

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E.

Branch: Industrial Engineering and Management

Course Code: 21IM7DEAML

Course: Artificial Intelligence and Machine Learning

Semester: VII

Duration: 3 hrs.

Max Marks: 100

Date: 28.02.2023

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

- 1 a) Define Artificial Intelligence. Explain the assumptions and importance of AI. **08**
- b) Explain AI and its related fields **04**
- c) Define the problem as a state space search **08**

OR

- 2 a) Explain the Production systems & Control strategies in AI with an example **08**
- b) List & explain heuristic search techniques **06**
- c) Explain the Hill Climbing technique in AI **06**

UNIT - II

- 3 a) Explain the approaches to Knowledge Representation. **10**
- b) Explain the issues in Knowledge Representation. **10**

OR

- 4 a) Explain the process of representing facts in predicate logic. **08**
- b) What is Resolution? Explain the steps in converting WFFs to clause form. **12**

UNIT - III

- 5 a) State and explain Bayes Theorem **06**
- b) Explain Bayesian Networks with an illustration. **08**
- c) Explain Fuzzy logic for statistical reasoning in AI **06**

UNIT - IV

- 6 a) Explain the construction of an expert system with a schematic diagram **10**
- b) Briefly explain Expert system shells. **10**

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

UNIT - V

- 7 a) What is learning? Briefly explain the general learning model and its performance measures. **10**
- b) List the typical expert systems. Explain any one expert system. **10**

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