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6E6027

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B.Tech. VI - Semester (Main & Back) Examination, April-2019
Computer Science & Engg.
6CS6.2A Artificial Intelligence

Time : 3 Hours

Máximum Marks : 80
Min. Passing Marks : 26

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) What is AI and AI techniques? Briefly explain how AI techniques can be represented. List out some of task domain of AI? (8)

   b) Define production system. Explain the elements of production system and also explain the characteristics of production system? (8)

(OR)

1. a) Discuss comparison between DFS and BFS with various types of control strategies. (8)

   b) Enumerate classical "water Jug problem". Describe the state space for this problem. Solve this problem by giving its operation sequence. (8)

UNIT - II

2. a) What is knowledge representation and also differentiate knowledge and knowledge base? (8)

   b) What are KBS independent technologies? Explain in brief. Also write the business benefits of KBS. (8)

(OR)

2. a) What are the various approaches & issues in knowledge representation? **(8)**

   b) Define the following terms: **(8)**

   i) Mapping

   ii) Homomorphic

   iii) Horn clause

   iv) Reasoning

UNIT - III

3. a) How fuzzy logic is different from conventional binary logic? Explain it with appropriate example. **(8)**

   b) Differentiate forward and backward reasoning. **(8)**

(OR)

3. a) What are the frames? Explain with suitable example. **(8)**

   b) Define the theory of Conceptual dependency. Explain with diagram. **(8)**

UNIT - IV

4. a) What are game playing techniques? Explain minimax procedure with example. **(8)**

   b) What is natural language processing? Explain with example. **(8)**

(OR)

4. a) What is Alpha – Beta planning strategy? Explain its need with example. **(8)**

   b) Explain the goal stack panning approach for solving the compound goals. **(8)**

UNIT - V

5. a) What do you mean by learning? Explain any one technique which is used in learning? **(8)**

   b) Define neural network and explain its application. **(8)**

(OR)

5. a) Explain single layer perception model of the neural network. What are its features? **(8)**

   b) Differentiate the "Learning by taking advice" and "Learning by example" with and example. **(8)**

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