

(FOR THE CANDIDATES ADMITTED

23UIT6E5

DURING THE ACADEMIC YEAR 2023-2024 ONLY)

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY 2026

**BSC IT
SEMESTER: VI**

**MAXIMUM MARKS: 75
TIME : 3 HOURS**

**PART - III
ARTIFICIAL INTELLIGENCE**

SECTION – A

(10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

(K1)

1. Which application represents the current state of the art in AI?
a) Typewriters b) Expert systems only c) Speech recognition and autonomous vehicles
d) Punch card machines
2. Which search strategy requires the most memory?
a) DFS b) BFS c) DLS d) IDDFS
3. What are the main components of a knowledge-based agent?
a) Sensors and actuators b) Knowledge base and inference mechanism
c) Rules and heuristics only d) Learning algorithms
4. What is supervised learning mainly used for?
a) Searching problems b) Regression and classification c) Planning tasks d) Logical inference
5. What is text classification?
a) Translating text b) Assigning predefined categories to text c) Extracting keywords
d) Searching documents

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

6. Illustrate the relationship between performance measure and agent behavior.
7. Describe Depth-First Search.
8. Explain the role of a knowledge base.
9. What is a decision tree?
10. What are Language Models?

SECTION – B

(5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Illustrate the foundations of Artificial Intelligence with suitable examples.

(OR)

- b) Apply the concept of agent structure to explain how an intelligent agent functions.

12. a) Demonstrate the infrastructure required for search algorithms.
(OR)
b) Apply Breadth-First Search to explain how a solution is found in a state space.
13. a) Use the Wumpus World to explain the application of propositional logic in decision Making.
(OR)
b) Discuss the role of categories and objects in knowledge representation.
14. a) Describe the process of evaluating and choosing the best hypothesis.
(OR)
b) Narrate a note on Artificial Neural Networks
15. a) Articulate Text Classification with example.
(OR)
b) Distinguish Robot Hardware and Robotic Perception.

SECTION – C

(5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4 (Or) K5)

16. a) Evaluate the significance of the “state of the art” in Artificial Intelligence applications today.
(OR)
b) Examine the concept of good behavior in intelligent agents with respect to rationality.
17. a) Analyze the working of a problem-solving agent and explain how search is used to obtain solutions.
(OR)
b) Compare Bidirectional Search and Unidirectional Search strategies.
18. a) Apply the concept of a knowledge-based agent to explain intelligent behavior.
(OR)
b) Show how ontological engineering improves reasoning in intelligent systems.
19. a) Summarize supervised learning with examples.
(OR)
b) Enumerate on Support Vector Machines.
20. a) Distinguish between Information Retrieval and Information Extraction.
(OR)
b) Elucidate on Robotic Software Architecture.
