**19CMU28A**

**PSG COLLEGE OF ARTS & SCIENCE**
(AUTONOMOUS)

**BSc DEGREE EXAMINATION DECEMBER 2023**
(Fifth Semester)

Branch – **COMPUTER SCIENCE**

**DISCIPLINE SPECIFIC ELECTIVE – I:**
**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. It is the study of the neuron system, particularly the brain
   (i) Neuroscience (ii) Biological science
   (iii) Physical science (iv) Chemical science

2. ---------- defined as one where the total payoff to all players is the same for every instance of the game.
   (i) Tic – Tac – Toe (ii) Zero Sum game
   (iii) 8 – Queen problem (iv) Maze problem

3. Find the central component of a knowledge – based agent
   (i) Inference (ii) Resolution
   (iii) Knowledge Base (iv) Axiom

4. Following is not the type of symbol in the First – order logic.
   (i) Constant symbol (ii) Predicate symbol
   (iii) Function symbol (iv) Procedure symbol

5. The most common Unsupervised learning task is
   (i) Clustering (ii) Learning
   (iii) Mapping (iv) Pruning

**SECTION – B (15 Marks)**
Answer **ALL** questions
**ALL** questions carry **EQUAL** marks (5 X 3 = 15)

6. a Define the following terms: i) Intelligent ii) Artificial Intelligence
   (OR)
   b Outline the concept of rationality.

7. a State Constraint Satisfaction problem.
   (OR)
   b Elucidate backtrack search.

8. a Narrate the completeness of resolution in brief.
   (OR)
   b Give a brief account on Hybrid agent.

9. a Differentiate atomic and complete sentence.
   (OR)
   b Explain the concept of Unification in first order logic.

**Cont...**

10. a Distinguish between reinforcement learning and supervised learning.
(OR)
b Define Decision tree. Give an example.

## SECTION – C (30 Marks)

Answer **ALL** questions
**ALL** questions carry **EQUAL** marks (5 X 6 = 30)

11. a Discuss on Alpha – Beta Pruning.
(OR)
b Describe path consistency in Constraint Satisfaction Problem.

12. a Summarize the history of AI.
(OR)
b Examine the concept of Breadth First Search.

13. a Outline PEAS description in the Wumpus world.
(OR)
b State and prove Proportional theorem.

14. a Analyse the models of First Order Logic.
(OR)
b Summarize the steps in Knowledge Engineering process.

15. a Discuss the theory of Learning.
(OR)
b Elaborate on Neural network structure.

Z-Z-Z END