PVP 20

Code: 20IT4601D

III B.Tech - II Semester – Regular Examinations – JUNE 2023

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)	What is AI? Explain any two approaches to AI.	L2	CO1	7 M
	b)	Draw a state space representation of one legal Chess move problem.	L4	CO1	7 M
OR					
2	a)	Consider there are three jugs of 12 gallons, 8 gallons and 3 gallons. How will we get 1 gallon of water in 12 gallon jug? Design solution of the problem.	L4	CO1	7 M
	b)	Describe different control strategies used in problem solving.	L2	CO1	7 M
UNIT-II					
3	a)	What is A* search? Explain various stages of A* search with an example.	L3	CO2	7 M
	b)	Write in detail about the mean end analysis procedure with example?	L2	CO2	7 M

		OR			
4	a)	Explain Hill Climbing search with example and analyze the problems associated with hill climbing search.	L3	CO2	7 M
	b)	Write in detail about the constraint satisfaction procedure with example.	L2	CO2	7 M
		UNIT-III			
5	a)	Explain about Representations and Mappings with neat diagram.	L2	CO3	7 M
	b)	Differentiate between forward and backward reasoning.	L3	CO3	7 M
		OR			
6	a)	Describe Resolution with suitable example.	L2	CO3	7 M
	b)	Analyze the differences between procedural and declarative knowledge with examples.	L3	CO3	7 M
		UNIT-IV			
7	a)	Explain in detail about Breadth First Search implementation of Non-Monotonic Reasoning.	L2	CO4	7 M
	b)	Enumerate Conceptual Dependency primitives. Give the conceptual dependency graph representation for following sentences: i) I gave the man a pen. ii) Kumar ran yesterday.	L3	CO4	7 M
		OR			

8	a)	Briefly describe the following: i. Frames ii. Conceptual dependency	L2	CO4	7 M
	b)	What is Non-Monotonic reasoning? How it is used in problem solving.	L3	CO4	7 M
		UNIT-V			
9	a)	What is Hierarchical planning? Explain with relevant examples.	L2	CO5	7 M
	b)	Explain the various stages of expert system development.	L2	CO5	7 M
		OR			
10	a)	Describe how Alpha-Beta search works with relevant examples.	L2	CO5	7 M
	b)	Illustrate the min-max search procedure with an example.	L4	CO5	7 M