# PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

## MSc(SS) DEGREE EXAMINATION MAY 2024
(Sixth Semester)

Branch – **SOFTWARE SYSTEMS( five year integrated)**

ARTIFICIAL INTELLIGENCE

Time: 3 Hours                                                             Maximum: 50 Marks

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

1   Which of the following one is based on A* algorithm?
    (i)   Breadth First Search          (ii)   Hill Climbing
    (iii) Depth First Search            (iv)  Best First Search

2   Identify the number of output produce in Fuzzy Logic?
    (i)   2                             (ii)   3
    (iii) 4                             (iv)  5

3   Which algorithm is used for solving temporal probabilistic reasoning?
    (i)   Hill Climbing Search          (ii)   Depth First Search
    (iii) Hidden Markov Model           (iv)  Breadth First Search

4   Which is a mathematical framework for modeling decision making problems under uncertainty?
    (i)   Utility Process               (ii)   Markov Decision Process
    (iii) Multi Agent Process           (iv)  Utility Function

5   Which one of the following is the area of Reinforcement learning?
    (i)   Artificial Intelligence       (ii)   Deep learning
    (iii) Data Analytics                (iv)  Machine learning

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

6   a   Discuss the concept of Agent based system.
                        OR
    b   Prepare the short notes on Hill climbing search algorithm.

7   a   Explain the Need of knowledge representation.
                        OR
    b   Organize the several rules of fuzzy logic.

8   a   Show the importance of probabilistic reasoning.
                        OR
    b   Describe the various functions of dynamic Bayesian networks.

9   a   Analyze the importance of sequential decision problem.
                        OR
    b   Explain in detail about the group decision making.

10  a   Show the importance of supervised learning.
                        OR
    b   Justify the need of robotics.

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

11 a  Predict the importance of genetic algorithm.
OR
  b  Interpret the working principles of A*search algorithms in detail.

12 a  Analyze the concept of logics and bivalent logics.
OR
  b  Classify the need of fuzzy inference system with neat diagram.

13 a  Justify the importance of semantics of Bayesian network.
OR
  b  Analyze the various functions of Hidden Markov model.

14 a  Elucidate the utility function with example.
OR
  b  Classify the various functions of value iteration and policy iteration in detail.

15 a  Assess the limitation of neural networks in detail.
OR
  b  Analyze the various functions of reinforcement learning.

Z-Z-Z                              END