

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2024
(Regular/Improvement/Supplementary)

COMPUTER SCIENCE
FCSS2C09-COMPUTATIONAL INTELLIGENCE

Time: 3 Hours

Maximum Weightage: 30

Section A: Short answer questions. Answer any *four* questions. Each carries 2 weightage.

1. What is an analogy in learning?
2. Write a note on means-end analysis.
3. Briefly explain problem characteristics.
4. Write a note on backward representation mapping.
5. Describe conceptual dependency as a slot and filler structure.
6. Analyze various strategies for strategies for space search.
7. Explain the role of DENDRAL as an expert system.

(4 × 2 = 8 weightage)

Section B: Short essay questions. Answer any *four* questions. Each carries 3 weightage.

8. Compare monotonic and non-monotonic production systems.
9. What are the advantages of backward reasoning over forward reasoning?
10. Differentiate between Fuzzification and De-fuzzification.
11. Explain: a) Mini-max search; b) alpha-beta cut-off.
12. Write a note on connectionist models.
13. Explain the term knowledge representation. What are the issues in knowledge representation?
14. Compare and contrast Generate-and-Test and Hill Climbing algorithm.

(4 × 3 = 12 weightage)

Section C: Essay questions. Answer any *two* questions. Each carries 5 weightage.

15. Explain: a) artificial life; b) backpropagation.
16. Analyze the how semantic nets and frames used for knowledge representation.
17. Describe non-monotonic reasoning. Explain the approaches for non-monotonic reasoning.
18. What is the significance of the A* Algorithm? Explain.

(2 × 5 = 10 weightage)