R22

Code No: R22A6601

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

II B.Tech II Semester Regular/Supplementary Examinations, April 2025

Artificial Intelligence

(CSE-AIML & B.Tech-AIML)

Roll No										

Time: 3 hours **Max. Marks: 60**

Note: This question paper contains two parts A and B
Part A is compulsory which carries 10 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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			BCLL	CO(s)	Marks
		PART-A (10 Marks)			
		(Write all answers of this part at one place)			
1	A	Define Artificial Intelligence.	**L2**	**CO-I**	**[1M]**
	B	Define agent?	**L1**	**CO-I**	**[1M]**
	C	Define pruning.	**L1**	**CO-II**	**[1M]**
	D	Define alpha & beta values in a game tree.	**L2**	**CO-II**	**[1M]**
	E	Compare different knowledge representation languages.	**L1**	**CO-III**	**[1M]**
	F	List the methods for handling uncertainty.	**L2**	**CO-III**	**[1M]**
	G	What is Explanation-Based Learning?	**L2**	**CO-IV**	**[1M]**
	H	Why do you require Machine Learning?	**L2**	**CO-IV**	**[1M]**
	I	Define Expert system.	**L1**	**CO-V**	**[1M]**
	J	List various components of Expert system.	**L1**	**CO-V**	**[1M]**
		PART-B (50 Marks)			
		SECTION-I			
2	A	Define a problem and its components.	**L3**	**CO-I**	**[5M]**
	B	Explain how a problem-solving agent works?	**L3**	**CO-I**	**[5M]**
		OR			
3	A	Explain real -world problems with examples?	**L3**	**CO-I**	**[5M]**
	B	What is Greedy Best First Search?	**L3**	**CO-I**	**[5M]**
		SECTION-II			
4	A	Define the logic behind – Hill climbing, Best-First Search, BFS and DFS.	**L2**	**CO-II**	**[5M]**
	B	What is A* search? Explain Various stages of A* search with an example	**L1**	**CO-II**	**[5M]**
		OR			
5		Explain the following local search strategies with examples.	**L3**	**CO-II**	
		A. Hill Climbing			**[5M]**
		B. Alpha-Beta Pruning			**[5M]**

SECTION-III

6	A	Explain prior and posterior probability with examples	**L3**	**CO-III**	**[5M]**
	B	Explain the forward and backward reasoning.	**L4**	**CO-III**	**[5M]**
		OR			
7	A	Explain the Bayesian networks and its application.	**L3**	**CO-III**	**[5M]**
	B	Explain different approaches of knowledge representation.	**L2**	**CO-III**	**[5M]**

SECTION-IV

8	A	Explain the various types of learning in problem solving.	**L4**	**CO-IV**	**[5M]**
	B	Describe learning with macro-operators.	**L5**	**CO-IV**	**[5M]**
		OR			
9		Explain learning in Decision Tree with example. Explain about ID3.	**L3**	**CO-IV**	**[10M]**

SECTION-V

10	A	Explain about Knowledge acquisition system.	**L3**	**CO-V**	**[5M]**
	B	Describe about Expert system shell	**L2**	**CO-V**	**[5M]**
		OR			
11	A	List out the applications of Expert system.	**L5**	**CO-V**	**[5M]**
	B	Explain various components of Expert system	**L3**	**CO-V**	**[5M]**

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