Code: 20IT4601D

III B.Tech - II Semester – Regular / Supplementary Examinations APRIL 2024

ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS
(INFORMATION TECHNOLOGY)

Duration: 3 hours   Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level   CO – Course Outcome

			BL	CO	Max. Marks
		UNIT-I			
1	a)	Explain in detail about the various task domains of AI.	L2	CO1	7 M
	b)	Discuss the state space representation and apply an optimal sequence of actions to solve Chess Game.	L2	CO1	7 M
		OR			
2	a)	Solve the Tic – Tac –Toe problem using AI Techniques.	L3	CO1	7 M
	b)	Describe heuristic search strategies with an example.	L2	CO1	7 M
		UNIT-II			
3	a)	What is the effect of heuristic accuracy by using Constraint Satisfaction problem?	L2	CO2	7 M

	b)	Explain the AO* with suitable example. State the limitations in the algorithm.	L2	CO2	7 M
		OR			
4	a)	Describe about the simulated annealing with example.	L2	CO2	7 M
	b)	Explain the Best First Search with example.	L2	CO2	7 M

UNIT-III

5	a)	Explain Resolution with suitable example.	L2	CO3	7 M
	b)	Contrast Forward reasoning with Backward reasoning.	L2	CO3	7 M
		OR			
6	a)	Distinguish between Procedural knowledge Vs Declarative knowledge.	L2	CO3	7 M
	b)	Consider the following sentences: • John likes all kinds of food • Apples 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 Translate these sentences into formulas in predicate logic.	L3	CO3	7 M

UNIT-IV

7	a)	Correlate the BFS and DFS with example.	L4	CO4	7 M
	b)	Explain about Conceptual dependency.	L2	CO4	7 M
		OR			

8	a)	Create a script for going to a theater.	L6	CO4	7 M
	b)	Explain about Frames and its components.	L2	CO4	7 M

UNIT-V

9	a)	What is alpha beta pruning? Explain with example.	L2	CO5	7 M
	b)	Construct Goal Stack Planning for Blocks World Problem.	L6	CO5	7 M

OR

10	a)	Discuss briefly about Hierarchical planning with example.	L2	CO5	7 M
	b)	Explain about knowledge based expert system shells.	L2	CO5	7 M