D5BCD2303 **Reg. No.....**

Name: .....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

(Regular/Improvement/Supplementary)

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 are the advantages of Depth First Search?
2. What is alpha beta pruning?
3. Mention the limitation of Mini-Max algorithm.
4. What is Simulated Annealing?
5. Differentiate between uniformed and informed search.
6. What is CSP?
7. List out different types of knowledge.
8. What is state space?
9. Mention the elements in production systems.
10. Define semantic network.
11. List out any two characteristics of production systems.
12. Name two standard quantifiers.

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

13. Discuss in detail about alpha-beta cut-offs.
14. Briefly explain about scripts.
15. Write short note on Alpha-Beta pruning.
16. Write A* algorithm and discuss briefly the various observations about algorithm.
17. Explain different types of searching strategies.
18. Write the production rule for water jug problem.
19. Differentiate between logic and PROLOG representation. Differentiate between forward reasoning and backward reasoning.

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

20. Discuss the different strategies for state space search using examples.
21. Explain the unification algorithm used for reasoning under predicate logic with an example.

(1x 10 = 10 Marks)