6E 6027

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B.Tech. VI Semester (Main/Back) Examination, May - June 2015
Computer Science
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.*

Unit - I

1. a) What is AI and AI techniques? Briefly explain how AI technique 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 characterstics of production system ? **(8)**

OR

1. a) Discuss the algorithm of A* with the advantage over best first search procedure ? **(8)**

   b) Discuss and compare hill climbing and Best - First - search technique ? **(8)**

Unit - II

2. a) Discuss various approaches and issue in knowledge representation ? **(8)**

   b) Explain the Algorithm of predicate logic resolution ? **(8)**

OR

2. a) Explain Non - monotonic resoning and discuss various logic associated with it ?   **(8)**

    b) Explain the difference between propositional and predicate logic ?   **(8)**

Unit - III

3. a) Explain Fuzzy logic and rule based system ?   **(8)**

    b) Explain baye's theorem and what is mean by conditional probability ?   **(8)**

OR

3. a) A problem solving search can proceed either forward and backward. What factors determine the choice of directions for a particular problems ?   **(8)**

    b) Short note on: Semantic networks scripts schemas.   **(8)**

Unit - IV

4. Explain the algorithm of MINIMAX search procedure and discuss the following:

    i)   Alpha Beta Cutoff

    ii) Waiting for quiescence   **(8×2=16)**

OR

4. a) What are the steps in natural language processing ? List and explain them briefly ?   **(8)**

    b) Explain the following in detail:

    i)   Syntactic processing

    ii) Semantic processing   **(8)**

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Unit - V

5. a) Discuss winston's learning program ? **(8)**

   b) Discuss "Explanation based generalization" [EBG] with the help of classical chess example. **(8)**

OR

5. a) Write a short note on : Version space ? **(8)**

   b) Discuss any two from the following:

      i) Learning in problem solving.

      ii) Learning from example.

      iii) Expla nation based learning. **(8)**

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