DCCS502

V Semester B.Sc. Degree Examination, March/April -2024

COMPUTER SCIENCE

Artificial Intelligence

(NEP 2020 Scheme)

Paper : CS-CIOT

Time : 2½ Hours   **Maximum Marks :60**

Instructions to Candidates:

   Answer any Four questions from each part.

PART - A

Answer any Four questions.   **(4×2=8)**

1. Define Artificial Intelligence. Give Example.   **(2)**

2. Give the structure of agent.   **(2)**

3. Write the steps of Problem solving.   **(2)**

4. What is Computer vision in A.I?   **(2)**

5. Define Natural language processing Give example   **(2)**

6. List the basic components of neural network   **(2)**

PART - B

Answer any Four questions.   **(4×5=20)**

7.   Write the algorithm for A* search   **(5)**

8.   What are the different types of environments? Explain in detail.   **(5)**

9.   What is knowledge based system? Explain the architecture of Knowledge based Agents.**(5)**

10. Write a Short note on fuzzy logic .   **(5)**

11. Explain the interdisciplinary nature of robotics and its applications. **(5)**

12. Give the difference between supervised and unsupervised Machine learning. **(5)**

[P.T.O.

PART - C

Answer any Four questions.   **(4×8=32)**

13. What are the different uninformed search techniques? Explain any one in detail   **(8)**

14. a) Describe the Wumpus World as an example environment for an agent   **(6)**

    b) What are the challenges and complexities this environment provides for an intelligent agent?   **(2)**

15. a) How is propositional logic used in representing knowledge and reasoning in AI system?   **(4)**

    b) Explain the concepts of unification and lifting in the context of logic and knowledge representation.   **(4)**

16. Expand STRIPS. Design a planning agent for a Block World Problem. Assume suitable initial state and final state for the problem   **(8)**

17. List the steps involved in machine learning process in detail.   **(8)**

18. a) Describe the architecture of expert systems and the role of knowledge representation   **(6)**

    b) Give the difference between conventional and expert system.   **(2)**

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