

QP CODE: 25803156



Reg No :

Name :

I M C A DEGREE EXAMINATION, JULY 2025

Eight Semester

Faculty of Technology & Applied Science

Integrated MCA

CORE - IMCA8C02 - ARTIFICIAL INTELLIGENCE

2020 Admission Onwards

92B2B94C

Time: 3 Hours

Maximum: 75 Marks

Part A

*Answer any **ten** questions*

*Each question carries **3** marks*

1. Comment on history of AI and explain the introduction of ELIZA Turing Test.
2. Explain the Levels of Models.
3. Brief Conceptual Indexing in Organization and Retrieval Technique.
4. Explain Explicit Matching with an example.
5. Explain AND OR graphs.
6. Describe the purpose of a Truth Maintenance System (TMS). How does it handle logical inconsistencies?
7. What are the different types of nodes in TMS?
8. What are objects and classes in object-oriented systems? Explain with an example.
9. Discuss why the acquisition of knowledge is difficult.
10. Describe the process of abstraction in explanation-based learning. Why is it important?
11. What is LIFER system?
12. Briefly explain Associative or Semantic Network Architectures.

(10×3=30 marks)





Part B

Answer **all** questions

Each question carries **9** marks

13. a) Describe AI Problems.

OR

b) Construct State Representation, Initial State, Goal State and Possible Moves of the "Traveling Salesman Problem (TSP)". The goal is to find the shortest possible route that visits a set of cities exactly once and returns to the original city.

14. a) Discuss the formulation of a search problem, including the state space, initial state, goal state, and transition model using an example of 8-Puzzle game.

OR

b) Explain the role of memory organization systems in knowledge management. How do they facilitate fast and accurate retrieval of information?

15. a) Explain Monkey Banana Problem. Construct the relevant factors, predicates, Clausal Forms and its resolvent.

OR

b) Summarize Truth Maintenance Systems with suitable example.

16. a) Analyze the factors that contribute to the difficulty of knowledge acquisition.

OR

b) Discuss explanation-based learning (EBL) and its significance in knowledge acquisition.

17. a) Explain in detail about Natural Language Generation.

OR

b) Explain nonproduction system architectures.

(5×9=45 marks)

