Reg. No ..... Name **26U629**

B.Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2026

SEMESTER 6 : COMPUTER APPLICATION

COURSE : **19U6CRCAP12 : ARTIFICIAL INTELLIGENCE (EL)**

(For Regular - 2023 Admission and Supplementary 2022/2021/2020/2019 Admissions)

Time : Three Hours Max. Marks: 75

PART A

Answer All (1 mark each)

1. ---------- is an adaptive heuristic search algorithm inspired by "Darwin's theory of evolution in Nature."
2. Define Policy() in reinforced learning.
3. ARMEMPTY _____ in goal-stack planning.
4. Define categorical dataset.
5. Define explicit knowledge.
6. Define facet and its use on frame.
7. List out the two applications of the min-max algorithm.
8. Define an atomic proposition.
9. Give two examples of Swarm Intelligence algorithm.
10. STRIPS stands for ----------.

(1 x 10 = 10)

PART B

Answer any 8 (2 marks each)

11. Define genetic algorithm.
12. Write the role of actuator in a robot.
13. What is ISA predicate?
14. Define the concept of Heuristic search in AI.
15. How does the Move operator apply in means-ends analysis?
16. ‘ All Romans were either loyal to Caeser or hated him’ Convert into predicate logic.
17. Write the applications of soft computing.
18. Define the forward stage of MLP.
19. Why is the KNN algorithm known as the lazy learner algorithm?
20. Define initial state, goal state and world state in goal-stack planning.

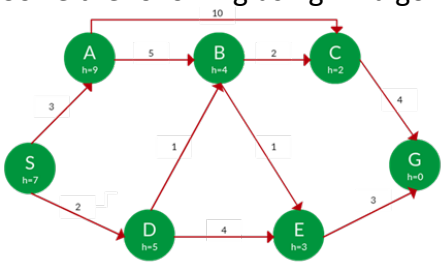
(2 x 8 = 16)

PART C

Answer any 5 (5 marks each)

21. Define A* search algorithm.
22. What are the limitations of propositional logic?
23. Why do we need data preprocessing or data preparation?
24. How does the reinforcement learning work?
25. Explain Ant colony optimization. Write the principles.

26. Solve the following using A* algorithm.



27. Write in detail about different types of an image in AI.

(5 x 5 = 25)

PART D

Answer any 2 (12 marks each)

28. Construct and illustrate an Intelligent Robotic Perception System.
29. Explain Swarm Intelligence. Write its applications and objectives.
30. Discuss about supervised and unsupervised learning. Distinguish between them in detail.
31. Explain in detail about the categories of knowledge in AI.

(12 x 2 = 24)