

Code No: **R20A0561****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****II B.Tech II Semester Supplementary Examinations, April 2025****Artificial Intelligence****(CSE-AIML & B.Tech-AIDS)**

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Time: 3 hours**Max. Marks: 70**

Note: This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing **ONE** Question from each SECTION and each Question carries 14 marks.

SECTION-I

- | | | | BCLL | CO(s) | Marks |
|---|----------|--|-------------|--------------|--------------|
| 1 | <i>A</i> | Describe the four categories under which AI is classified with examples? Define Artificial Intelligence? List the fields that form the basis for AI? | L1 | CO-I | [7M] |
| | <i>B</i> | What are the basic components of AI problem solving methodology? Illustrate with an example. | L2 | CO-I | [7M] |
| | | OR | | | |
| 2 | <i>A</i> | Differentiate Informed & Uninformed search. Give examples? | L3 | CO-I | [7M] |
| | <i>B</i> | Explain the following uninformed search strategies with examples. (a) Breadth First Search. (b) Depth-first with Iterative Deepening | L4 | CO-I | [7M] |

SECTION-II

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|---|----------|--|-----------|--------------|-------------|
| 3 | <i>A</i> | Give a brief note on minimax&Alpha-beta pruning with example and neat sketch? | L2 | CO-II | [7M] |
| | <i>B</i> | Discuss Resolution&inference in first-order logic? | L1 | CO-II | [7M] |
| | | OR | | | |
| 4 | <i>A</i> | Write down the logical representations for the following sentences, suitable for use with Generalized Modus Ponens. a) Horses, cows, and pigs are mammals. | L3 | CO-II | [7M] |
| | <i>B</i> | Give a brief note on minimax&Alpha-beta pruning with example and neat sketch? | L4 | CO-II | [7M] |

SECTION-III

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|---|----------|---|-----------|---------------|-------------|
| 5 | <i>A</i> | Explain different types of knowledge and Discuss how interaction of AI with real world and components involved in showing intelligent? | L1 | CO-III | [7M] |
| | <i>B</i> | Describe Bayes theorem? Define Non monotonic reasoning? What is Uncertainty Measure? Explain briefly | L2 | CO-III | [7M] |
| | | OR | | | |
| 6 | <i>A</i> | Discuss the following knowledge representation schemes: a) Logic representation b) Semantic network | L3 | CO-III | [7M] |
| | <i>B</i> | Discuss baye's rule and apply the baye's rule for the following. A bag I contain 4 white and 6 black balls while another Bag II contains 4 white and 3 black balls. One ball is drawn at random from one of the bags, and it is found to be | L4 | CO-III | [7M] |

black. Find the probability that it was drawn from Bag I.

SECTION-IV

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|---|----------|--|-----------|--------------|-------------|
| 7 | <i>A</i> | What is a decision tree? Explain the decision tree learning algorithm with an example? | L1 | CO-IV | [7M] |
| | <i>B</i> | Define the following a) Inductive learning. b) Learning Decision Tree | L2 | CO-IV | [7M] |

OR

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|---|----------|---|-----------|--------------|-------------|
| 8 | <i>A</i> | What is rote learning? Explain in detail with an example? | L3 | CO-IV | [7M] |
| | <i>B</i> | Discuss Winston's learning briefly with neat sketch. | L4 | CO-IV | [7M] |

SECTION-V

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|---|----------|--|-----------|-------------|-------------|
| 9 | <i>A</i> | Explain Expert Systems with example. | L1 | CO-V | [7M] |
| | <i>B</i> | Explain the representation and use of Domain knowledge | L2 | CO-V | [7M] |

OR

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|----|----------|--|-----------|-------------|-------------|
| 10 | <i>A</i> | Discuss about reasoning with knowledge with neat diagram | L3 | CO-V | [7M] |
| | <i>B</i> | Discuss knowledge Acquisition? | L4 | CO-V | [7M] |
