SET 3

SR 22

St. Peter's Engineering College (Autonomous) Dullapally (P), Medchal, Hyderabad – 500100. II - Mid Term Examination – November 2024						Dept.	:	CSM
						Academic Year 2024-25		
Subject Code	:	AS22-66PC01	Subject	:	INTRODUCTION TO ARTIFICIAL INTELLIGENCE			
Class/Section	:	B. Tech.	Year	:	II	Semester	:	II
Duration	:	120 Min	Max. Marks	:	30	Date:	:	

BLOOMS LEVEL					
Remember	L1	Understand	L2	Apply	L3
Analyze	L4	Evaluate	L5	Create	L6

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PART – A (10x1M = 10M)

Note: Answer all Questions. Each Question carries equal marks.

Q. No	Question (s)	Marks	BL	CO
	UNIT - I			
1	**a.** What is the space complexity of BFS Algorithm?	1M	L1	C221.1
	b. Write down the properties name of Search Algorithm.	1M	L1	C221.1
	c. What is the time complexity of DFS algorithm?	1M	L1	C221.1
	d. What are the types of Agents?	1M	L1	C221.1
	UNIT – II			
	e. Define Alpha and Beta.	1M	L1	C221.1
	f. What are the Challenges in Optimal Decision-Making?	1M	L1	C221.1
	g. State De Morgan's Laws.	1M	L2	C221.2
	h. What are the logical connectives in propositional logic?	1M	L1	C221.1
	UNIT – III			
	i. What is unification?	1M	L1	C221.1
	j. Define wumpus world?	1M	L1	C221.1

PART – B (20M)

Q. No	Question (s)	Marks	BL	CO
	UNIT - I			
2	**a.** What are the types of AI agent? Explain them with neat diagram.	4M	L1	C221.1
	b. Explain DFS with suitable example.	4M	L1	C221.2
	OR			

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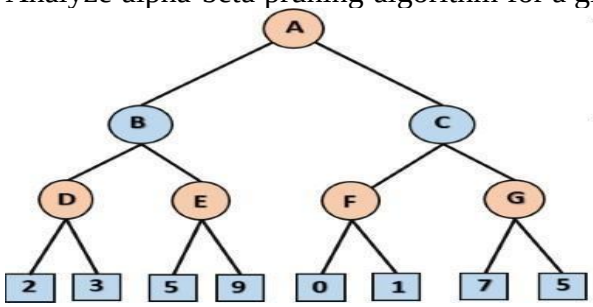
3	**a.** Define heuristic search? Explain any of heuristic search with suitable examples.	**4M**	L2	C221.2
	b. Briefly explain Hill Climbing search with suitable example.	**4M**	L2	C221.2
	UNIT – II			
4	**a.** Analyze alpha-beta pruning algorithm for a given tree. 	**4M**	L5	C221.5
	b. Describe the Properties of Operators in Propositional Logic.	**4M**	L1	C221.1
	OR			
5	**a.** With a neat diagram explain about the architecture of knowledge-based agent.	**4M**	L1	C221.1
	b. Explain the Horn Clauses and Definite Clauses in detail.	**4M**	L1	C221.1
	UNIT – III			
6	Consider the following sentences: • **John likes all kinds of food** • **Applies are food** • **Chicken is food** • **Anything anyone eats and isn't killed by is food** • **Bill eats peanuts and is still alive** • **Sue eats everything Bill eats** i. Translate these sentences into formulas in predicate logic ii. Prove that john likes peanuts using backward chaining iii. Convert the formulas of a part into clause form Prove that john likes peanuts using resolution	**4M**	L3	C221.3
	OR			
7	Illustrate the syntax and semantics of first order logic.	**4M**	L1	C221.1

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