

Code No: 20CS4501D

PVP SIDDHARTHA INSTITUTE OF TECHNOLOGY
(Autonomous)

III B.Tech - I Semester Regular Examinations

Artificial Intelligence

Duration: 3 Hours**Max. Marks: 70**

1. Note: This question paper contains 5 essay questions with an internal choice.
2. Each question carries 14 Marks.
3. All parts of Question paper must be answered in one place

5 x 14 = 70 Marks

			Blooms Level	CO	Max. Marks
UNIT-I					
1	(a)	Define Artificial Intelligence. Explain any 5 real-time applications of AI technology.	2	CO 1	7
	(b)	Summarize the different types of agents?	2	CO 1	7
OR					
2	(a)	Define Intelligent Agent. Illustrate the characteristics of Intelligent Agent.	3	CO 1	7
	(b)	Discuss PEAS associated with AI Agent? List the properties of environments.	2	CO 1	7
UNIT-II					
3	(a)	Define problem solving agents and list its algorithms.	2	CO 2	7
	(b)	Explain the following types of Hill Climbing search techniques. i) Simple Hill Climbing. ii) Steepest-Ascent Hill Climbing.	3	CO 2	7
OR					
4	(a)	Use A* searching technique with an example. Discuss conditions for the optimality.	3	CO 4	14
UNIT-III					
5	(a)	Differentiate the keywords Data, Belief, Hypothesis and Knowledge.	2	CO 2	7
	(b)	Illustrate the use of First order Logic to represent the knowledge.	3	CO 4	7
OR					
6	(a)	Summarize the desired properties and representation of knowledge.	2	CO 2	7
	(b)	Contrast Forward and Backward chaining techniques.	4	CO 4	7
UNIT-IV					
7	(a)	Explain planning with state space search	2	CO 3	7
	(b)	Analyze various components of a planning system?	4	CO 3	7
OR					
8	(a)	Discuss the limitations of the problem-solving approach and what is the motivation behind the design of planning systems	2	CO 3	7
	(b)	Demonstrate planning with propositional logic with a suitable example.	3	CO 4	7
UNIT-V					

9	(a)	Illustrate various forms of learning.	3	CO 3	7
	(b)	Explain the major issues that affect the design of the learning element.	2	CO 3	7
OR					
10	(a)	What is Reinforcement learning? Explain various phases of Reinforcement learning agents.	2	CO 4	7
	(b)	Relate the concept of logical formulation of learning with suitable example.	4	CO 3	7