



# ST. FRANCIS DE SALES COLLEGE

A FRANSALIAN INSTITUTE OF HIGHER EDUCATION **AUTONOMOUS**

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## END SEMESTER EXAMINATION – AUGUST 2025 COMPUTER SCIENCE- II SEMESTER MCA 24MCA26 – ARTIFICIAL INTELLIGENCE

**Time: 3 Hours**

**Max. Marks: 70**

**Instruction:** Answer should be written completely in English.

### SECTION - A

Answer any **FIVE** questions. Each question carries **SIX** marks each.

(5X6=30)

1. Explain Best First Search with an example.
2. Explain Breadth First Search with its performance measure.
3. Define Agent. Explain Agent environment with a neat diagram.
4. What is Knowledge Base? Explain Knowledgebase Architecture (KBA).
5. Convert the following statements into Propositional or First-Order Logic:
  - a. Not every student in the class passed the test.
  - b. If a person is a doctor, then they have studied medicine.
  - c. Some cars are not electric.
  - d. All animals that have wings can fly.
  - e. If today is a holiday, then the school is closed.
  - f. No child likes doing homework.
6. Explain the concept of Learning from decision trees.
7. Explain different types of plan generation system.
8. What is Natural Language processing? Discuss the Applications, advantages and disadvantages.

### SECTION - B

Answer any **FOUR** questions. Each question carries **TEN** marks each.

(4X10=40)

9. Explain the Knowledge Engineering Process in Artificial Intelligence.
10. Describe the common reasoning patterns in Propositional Logic with appropriate examples.



11. What is Propositional Logic? Discuss the different types of logical connectives used in it.
12. Explain STRIPS Plan generation system in AI. Illustrate advantages and disadvantages.
13. Define an Expert System. Describe its architecture and illustrate it with a clear and well-labelled diagram.
14. What is a Convolutional Neural Network (CNN)? Describe its architecture with a neat diagram.

