PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MCA DEGREE EXAMINATION MAY 2024
(Third Semester)

Branch – COMPUTER APPLICATION

ARTIFICIAL INTELLIGENCE

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (5 x 1 = 5)

1. Which is created by using single propositional symbol?
   i) Complex sentences   ii) Atomic sentences
   iii) Composition sentences   iv) None of the mentioned

2. Which is used to construct the complex sentences?
   i) Symbols   ii) Connectives
   iii) Logical connectives   iv) All of the mentioned

3. Which search method takes less memory?
   i) Depth-First Search   ii) Breadth-First search
   iii) Optimal search   iv) Linear Search

4. How many proposition symbols are there in artificial intelligence?
   i) 1   ii) 2   iii) 3   iv) 4

5. A search algorithm takes _____ as an input and returns _____ as an output.
   i) Input, output   ii) Problem, solution
   iii) Solution, problem   iv) Parameters, sequence of actions

SECTION - B (15 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks   (5 x 3 = 15)

6. a State the structure of intelligent agents and environments.
           OR
   b Illustrate the searching for solutions in problem solving.

7. a Summaries the optimal decisions in multiplayer games.
           OR
   b Elaborate the effectiveness of alpha–beta pruning.

8. a Show the expressiveness of decision trees.
           OR
   b Outline the simple mathematical model for a neuron.

9. a Explain the concept of N-gram word models.
           OR
   b Discuss the classification by data compression.

10. a Highlight the localization and mapping in Robot perception.
           OR
    b Determine the potential-field control for robot.

SECTION -C (30 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 6 = 30)

11. a Analyze the implementation of problem-solving agents.

OR

 b Enumerate the implementation of informed heuristic search strategies.

12. a Discuss the fundamental concepts of logical representation and reasoning.

OR

 b Examine the syntax and semantics of first-order logic.

13. a Identify the broadening the applicability of decision trees.

OR

 b Discover the single-layer feed-forward neural networks.

14. a Elucidate the finite-state automata for information extraction.

OR

 b Assume the augmented grammars and semantic interpretation.

15. a Enumerate the robust methods of planning uncertain movements.

OR

 b Determine the approach to path planning uses cell decomposition.

Z-Z-Z   END