# Code No: R18A1205 MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous Institution – UGC, Govt. of India)

III B.Tech II Semester Supplementary Examinations, April 2023 Artificial Intelligence

# (ECE & AE)

Roll No
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### Time: 3 hours

**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

1 How do the problem characteristics help in the selection of Artificial Intelligence [14M] (AI) Techniques? Explain these characteristics with possible examples.

### OR

2 Under what conditions would it make sense to use Backtracking, Local Search? [14M] Explain the Backtracking, Local Search approaches with suitable examples of where they can be used.

## **SECTION-II**

3	Describe MiniMax searching techniques with suitable example.	[14M]
	OR	
4	Explain the difference between:	
	(a) Forward and Backward reasoning.	[7M]
	(b) Deductive and inductive learning.	[7M]
	SECTION-III	
5	Explain about non-monotonic reasoning with suitable example,	[14M]
	OR	
6	Three persons A, B and C have applied for a job in a private company. The chance of their selections is in the ratio $1 : 2 : 4$ . The probabilities that A, B and C can introduce changes to improve the profits of the company are 0.8, 0.5 and 0.3, respectively. If the change does not take place, find the probability that it is due to the appointment of C.	[14M]
	SECTION-IV	
7	Explain about Winston's learning program used for deriving Decision Trees and their attribute selection measures.	[ <b>14M</b> ]
	OR	
8	Explain rote learning and learning by taking advice. SECTION-V	[14M]
9	What is the significance of the Expert-system approach to problem-solving in the history of AI? How did it differ, for example, mean-ends analysis? How does it compare with AI approaches focusing on general mechanisms of intelligence? OR	[14M]
10	Discuss the architecture of the Expert System. And explain any three applications of the Expert System.	[14M]

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#### Max. Marks: 70