R22

ANURAG Engineering College
(An Autonomous Institution)
II B.Tech II Semester Supplementary Examinations, December – 2024
INTRODUCTION TO ARTIFICIAL INTELLIGENCE
(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

Time: 3 Hours   **Max. Marks: 60**

Section – A (Short Answer type questions)
Answer All Questions   **(10 Marks)**

		Course Outcome	B.T Level	Marks
1.	Define an agent.	CO1	L1	1M
2.	Define Artificial Intelligence	CO1	L1	1M
3.	List the operations performed by Knowledge Based Agent.	CO2	L1	1M
4.	What is definite clause?	CO2	L1	1M
5.	What is atomic sentence in first order logic.	CO3	L1	1M
6.	List out the properties of quantifier in first order logic.	CO3	L1	1M
7.	Define Planning in AI.	CO4	L1	1M
8.	List other classical planning approaches.	CO4	L1	1M
9.	List the Causes of uncertainty.	CO5	L1	1M
10.	Write Bayes Rule.	CO5	L1	1M

Section B (Essay Questions)
Answer all questions, each question carries equal marks.   **(5 X 10M = 50M)**

			CO	B.T	Marks
11.	A)	i) Write algorithm for Breadth First Search algorithm.	CO1	L3	6M
		ii) What is PEAS representation? Explain with one example.	CO1	L2	4M
		OR			
	B)	Explain Depth First Search algorithm with example.	CO1	L2	10M
12.	A)	Jones, Smith, and Clark hold the jobs of programmer, knowledge engineer, and manager. Jones owes the programmer $10. The manager's spouse prohibits borrowing money. Smith is not married. Your task is to figure out which person has which job. Solve the problem using propositional logic.	CO2	L3	10M
		OR			
	B)	Describe Back tracking search for CSPs.	CO2	L2	10M
13.	A)	Differentiate between forward and backward reasoning.	CO3	L2	10M
		OR			
	B)	Discuss syntax and semantics of First order logic.	CO3	L2	10M
14.	A)	Explain hierarchical planning with relevant examples.	CO4	L3	10M
		OR			
	B)	i) Give a detailed account on planning with state space search.	CO4	L3	5M
		ii) Explain the use of planning graph in providing better heuristic estimation with suitable example?	CO4	L2	5M
15.	A)	What is a Bayesian networks? How is it used in representing the uncertainity about knowledge. Explain the method of performing exact inference in baeysian networks?	CO5	L2	10M
		OR			
	B)	Explain about basic Probability Notation with examples.	CO5	L3	10M