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

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E.

Semester: VII

Branch: Industrial Engineering and Management

Duration: 3 hrs.

Course Code: 21IM7DEAML

Max Marks: 100

Course: Artificial Intelligence and Machine Learning

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 **10** performance measures.

b) List the typical expert systems. Explain any one expert system. **10**

B.M.S.C.E. - ODD SEM 2022-23