
 - (c) Explain Delta training rule with example.
 - (d) Explain ANN architecture. 4×5=20

Section-A

2. Explain various mathematical models of Neurons with their learning rules. Discuss in detail Gradient Descent Algorithm. 20
3. Explain Back propagation algorithm with its architecture and learning rules. 20

Section-B

4. (a) What are Membership function ? Explain how fuzzy rules are generate with example. 10
- (b) Define Fuzzy set and Fuzzy number. Explain the following operations on fuzzy sets : T-NORM, T-CONORM. 10
5. Define fuzzy sets. Explain any four arithmetic operations on closed interval with examples. 20

Section-C

6. Write short note on :
- (a) Linguistic Variables
- (b) Multivalued Logic 20
7. Write short note on :
- (a) Linguistic Hedges
- (b) Fuzzy Qualifiers and Propositions 20

Section-D

8. What are Crisp sets ? How information and uncertainty explained on crisp sets ? 20
9. Explain the concept of Fuzzification. How fuzziness of fuzzy sets achieved, explain with the help of suitable examples. 20