**II Semester M.C.A. Examination, Nov./Dec. 2022
(CBCS) (2020-21 and Onwards)
COMPUTER SCIENCE
2MCA6 : Artificial Intelligence**

Time : 3 Hours

Max. Marks : 70

Instruction : Answer all the Parts.

PART – A

Answer **any five** of the following. **Each** question carries **six** marks :   (5×6=30)

1. What is AI ? Explain its applications in detail.

2. What is an intelligent agent ? Explain its structure with a neat diagram.

3. Explain reasoning in proposition logic using Wumpus world example.

4. What is planning ? Explain components of planning.

5. What is Natural language processing ? Explain all its components in brief.

6. Define expert system and explain its architecture with a neat diagram.

7. What are neural networks ? Explain briefly working of ANN.

8. What is learning ? Explain inductive learner with an example.

PART – B

Answer **any four** of the following. **Each** question carries **ten** marks :   (4×10=40)

9. Prove that "Robert is criminal" using forward chaining using the following statements.
   "As per the law it is a crime for an American to sell weapon to hostile nation. Country A, an enemy of America has some missile and all missiles were sold to it by Robert, who is an American citizen."   10

10. a) What is uncertainty ? Explain probabilistic reasoning in AI.   5

    b) Explain fuzzy logic ?   5

11. a) What are robotics ? Explain the components of a Robot.   5

    b) Explain various parsing techniques.   5

12. a) Briefly explain difference between machine learning and deep learning.   5

    b) Discuss the nature of environment.   5

13. Write short note on :

    a) Constraint satisfaction problem.   5

    b) Knowledge engineering in FOPL.   5

14. What is a problem ? Explain how a problem can be represented in state space
    search using vaccum world example.   10

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