PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(Fifth Semester)

Branch – COMPUTER SCIENCE

DISCIPLINE SPECIFIC ELECTIVE – I
ARTIFICAL INTELLIGENCE

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (10 x 1 = 10)

1   Among the given options, which search algorithm requires less memory?
(i) Optimal Search   (ii) Depth First Search
(iii) Breadth-First Search   (iv) Linear Search

2   A technique that was developed to determine whether a machine could or could not demonstrate the artificial intelligence known as the_____.
(i) Boolean Algebra   (ii) Turing Test
(iii) Logarithm   (iv) Algorithm

3   An AI agent perceives and acts upon the environment using _____.
(i) Sensors   (ii) Perceiver
(iii) Actuators   (iv) Both (i) and (iii)

4   Which term describes the common-sense of the judgmental part of problem-solving?
(i) Values-based   (ii) Critical
(iii) Analytical   (iv) Heuristic

5   The search algorithm which is similar to the Minimax search, but removes the branches that don't affect the final output is known as_____.
(i) Depth-first search   (ii) Breadth-first search
(iii) Alpha-beta pruning   (iv) None of the above

6   Among the given options, which is also known as inference rule?
(i) Reference   (ii) Reform
(iii) Resolution   (iv) None of the above

7   Which of the following option is used to build complex sentences in knowledge representation?
(i) Symbols   (ii) Connectives
(iii) Quantifier   (iv) None of the above

8   Which process makes two different Logical expressions look identical?
(i) Unification   (ii) Lifting
(iii) Inference Process   (iv) None of the above

9   The inference engine works on _____.
(i) Forward Chaining   (ii) Backward Chaining
(iii) Both (i) and (ii)   (iv) None of these

10   A knowledge-based agent can be defined with _____ levels.
(i) 2   (ii) 3   (iii) 4   (iv) 5

Cont...

SECTION - B (25 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 5 = 25)

11   a   Narrate on the history of Artificial Intelligence.
                        OR
      b   Describe about the Problem solving Agents.

12   a   Explain the applications of Optimal decisions in Games.
                        OR
      b   Summaries on Alpha-Beta Pruning.

13   a   Describe the Knowledge-based Agents and the Wumpus World.
                        OR
      b   Outline the Effective Propositional inference and model checking.

14   a   Describe the method of using First-order Logic.
                        OR
      b   Summaries on Unification and Lifting in Inference in first-order logic.

15   a   Explain the Regression and Classification with Linear models.
                        OR
      b   Describe the method of evaluating and choosing the best hypothesis.

SECTION - C (40 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 8 = 40)

16   a   Outline the Structure of Intelligent Agents.
                        OR
      b   Highlight the importance of Uninformed Search strategies in Problem solving.

17   a   Point out the basics of Constraint satisfaction problems, Constraint integration, and Inference.
                        OR
      b   Discuss the Backtracking Search for Constraint Satisfaction problems.

18   a   Elucidate on Logic and Propositional Logic.
                        OR
      b   Describe the Agents based on Propositional logic.

19   a   Analyze the Syntax and Semantics of First-order Logic.
                        OR
      b   Discuss on Forward and Backward Chaining in first-order logic.

20   a   Examine the Learning Decision trees.
                        OR
      b   Discover the functioning of Artificial Neural networks.

Z-Z-Z   END