

2018

Full Marks -. 40

Time - 3 hours

The figures in the right-hand margin indicate marks

Answer *all* questions.

1. a) What is data mining ? Describe the steps involved in data mining when viewed as a process of knowledge discovery. 5
- b) Explain the major steps of decision tree classification. 5

OR

- c) What do you mean by clustering ? Explain the different types of clustering with suitable example. 5
 - d) Write an algorithm for k-nearest-neighbor classification given k, the nearest number of neighbours and n, the number of attributes describing each tuple. 5
2. a) State the different learning methods of ANN and explain the different activation functions used in ANN. 5

[2]

- b) What are the advantages of neural networks over conventional computers ? 5

OR

- c) Explain in details unsupervised learning neural networks. 10

3. a) What is Fuzzy set theory ? Explain Fuzzy relations with examples. 10

OR

- b) Explain the different types of defuzzification methods. 5

- c) Differentiate between Fuzzy and Crisp sets. 5

4. a) Enumerate the steps followed in Genetic Algorithm. 5

- b) Explain the different crossover operations used in GA. 5

OR

- c) When Genetic Algorithm are preferred ? What are the benefits of GA. 5

- d) Write short notes on any *two* of the followings : 5

i) Fitness function

ii) Mutation operator

iii) Generational Cycle.