

QP CODE: 25050817



Reg No :

Name :

MSc DEGREE (CSS) EXAMINATION, DECEMBER 2025

First Semester

M Sc Artificial Intelligence

Core Courses - AI010102 - INTRODUCTION TO ARTIFICIAL INTELLIGENCE

2020 Admission Onwards

F036B366

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. What are the different parts of Production systems in AI.
2. Describe how the branch-and-bound technique could be used to find the shortest solution to a water jug problem.
3. Write about the working of Depth-First Iterative Deepening Search.
4. Explain any one method to perform a complete match between two structures.
5. Explain DNF with an example.
6. Define UR resolution.
7. Mention how singular extension is useful.
8. What is the concept of nonlinear planning using constraint posting?
9. What is meant by Neural and Genetic Learning?
10. Explain one possible architecture for image understanding.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. What are the different approaches present in modelling human intelligence?
12. Draw the tree diagram of a typical problem the Eight Puzzle and explain the search space.
13. Describe A* Algorithm.





14. Discuss the various symbols and rules permitted in FOPL.
15. Represent the following facts using semantic networks. a. Pompeian(Marcus), Blacksmith(Marcus) b. Mary gave the green flowered vase to her cousin.
16. How the function "Choose the rule" is working?
17. Discuss Waltz Algorithm.
18. Explain Winston's Learning program.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Explain the seven problem characteristics and describe how a problem can be analysed.
20. What are the methods used for comparing structures without the use of pattern matching variables.
21. Describe TMS with the help of Support Lists, Conditional Proofs and Belief Networks.
22. Write the algorithm MINIMAX and explain the steps.

(2×5=10 weightage)

