

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)**

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)**

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

OR

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

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

OR

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

OR

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

OR

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