CBCS SCHEME

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18CS753

Seventh Semester B.E. Degree Examination, July/August 2022
Introduction to Artificial Intelligence

Time: 3 hrs. Max. Marks: 100

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

Module-1

1 a. Define AI. Explain its applications with its advantages and disadvantages. (10 Marks)

b. Discuss the classification of AI tests with an illustration. (10 Marks)

OR

2 a. Define problem state space. Explain the problem characteristics of state space. (10 Marks)

b. Explain Steepest Assent Hill Climbing with advantages and disadvantages. (10 Marks)

Module-2

3 a. Illustrate and explain Mapping representation between Fact and knowledge with approaches. (05 Marks)

b. Discuss property (algorithm) of inheritance with an example. (10 Marks)

c. Write predicate logic for the following

i) Every men and women are humans who have two legs.
ii) All animals have skin and can move
iii) All romans were either loyal to caeser or hated him.
iv) Everyone is loyal to someone
v) Rajive likes cricket. (05 Marks)

OR

4 a. Discuss classification algorithm. (10 Marks)

b. Discuss the resolution algorithm. (10 Marks)

Module-3

5 a. Discuss the logic for monotonic reasoning and non-monotonic reasoning with an example. (10 Marks)

b. Discuss symbolic reasoning under uncertainty and issues addressed. (10 Marks)

OR

6 a. Explain Baye's network algorithm with its advantages. (10 Marks)

b. Discuss the algorithm of Dempster Shafer with an example. Discuss certainty factors. (10 Marks)

Module-4

7 a. Explain Min-max algorithm with its limitation and basic rules. (10 Marks)

b. Discuss the algorithm for iterative deepening A^* with an illustration explain α - β pruning algorithm. (10 Marks)

OR

8 a. Discuss the steps/phases of natural language processing with the advantages and disadvantages. **(10 Marks)**

b. Discuss semantic analysis with an example. **(06 Marks)**

c. Explain the classification of spell check techniques **(04 Marks)**

Module-5

9 a. Discuss the techniques used for constructing class definition by induction method. Also explain the Winston's learning program step and block world concept with an illustration for structures of the houses with near misses. **(10 Marks)**

b. Explain analogy based learning with an illustration and example. **(10 Marks)**

OR

10 a. Explain major expert system components with a neat sketch. **(05 Marks)**

b. Explain problem areas and benefit expert system. **(10 Marks)**

c. With an illustration, explain Rapid prototyping of intelligent system development. **(05 Marks)**

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