

Register No : _____

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Third Semester

Artificial Intelligence and Data Science

AL3391-Artificial Intelligence

Regulations – 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define AI.	RE	1	2
2.	Is AI a science or is it engineering or neither or both.	AN	1	2
3.	How are optimal decisions made?	RE	2	2
4.	Write a note on online search agents.	UN	2	2
5.	What is Monte Carlo tree search used for?	RE	3	2
6.	Write the concept of stochastic games in detail.	UN	3	2
7.	What is first-order logic?	RE	4	2
8.	Examine data-driven search (forward chaining).	AN	4	2
9.	Write the importance of description logics.	UN	5	2
10.	List out the naïve Bayes models.	UN	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a i What are the four basic types of agent program in any intelligent system? Explain how did you convert them into learning agents?	UN	1	6
	ii Define a problem and its components. Explain how a problem-solving agent works?	UN	1	7
	Or			
	b i Give the details about, how hill climbing algorithm is working in artificial intelligence.	UN	1	6
	ii Illustrate the concept of uninformed search strategies.	UN	1	7
12.	a i Define Heuristic search. Mention the advantages of Heuristic search.	RE	2	6
	ii Compare the mini max algorithm with an example.	AN	2	7
	Or			
	b Show the performance measure of various search algorithms.	UN	2	13

13.	a	i	What is the basic strategy in game playing in artificial intelligence?	RE	3	7
		ii	Why is game theory important in AI? Explain.	AN	3	6
Or						
	b	i	How does Monte Carlo tree search work? Explain.	RE	3	7
		ii	Discuss in detail about How CSP is formulated as a search problem?	AN	3	6
14.	a	i	Apply assertions and queries in first-order logic.	AP	4	7
		ii	Analyze about models for predicate logic.	AN	4	6
Or						
	b	i	Apply and use of first-order logic to represent knowledge.	AP	4	8
		ii	Differentiate with an example of Forward chaining and Backward chaining.	AN	4	5
15.	a		How Bayesian network is used for representing knowledge in an uncertain domain.	AP	5	13
Or						
	b		With suitable example, Explain the concept of probabilistic reasoning with suitable example.	AP	5	13

PART – C (Marks 1*15 = 15)

Q.No	Questions		BLT	CO	Marks
16.	a i	Explain in detail the shopping agent for the Internet shopping world example.	AP	1	8
	ii	Prepare the merits and demerits of depth-first and breadth-first search with the algorithm.	AN	2	7
Or					
	b i	With a suitable example, explain backtracking search for constrain satisfaction problem.	AP	3	7
	ii	Give resolution proof for example problem statement: (a) West is a criminal (b) Curiosity killed the cat	AN	4	8