FIFTH SEMESTER B.Voc. DEGREE EXAMINATION, NOVEMBER 2024

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC21U SDC5 AI17 - ARTIFICIAL INTELLIGENCE

(Information Technology - Skill Component Course)

(2021 Admission onwards)

Time : 2.00 Hours   Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)
Answer *all* questions. Each question carries 2 marks.

1. Briefly describe the term "machine learning" in the context of AI.

2. Explain the difference between weak AI and strong AI.

3. Identify one advantage of using heuristics in informed search strategies.

4. Identify one challenge of searching with partial observations.

5. List two examples of CSPs.

6. Briefly describe the minimax algorithm used in game playing.

7. Define First Order Predicate Logic (FOPL).

8. Briefly explain how Prolog handles logical queries.

9. Define forward chaining in AI.

10. What is default reasoning?

11. Identify the common tasks performed in natural language processing.

12. List the basic data types in LISP.

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)
Answer *all* questions. Each question carries 5 marks.

13. Describe the difference between uninformed and informed search strategies in AI.

14. Analyse the importance of abstraction in problem-solving methods and how it simplifies complex problems.

15. Explain the importance of ontologies in AI for structuring knowledge.

16. Explain how events and objects are represented in knowledge-based systems.

17. Summarize the differences between supervised and unsupervised learning in neural networks.

18. Explain how AI is used in healthcare diagnostics.

19. Explain the concept of backtracking in Prolog's search mechanism.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

20. Describe the minimax algorithm and explain how it is applied in game-playing AI.

21. Interpret the concept of artificial general intelligence (AGI) and explain how it differs from narrow AI.

(1 × 10 = 10 Marks)

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