APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Second Semester MCA (2 Year) Degree Regular and Supplementary Examination June 2023

Course Code: 20MCA188
Course Name: ARTIFICIAL INTELLIGENCE

Max. Marks: 60   Duration: 3 Hours

PART A
Answer all questions, each carries 3 marks.   Marks

1	What is Knowledge? How is it classified?	(3)
2	What is meant by state space representation of a problem? Explain.	(3)
3	What are admissible Heuristics? Give examples.	(3)
4	What is Steepest ascend hill climbing? How does it differ from Hill climbing? Explain with appropriate examples.	(3)
5	What is the drawback of Minimax algorithm? Discuss.	(3)
6	Consider the following facts and represent in FOPL:	(3)

a) Bill has at least one sister.
b) All purple mushrooms are poisonous.
c) Every gardener likes the Sun.

7	What is the advantage of Frame based knowledge representation scheme over FOPL? Explain with an example.	(3)
8	Compare Supervised, Unsupervised and Reinforcement leaning techniques.	(3)
9	What is MYCIN? Explain.	(3)
10	What is the difference between Fuzzy Logic and Binary logic? Give examples.	(3)

PART B
Answer any one question from each module. Each question carries 6 marks.

Module I

11	What is a Production System in AI? Explain various types of Production Systems with appropriate examples.	(6)

OR

12	Explain various task domains of AI.	(6)

Module II

13 Compare Best first search and Breath first Search algorithms. (6)

OR

14 Illustrate Iterative Deepening search with an example. (6)

Module III

15 Discuss Alpha-Beta cut-off algorithm with the help of an example. (6)

OR

16 Express the following concepts as a semantic network structure with interconnected nodes and labeled arcs: (6)

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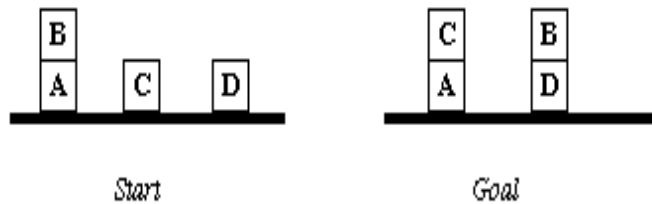
Module IV

17 Consider the following facts and represent it in FOPL: (6)

Ram is a good student. All good students have high grades. All good students with high grades are bright. Show that Ram is bright using Resolution.

OR

18 What is Goal Stack planning? Solve the following Blocks World problem using goal stack planning algorithm. (6)

Module V

19 What is the importance of an Expert System? Mention its characteristic features. Explain Architecture of an expert system. (6)

OR

20 With appropriate examples, perform any three operations on Fuzzy sets? (6)

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