

**CMR ENGINEERING COLLEGE: : HYDERABAD**  
**UGC AUTONOMOUS**

**III-B.TECH-I-Semester End Examinations (Supply) - December- 2025**  
**ARTIFICIAL INTELLIGENCE**  
**(Common for CSE, IT)**

**[Time: 3 Hours]**

**[Max. Marks: 70]**

**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks.

**PART-A**

**(20 Marks)**

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|-------|--|------|
| 1. a) | What is Artificial Intelligence?   | [2M] |
| b)    | What is Heuristic Function?  | [2M] |
| c)    | What is propositional logic?   | [2M] |
| d)    | Define First order Logic?  | [2M] |
| e)    | What are the limitations in using propositional logic to represent the knowledge base? | [2M] |
| f)    | What is Acting under uncertainty?  | [2M] |
| g)    | Explain Rote learning?   | [2M] |
| h)    | What is learning?  | [2M] |
| i)    | List out the problem areas addressed by Expert systems                                 | [2M] |
| j)    | Define Domain knowledge representation.  | [2M] |

**PART-B**

**(50 Marks)**

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|------|--|------|
| 2.a) | What is Artificial Intelligence and Artificial Intelligence technique? | [5M] |
| b)   | Explain the applications of AI.  | [5M] |

**OR**

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| 3. | Discuss the following search technique with the help of an example. Also discuss the benefits and shortcoming of each i)Breadth First Search ii)Depth First Search | [10M] |
| 4. | Explain the forward chaining process in detail with example? What is the need of incremental chaining?   | [10M] |

**OR**

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| 5. | Write the algorithm for deciding entailment in propositional logic | [10M] |
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| 6. | Explain about Baye's rule and its use | [10M] |
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**OR**

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| 7. | How it is useful for decision making under uncertainty about knowledge? | [10M] |
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| 8. | Explain learning and discuss in detail about Rote learning. | [10M] |
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**OR**

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| 9. | Describe the role of information gain in decision tree learning. | [10M] |
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| 10. | With neat sketch explain the architecture, characteristic features and roles of expert system. | [10M] |
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**OR**

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| 11. | Discuss about the Knowledge Acquisition process in expert systems | [10M] |
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