

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM
(AUTONOMOUS)**

II B.Tech I Semester Supplementary Examinations, June - 2024

INTRODUCTION TO ARTIFICIAL INTELLIGENCE

(Common to CSE (AI&ML) and CSE (AI))

Time: 3 hours

Max. Marks: 70

**Answer ONE Question from each Unit
All Questions Carry Equal Marks**

Q. No.	Questions	BTL	CO	Marks
UNIT – I				
1.	a) Explain (i) Goal based agent (ii) Model based reflex agent.	K2	CO1	7M
	b) Explain the properties of Task environment.	K2	CO1	7M
OR				
2.	a) What is meant by Rationality and Rational Agent? Explain how agents can interact with environment using sensors and actuators.	K3	CO1	7M
	b) Explain about foundations of Artificial Intelligence.	K2	CO1	7M
UNIT – II				
3.	a) You are given two jugs a 4-gallon one and a 3-gallon one. Neither have any measuring markers on it. There is a pump that can be used to fill the jugs with water. How can you get exactly 2 gallons of water into 4-gallon jug? Solve this instance using state space representation.	K3	CO2	7M
	b) Differentiate between Breadth First Search and Depth First Search.	K4	CO2	7M
OR				
4.	a) Discuss various steps in formulating a problem, with an example	K2	CO2	7M
	b) With a suitable example describe the Greedy Best first Search algorithm.	K2	CO2	7M
UNIT – III				
5.	a) Describe about knowledge based Agents.	K2	CO3	7M
	b) Write a brief description about mental events and mental objects.	K2	CO3	7M
OR				
6.	a) Draw and explain the Semantic network with four object(John, Mary,1,2), with four categories and represent the relations using labeled links.	K3	CO3	7M
	b) Write a short note on Logic used in knowledge representation.	K2	CO3	7M
UNIT – IV				
7.	a) What is meant by Conditional Probability? In what applications it can be used?	K2	CO4	7M
	b) How to construct a Bayesian network in such a way that the resulting joint distribution is a good representation of a given domain?	K3	CO4	7M

	OR				
8.	a)	By applying Baye`s rule solve this instance that “Covid-19 tests are common nowadays, but some results of tests are not true”. Let`s assume; a diagnostic test has 99% accuracy and 60% of all people have Covid-19. If a patient tests positive, what is the probability that they actually have the disease?	K3	CO4	7M
	b)	Describe about Inference using full joint Distributions.	K2	CO4	7M
	UNIT – V				
9.	a)	Can machines act Intelligently? Justify	K5	CO5	7M
	b)	What are The Ethics that can be used in Developing Artificial Intelligence? Explain	K2	CO5	7M
	OR				
10.	a)	Differentiate between Weak AI and Strong AI.	K4	CO5	7M
	b)	Describe about the agent components.	K2	CO5	7M