

(2 Hours)

[Total Marks: 60]

- N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculators is allowed.

Q1. Attempt the two of the following.

12 Marks

- What is soft computing? Compare and contrast soft computing with hard computing.
- Explain probabilistic reasoning.
- Explain the architecture of artificial neural network.
- Write applications of soft computing.

Q2. Attempt the two of the following.

12 marks

- Write with example about content addressable memory.
- Explain the perceptron learning rule with suitable example.
- Explain different activation function used in neural network.
- Explain Adaptive Linear neuron (ADALINE).

Q3. Attempt the two of the following.

12 marks

- Write note on associative memory.
- Describe self-organizing feature map. How to find change in weight value in SOM network?
- Write note on Bayesian network.
- Explain the working of Learning Vector Quantization with architecture and flowchart.

Q4. Attempt the two of the following.

12marks

- Write comparison of artificial neural network with biological neural network.
- Write about the types of learning methods used in artificial neural network.
- Explain classical set and fuzzy set with example.
- What is backpropagation network.

Q5. Attempt the two of the following.

12 marks

- Explain fuzzy composition techniques.
- Write note on Cauchy machine.
- Explain various operators used in Genetic Algorithm.
- Explain tolerance and equivalence relation with suitable example.
