Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

MCA (2015 & Onward) (Sem.–5)
ARTIFICIAL INTELLIGENCE
Subject Code : MCA-501
M.Code : 74381

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. **SECTIONS-A, B, C & D contains TWO questions each carrying TEN marks each and students has to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**

SECTION-A

1. How are the conceptual foundations of AI? How has AI affected the current development of software solutions?

2. What do you mean by Water Jug problem? Explain with its space search.

SECTION-B

3. How is Perfect decision game different from Imperfect decision game? Explain in detail with an example.

4. What is Best first Search algorithm? What are its advantages and disadvantages?

SECTION-C

5. a) Represent the following facts in FOPL:

   i. Either Jack killed Tuna or Curiosity killed Tuna.

   ii. All machines are not intelligent.

   b) Write the syntax and semantics of Prepositional Logic (PL).

6. Explain in detail the Inference process in FOPL with the help of suitable examples.

SECTION-D

7. How are Scripts used in representing knowledge in AI? How are these better than other representation techniques?

8. Describe the Decision theoretic Expert systems in detail.

SECTION-E

9. Write short notes on :

    a) Difference between PL and FOPL

    b) History of AI

    c) Benefits of Iterative Deepening algorithm

    d) Use of Frames

    e) Depth First Search with an example

    f) Bayes Rule

    g) Production System and its features

    h) Syntax of FOPL

    i) Natural Language Processing

    j) Difference between Informed and Uninformed Search.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.