6E3207

B.Tech. (Sem. VI) (Main/Back) May, 2013

Computer Engineering

6CS6.2 Artificial Intelligence

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks: 24

Instructions 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.

Use of following supporting material is permitted during examination.

1. _____   2. _____

Unit-I

Q.1 (a) Define the production systems. Explain with suitable example. [8]

(b) Differentiate the breath first search and depth first search in detail. [8]

OR

Q.1 (a) What are the controls strategies? Explain any one with example. [8]

(b) Explain the concept of AND-OR Graph search with suitable example. [3]

Unit-II

Q.2 (a) What is knowledge representation? What are the problems facing representing knowledge? [5]

(b) What is predicate logic? Differentiate propositional and predicate logic. [6]

(c) Explain non monotonic reasoning with suitable example. [5]

OR

Q.2 (a) Explain the close world assumption to deal with incomplete knowledge with a suitable example. [5]

(b) Compare monotonic and non monotonic reasoning. [6]

(c) What are resolution principles? Explain with suitable example. [5]

Unit-III

Q.3 (a) How fuzzy logic is different from conventional binary logic? Explain it with appropriate example. [5]

(b) Differentiate forward and backward reasoning. [5]

(c) What are the frames? Explain with suitable example. [6]

OR

Q.3 (a) Define the theory of conceptual dependency. Explain with diagram. [6]

(b) Explain Baye's theorem with example. [5]

(c) Explain the concept of semantic net in knowledge representation. [5]

Unit-IV

Q.4 (a) What are game playing techniques? Explain minimax procedure with example. [5]

(b) What is natural language processing? Explain with example. [5]

(c) Explain the goal stack planning approach for solving the compound goals. [6]

OR

Q.4 (a) What is block world problem? Explain with an example. [6]

(b) What is the need of Alpha-Beta strategy. Explain with example. [5]

(c) What is morphological analysis? Explain with example. [5]

Unit-V

Q.5 (a) What do you mean by learning? Explain any one technique which is used in learning? [6]

(b) Define neural network and explain its application. [5]

(c) What is export system? Explain with example. [5]

OR

Q.5 (a) Explain single layer perception model of the neural network. What are its features? [5]

(b) Explain expert system with a suitable example. [6]

(c) Differentiate the "Learning by taking advice" and "Learning by example" with and example. [5]