PVP 20

Code: 20ES1307

II B.Tech - I Semester – Regular Examinations - DECEMBER 2023

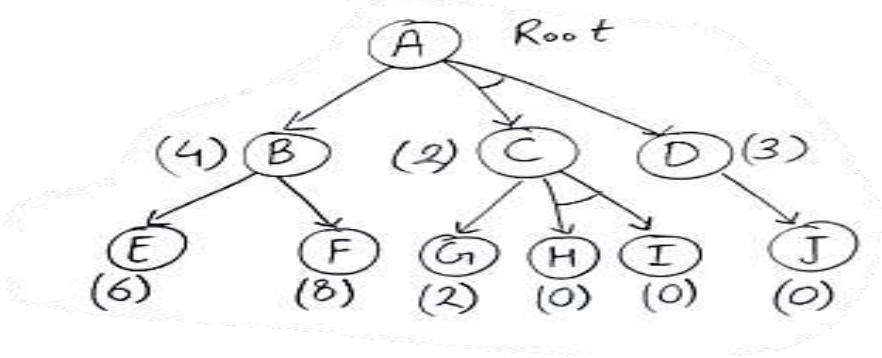
FOUNDATIONS OF ARTIFICIAL INTELLIGENCE
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

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)	Briefly discuss about History of AI.	L2	CO1	7 M
	b)	List all Agent Types of AI and explain them with an examples.	L2	CO1	7 M
OR					
2	a)	Describe the PEAS concept in terms of Self-driving cars.	L2	CO1	7 M
	b)	Explain foundations of AI. And Write Applications of AI.	L2	CO1	7 M
UNIT-II					
3	a)	Define General Problem Solving. Solve Towers of Hanoi problem using any uninformed (BFS, DFS) Algorithm. 	L3	CO2	7 M

	b)	Write about Problem Reduction. Solve the below graph using A* algorithm. 	L3	CO2	7 M
OR					
4	a)	Describe uninformed search. Illustrate any one uninformed search algorithm with an example.	L3	CO2	7 M
	b)	Analyze Alpha Beta pruning problem with an example.	L4	CO4	7 M
UNIT-III					
5	a)	Describe a procedure for converting a sentence to CNF with an example.	L2	CO1	7 M
	b)	Apply Inference Resolution rule by using the below examples i. John likes all kind of food. ii. Apple and vegetable are food iii. Anything anyone eats and not killed is food. iv. Anil eats peanuts and still alive v. Harry eats everything that Anil eats. Prove by resolution that: John likes peanuts.	L3	CO2	7 M
OR					

6	a)	Demonstrate Forward chaining and Backward chaining for proportional definite clauses.	L3	CO2	7 M
	b)	Distinguish Prepositional logic with Predicate logic.	L4	CO4	7 M
UNIT-IV					
7	a)	Describe the Role of Planning in Artificial Intelligence.	L2	CO1	7 M
	b)	Illustrate the Forward State Space Planning and Backward Space Planning with Advantages and Disadvantages.	L3	CO3	7 M
OR					
8	a)	Explain Hierarchical planning with example.	L2	CO1	7 M
	b)	Analyze the planning methodology used by STRIPS in detail.	L4	CO4	7 M
UNIT-V					
9	a)	What is ANN and briefly explain about the structure of artificial neural network with a diagram.	L2	CO1	7 M
	b)	Illustrate the concept of single layered and multi layered Neural Network with a neat diagram.	L3	CO3	7 M
OR					
10	a)	Describe Supervised Learning and Unsupervised Learning.	L2	CO1	7 M
	b)	Illustrate regression and classification of linear models.	L3	CO3	7 M