



REGISTRATION NUMBER

--	--	--	--	--	--	--	--	--	--

SRINIX COLLEGE OF ENGINEERING

2ND INTERNAL EXAMINATION-2021-22

Subject-SC

Semester-7th

Branch-CE+EE+EEE+ETC

Full Mark-60

Time-2.00Hrs

ANSWER ALL THE QUESTIONS(GROUP-A) [2 X 10=20]

1. Write down the statements of GMP and GMT .
2. Define fuzzy set and its membership function. Give one example.
3. List down the applications of soft computing in various real life problems.
4. Which two laws are violated in fuzzy set theory but not in crisp set theory?
5. Differentiate between crisp set and fuzzy set. What are the possible membership values which can be assigned to the crisp set members?
6. Draw a 3-4-5-2 neural network architecture diagram.
7. What are the different activation functions used in ANN?
8. Enlist different crossover techniques.
9. Find the Cartesian product of following two fuzzy sets
A= {(X1,0.2),(X2,0.5),(X3,0.8)}
B= {(Y1,0.8),(Y2,0.2)}
10. Define ADALINE.

ANSWER ANY FOUR QUESTIONS (GROUP-B) [5 X 4=20]

- 1.Explain fuzzy inference system with a block diagram.
2. Discuss different learning techniques in artificial neural network.
3. Explain the working procedures of simple genetic algorithm with a flow chart.
- 4.Write down all the properties of fuzzy set .
5. Differentiate between supervised learning and unsupervised learning.
6. Explain Roulette wheel selection technique with an example.

ANSWER ANY TWO QUESTIONS (PART-C) [10 X 2=20]

1. Given two relations :

$$R_1 = \begin{bmatrix} 0.2 & 0.2 & 0.4 & 0.4 \\ 0.4 & 0.2 & 0.5 & 0.9 \\ 0.3 & 0.9 & 0.2 & 0.2 \end{bmatrix}$$

$$R_2 = \begin{bmatrix} 0.8 & 0.2 \\ 0.2 & 0.4 \\ 0.3 & 0.5 \\ 0.7 & 0.2 \end{bmatrix}$$

Find a) max-min composition b) max-product composition

2. What are the different types of encoding, selection and cross over techniques in genetic algorithm? Explain each type with suitable example.
3. What do you mean by ANN? Explain each components of an artificial neuron. Discuss different neural network architectures.