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 do you define 'Intelligence'? What is Artificial Intelligence? Discuss in detail the foundations and history of AI.

2. What are Production Systems? Discuss in detail the characteristics of production systems.

SECTION-B

3. What do you mean by Search? Discuss the various uninformed and informed search techniques.

4. Explain Iterative deepening A* with algorithm and an example.

SECTION-C

5. Discuss the syntax and semantics of FOPL with examples.

6. What is a Clausal form? Discuss with an example the steps to transform a sentence into the clausal form.

SECTION-D

7. Elaborate in detail how Bayesian theory and Belief networks provide reasoning under various kinds of uncertainty.

8. What are the main steps of communication between a speaker and a hearer?

SECTION-E

Answer the following in brief :

9.   How to improve the effectiveness of a search based problem solving technique?

10.   List the four components of a problem?

11.   Define Most General Unifier.

12.   Discuss the Minimax search procedure.

13.   What are Quantifiers in FOPL? What is their use?

14.   Distinguish between procedural knowledge and declarative knowledge.

15.   What is Inferencing?

16.   Define Fuzzy logic.

17.   What are the problems in processing natural languages?

18.   What are decision theoretic expert systems?

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.