

**A-1313**

Total Pages : 3

Roll No. ....

**MCS-E6**

(MCA)

**Artificial Intelligence**

Examination February, 2026

Time : 2:00 Hrs.

Max. Marks : 70

**Note** :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section-A**

**(Long Answer Type Questions) (2×19=38)**

**Note** :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

**A-1313**

( 1 )

P.T.O.

1. What is an expert system ? Explain with neat diagram the architecture of expert system and mention its features.
2. Explain in detail about forward and backward chaining with an example.
3. Discuss in detail the process of machine learning with an example.
4. What is meant by a “Knowledge-Based System” ? Describe the basic components of a knowledge based system. Also mention the various levels of knowledge representation.
5. Explain in detail about A\* algorithm with example.

### **Section–B**

**(Short Answer Type Questions) (4×8=32)**

**Note** :- Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Define AI. What is its importance in the field of computing ?
2. Write the difference between supervised learning and unsupervised learning.

3. Explain water Jug problem in AI. Describe the state space formulation and solution strategy.
4. Explain inference rules used in predicate logic.
5. What is Heuristic function ? Explain its role in informed search strategies with suitable example.
6. Define rule based system with example.
7. Explain the Best First and Depth First search method.
8. Explain in detail about alpha-beta pruning with example.

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