20. What are genetic algorithms ? Describe with example.

Or

Explain NLP stages using a simple sentence example.

Section D **4×8=32**

21. What is the role of logic in Al reasoning ?

Or

Explain structured knowledge representation methods like frames and scripts.

22. Compare uninformed and informed search with examples.

Or

Write short notes on A* algorithm.

23. Describe the architecture of expert systems.

Or

Discuss non-monotonic reasoning in detail. Why is it important in expert systems, and how does it help in reasoning under uncertainty.

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B.C.A. EXAMINATION, 2026

(Fourth Semester)

(Re-appear Only)

(From 2020-21 Onwards)

ARTIFICIAL INTELLIGENCE

BCA-19-46

Time : 3 *Hours*] [*Maximum Marks :* 80

Before answering the question-paper, candidates must ensure that they have been supplied with correct and complete question-paper. No complaint, in this regard will be entertained after the examination.

Note : All questions are compulsory.

Section A **1×12=12**

1. What is the use of predicate logic in AI ?

2. Define knowledge representation.

3. What is meant by clausal form ?

4. Name two types of search algorithms.

5. Define goal-driven search.

6. What is meant by informed search ?

7. What is an expert system ?

8. What is meant by uncertainty in AI ?

9. Name any two methods to handle uncertainty.

10. What is learning by induction ?

11. What are transition network parsers ?

12. What is the use of Chomsky hierarchy ?

Section B **3×4=12**

13. Describe the concept of conceptual graphs in AI.

14. Explain the difference between depth-first and breadth-first search.

15. Write a short note on fuzzy logic.

16. Explain the importance of language analysis in NLP.

Section C **4×6=24**

17. What is semantic network ? Explain with example.

Or

Explain inference rules used in predicate logic.

18. What is best-first search ? Explain with example.

Or

Explain the working of hill climbing algorithm.

19. What are the different types of expert systems ?

Or

Describe Dempster-Shafer theory.

24. Describe any *two* types of learning in AI with examples.

Or

Explain Augmented Transition Network Parsers.

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24. Describe any *two* types of learning in AI with examples.

Or

Explain Augmented Transition Network Parsers.

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