

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(6 Pages)

Reg. No:

Question. Code No : 25E01403

Sub Code : 24PECA21

PG Degree - End Semester Examinations, April 2025

Second Semester

M.C.A.

Elective - Artificial Intelligence & Machine Learning

(For those who joined in July 2024 onwards)

Time : 3 Hours

Maximum : 75 Marks

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer

1. Define AI.

(a) Study of how to make computers do things which at the moment people do better

- (b) Study of how to make people do things which at the moment computers do better
 - (c) To create humanlike conversational dialogue
 - (d) To find inspiration and be more productive
2. Name the founder for Turing Test.
- (a) Alan Turing
 - (b) Kevin Knight
 - (c) Elaine Rich
 - (d) Robert Rich
3. _____ is the basic Search Strategy.
- (a) Best First Search
 - (b) Problem Prediction
 - (c) Depth First Search
 - (d) Hill Climbing
4. Identify the flat area of search space in which a whole set of neighbouring states have the same value
- (a) Local Maximum
 - (b) Plateau
 - (c) Ridge
 - (d) None
5. Choose the key difference between propositional logic and predicate logic in knowledge representation?
- (a) Propositional logic uses variables
 - (b) Predicate logic uses variables and quantifiers
 - (c) Propositional logic is graphical
 - (d) Predicate logic cannot handle negation
6. Identify the logic for to deal with and a decision procedure for it exists.

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Define AI? List some of the Task Domain of AI.

(OR)

(b) Outline the Issues in the Design of Search Programs.

12. (a) Explain Means-end analysis Algorithm.

(OR)

(b) Discuss about the Representations and mappings with example.

13. (a) Classify the ways to Represent Class Membership.

(OR)

(b) Illustrate the concept of converting WFF to Clause form with Algorithm.

14. (a) Identify the roles of Statistics and Data Mining with ML in detail.

(OR)

(b) Explain the concept of Big Data in Context with Machine Learning.

15. (a) List out the data governance in Data Preparation.

(OR)

- (b) What are the Structured Data Sources in Identifying relevant data?

PART – C (5 X 8 = 40 Marks)

**Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 600 words.**

16. (a) What is an AI Technique? Explain with suitable example.

(OR)

- (b) Describe the Problem Characteristics of AI.

17. (a) Describe the Hill Climbing Algorithm.

(OR)

- (b) Explain about the Issues in Knowledge representations.

18. (a) Explore the use of Predicate Logic as a way of representing knowledge with suitable example.

(OR)

- (b) Differentiate between Forward and Backward Reasoning.

19. (a) Illustrate the concept of Leveraging the Power of Machine Learning.

(OR)

(b) Explain the different Categories of Machine Learning with suitable examples.

20. (a) List out the types of Machine Learning Algorithms in detail.

(OR)

(b) Explain Data Preparation in Machine Learning Algorithms.