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15CS562

Fifth Semester B.E. Degree Examination, Aug./Sept.2020
Artificial Intelligence

Time: 3 hrs.

Max. Marks: 80

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1   a. Define Artificial Intelligence. Classify the task domains of Artificial Intelligence. (04 Marks)
    b. List the properties of Knowledge. (04 Marks)
    c. Discuss the production rules for solving the Water – jug problem. (08 Marks)

OR

2   a. Briefly discuss any four problems characteristics. (06 Marks)
    b. Write an algorithm for : i) Steepest – Ascent hill climbing with example.
       ii) Best – First search with example. (10 Marks)

Module-2

3   a. Discuss any two approaches of Knowledge representation. (08 Marks)
    b. Consider the following sentences :
       i) John likes all kinds of food   ii) Apples are food   iii) Chicken is food
       iv) Anything anyone eats and isn't killed by is food.
       v) Bill eats peanuts and is still alive   vi) She eats everything Bill eats.
       Translate these sentences into formulas in predicate logic. (08 Marks)

OR

4   a. In brief, discuss forward and backward reasoning. (10 Marks)
    b. Write a resolution algorithm for predicate logic. (06 Marks)

Module-3

5   a. Explain the two approaches of default reasoning. (10 Marks)
    b. Define Baye's theorem. (06 Marks)

OR

6   a. Explain Bayesian Networks. (06 Marks)
    b. What is semantic net? List the uses of semantic net. (05 Marks)
    c. Construct partitioned semantic net representation of "Every batter hit a ball". (05 Marks)

Module-4

7   a. What is Conceptual Dependency (CD)? How do you represent Conceptual Dependency? (08 Marks)
    b. What is Script? Write a script for ordering scene in restaurant. (08 Marks)

OR

8   a. Briefly explain minimax search procedure. (08 Marks)
    b. Discuss iterative deepening and provide algorithm for depth first iterative deepening. (08 Marks)

Module-5

9   a. Explain the steps of natural language understanding process. (08 Marks)
    b. Discuss the spell checking techniques. (08 Marks)

OR

10 a. Write a short note on : i) Rote learning   ii) Learning by taking advice. (08 Marks)
    b. How to built expert system efficiently? (08 Marks)

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