

D5BMC2203

Reg. No.....

Name:

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024

COMPUTER SCIENCE AND MATHEMATICS (DOUBLE MAIN)

GDCS5B09T: ARTIFICIAL INTELLIGENCE

Time: 2 Hours

Maximum Marks: 60

**SECTION A: Answer the following questions. Each carries *two* marks.
(Ceiling 20 marks)**

1. What is the mini-max search procedure in game playing?
2. List out the importance of problem graphs.
3. What are the strategies for state space search?
4. Comment on the A* algorithm.
5. What are the types of production system?
6. Define constraint satisfaction.
7. What are the approaches for knowledge representation?
8. Why is iterative deepening used in AI game playing?
9. Comment on computable functions and predicates.
10. Enlist the importance of Hill climbing algorithms.
11. Write short note on Predicate Calculus and Logic Programming.
12. What is heuristic?

**SECTION B: Answer the following questions. Each carries *five* marks.
(Ceiling 30 marks)**

13. What are the issues in knowledge presentation?
14. Differentiate between depth-first search (DFS) and breadth-first search (BFS).
15. Elaborate on the characteristics of a production system.
16. Give an account on AO* algorithm.
17. Differentiate between forward chaining and backward chaining.
18. Explain the role of the semantic net in representing knowledge.
19. Compare monotonic and non-monotonic reasoning.

SECTION C: Answer any *one* question. Each question carries *ten* marks.

20. How do strong slot and filler structures work as a knowledge representation technique?
21. Describe the term 'Artificial Intelligence'. Explain its scope and applications.

(1 × 10 = 10 Marks)