7E4173

B. Tech. VII Semester (Main/Back) Examination 2014
ELECTRICAL ENGINEERING # ❼EE❸
ARTIFICIAL INTELLIGENCE TECHNIQUES

Time : 3 Hours   Min. Passing Marks : 24   Maximum Marks : 80

Instruction to Candidates :

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. (Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.)

Unit-'I'

1. Explain the Expert system building tools and shells and Discuss the importance of Expert systems in Engineering field. [16]

OR

1. What do you mean by soft computing? What is difference between soft computing and Artificial Intelligence. Explain in detail. [16]

Unit-'II'

2. If a problem solving search were to be written to solve each of the following types of problems, determine the search proceed forward or backward.

(a) Water Jug problem

(b) Block world

(c) Natural language understanding

(d) Solving the Puzzle [16]

OR

2. Compare the depth first search and breath first search with suitable example. [16]

Unit-'III'

3. Explain the Mc-culloch Pit's model of ANN and realize and 'AND' and 'OR' Gate using Mc-culloch Pit model. [16]

OR

3. (a) How does the perceptron learn its classification task? What is the role of learning rate in a perceptron learning rule?

(b) How can be determine the weight correction for a neuron in the hidden layer for multi layer neural network. [8+8 = 16]

Unit-'IV'

4. (a) What is meaning of rebirth in neural network? What are applications of rainforcement learning?

(b) What is unsupervised learning in a neural network? What does a forgetting factor means? [8+8=16]

OR

4. Compare feed forward and feed back neural networks. Back propagation algorithm method comes in which type area. Explain the Back propagation with example. [16]

Unit-'V'

5. (a) What is Fuzzy set? Explain degree or membership. How does are represent a fuzzy set in a computer. [8]

(b) What is ANFIS? Explain the purpose of each layer in Jang's ANFIS. [8]

OR

5. (a) How does a cross over operator and mutation operator works? [8]

(b) Design a flow chart of genetic algorithms in game playing? [8]