Code No.: AI401PC	R20	H.T.No.			8	R						

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–II–Semester End Examinations (Supply) - July- 2024
ARTIFICIAL INTELLIGENCE
(CSM)

[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 and may have a, b, c as sub questions.

PART-A **(20 Marks)**

1.	a)	What are the main components of an intelligent agent?	[2M]
	b)	What is Problem-solving agent in AI?	[2M]
	c)	What is a search tree in AI?	[2M]
	d)	Define Bayes' Theorem.	[2M]
	e)	What is a Bayesian Network?	[2M]
	f)	What is non-monotonic reasoning?	[2M]
	g)	What is the learning paradigm?	[2M]
	h)	Describe the concept of supervised learning.	[2M]
	i)	What is domain knowledge in the context of expert system?	[2M]
	j)	Describe how knowledge acquisition involves in the development of an expert system.	[2M]

PART-B **(50 Marks)**

2.	Discuss the different types of agents in AI and how these agents interact with environment.	[10M]
	OR	
3.	Compare and contrast Generic Best-First search and A* search.	[10M]
4.	Explain the minimax algorithm along with alpha-beta pruning.	[10M]
	OR	
5.	Compare and contrast forward chaining and backward chaining.	[10M]
6.	Discuss the challenges and issues in knowledge representation in AI.	[10M]
	OR	
7.	Elaborate how Bayesian Networks are used to represent knowledge in uncertain domains.	[10M]
8.	Discuss the process of learning from examples in AI, and how this method can be applied to train machine learning models.	[10M]
	OR	
9.	Compare and contrast rote learning, learning by taking advice, and learning from examples.	[10M]
10.	Explain the difference between how an expert and an expert system represent knowledge.	[10M]
	OR	
11.	Discuss the complete development process of an expert system with shell architecture.	[10M]

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