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IV Semester B.C.A. Degree Examination, June/July - 2026**COMPUTER APPLICATIONS****Artificial Intelligence****(SEP Scheme)****Time : 3 Hours****Maximum Marks : 80****Instructions to Candidates:****Answer All the Sections.****SECTION - A****I. Answer any Ten questions. Each question carries 2 marks.****(10×2=20)**

1. Define Artificial Intelligence.
2. What is heuristic function?
3. Define means end analysis.
4. Define propositional Logic.
5. What is truth maintenance system?
6. What are quantifiers in predicate logic?
7. What is planning in AI?
8. What is probabilistic reasoning?
9. What is semantic analysis?
10. Define Reinforcement Learning.
11. What is deep learning?
12. Define CNN.

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SECTION - B**II. Answer any Five questions. Each question carries 6 marks.****(5×6=30)**

13. Explain the structure of an intelligent agent with a neat diagram.
14. Illustrate Depth First Search (DFS) with an example.
15. Write short notes on forward chaining and backward chaining with examples.
16. Describe Constraint Satisfaction Problems (CSP).

[P.T.O.]

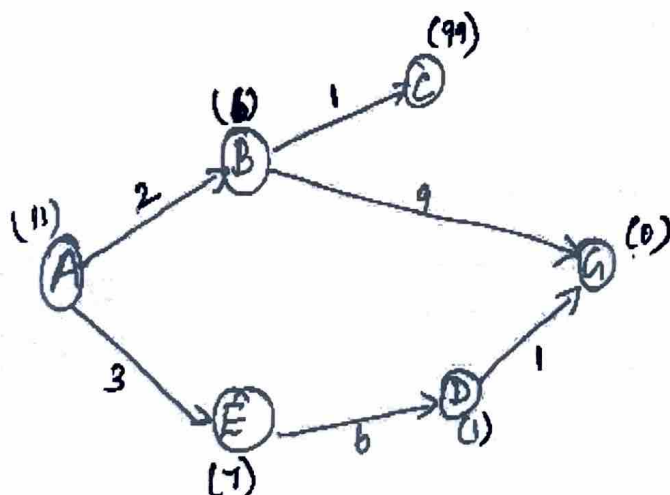


17. Explain the STRIPS representation in AI planning.
18. Write a note on fuzzy logic and its architecture.
19. Explain the basics of Artificial Neural Network (ANN).
20. Write short notes on supervised and unsupervised learning with example.

SECTION - C

III. Answer any Three questions. Each question carries 10 marks. (3×10=30)

21. a) Briefly explain any five applications of Artificial Intelligence. (5)
- b) Apply the A* search algorithm to find the optimal path for a given graph. (5)



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A is the starting node and G is the goal node.

22. a) Explain first order predicate logic and its predicates with example. (5)
- b) Explain decision tree learning. (5)
23. a) Explain computer vision in artificial intelligence. (5)
- b) Briefly explain the steps involved in natural language processing. (5)
24. Explain the architecture and components of an expert system with a neat diagram. (10)