

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2025
(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. Compare rote learning and learning by taking advice.
2. Define constraint satisfaction.
3. Briefly explain the characteristics of production systems.
4. Write a note on forward representation mapping.
5. Differentiate between semantic net and frames.
6. What are the different strategies for space search?
7. Explain the role of MYCIN as an expert system.

(4 × 2 = 8 weightage)

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

8. What is meant by the term knowledge representation? Discuss the issues in knowledge representation?
9. Discuss the various types of Production Systems. Provide detailed explanations of each type and illustrate their respective applications.
10. Compare and contrast Best -First Search and Hill Climbing algorithm.
11. Resolution is a proofing technique. Justify the statement.
12. Perform basic operations on Fuzzy Sets, such as union, intersection, and complement. Provide examples to illustrate these operations and their implications.
13. Explain: i) Iterative deepening ii) Mini-max search.
14. Write a note on Hopfield networks.

(4 × 3 = 12 weightage)

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

15. Describe non-monotonic reasoning. Analyze various approaches for non-monotonic reasoning.
16. Explain: i) Genetic algorithm; ii) Back propagation.
17. Compare weak and strong slot and filler structures.
18. What is the significance of the AO* Algorithm? Explain.

(2 × 5 = 10 weightage)