

Code No: R22AI402PC

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CMR ENGINEERING COLLEGE: : HYDERABAD

UGC AUTONOMOUS

II–B.TECH–II–Semester End Examinations (Regular) -June- 2025

ARTIFICIAL INTELLIGENCE

(CSM)

[Time: 3 Hours]

[Max. Marks: 60]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 10 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(10 Marks)

- 1.a) What is meant by a search space? [1M]
- b) Which search strategy uses LIFO? [1M]
- c) Mention one limitation of the Minimax algorithm. [1M]
- d) Define the term stochastic search. [1M]
- e) What is non-monotonic reasoning? [1M]
- f) What is a Bayesian Network? [1M]
- g) What is rote learning? [1M]
- h) What is the significance of feedback in learning? [1M]
- i) What is an expert system? [1M]
- j) Give one example of a rule-based expert system. [1M]

PART-B

(50 Marks)

2. Compare Breadth-First Search and Depth-First Search. Illustrate with search trees. [10M]

OR

3. Explain depth-first search with iterative deepening. How does it combine advantages of DFS and BFS? [10M]

4. Describe the process of Alpha-Beta pruning with an example. How does it optimize Minimax search? [10M]

OR

5. Define propositional and first-order logic. Compare them with examples and their application in knowledge representation. [10M]

6. Discuss Bayes' Rule and apply it to a suitable problem. [10M]

OR

7. Explain knowledge representation issues and how they affect intelligent systems. [10M]

8. Explain the concept of learning in AI. Describe different types of learning strategies with examples. [10M]

OR

9. Describe Winston's learning program. How does it simulate human learning? [10M]

10. Describe the architecture of an expert system. Explain each component in detail. [10M]

OR

11. Explain the process of knowledge acquisition and challenges faced during it. [10M]
