

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 expert 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]