

**7E5101****7E5101**

**B.Tech. (Sem.VII) (Main/Back) Examination- Dec. 2012**  
**Information Technology**  
**7IT6.2 Intelligent systems**

Time : 3 Hours

Total 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.

**UNIT - I**

1. (a) Describe how branch and bound techniques could be used to find the shortest solution to a water jug problem. (10)  
 (b) Explain production system and its characteristics. (6)

**OR**

1. (a) Explain heuristic search methods like generate and test algorithm. (8)  
 (b) Explain constraint satisfaction also describe AO\* algorithm. (8)

**UNIT - II**

2. (a) Explain inheritable knowledge also differentiate it from inferential knowledge. (10)  
 (b) Write short note on knowledge representation. (6)

**OR**

2. (a) Explain the facts that are to be represented in knowledge. (10)  
 (b) Write short note on backward reasoning. (6)

**UNIT - III**

3. (a) Explain why does the search in game playing programs, always proceed forward from the current position rather than backward from goal state. (10)  
 (b) Implement the alpha-beta search procedure and use it to play a simple game such as tic-tac-toe (6)

**OR**

3. (a) Explain reactive systems in detail. (8)  
 (b) Describe the components of a planning system. (8)

**UNIT - IV**

4. (a) Describe explanation based learning with the help of appropriate example. (8)  
 (b) Explain "Winston Learning Program". (8)

**OR**

4. (a) What is the role of perception in neural network? Explain. (8)  
 (b) Write short note on learning in neural network. (8)

**UNIT - V**

5. Write short notes on:  
 (a) Fuzzy logic control.  
 (b) ANT algorithms. (8×2)

**OR**

5. Write short notes on:  
 (a) Explanation and knowledge acquisition  
 (b) Genetic algorithms. (8×2)