

Reg. No.

**M.I.E.T. ENGINEERING COLLEGE
(AUTONOMOUS)**

Tiruchirappalli-620007

Continuous Internal Assessment – I

2023-2024 – Even Semester

**B.E. - COMPUTER SCIENCE AND ENGINEERING
Fourth Semester**

CS3451 – ARTIFICIAL INTELLIGENCE

**Common To: IT
(Calculator is permitted)**

Date : 20-03-2024

Session : FN

Time : 2 Hrs.

Maximum Marks : 60

PART-A (6 X 2 = 12 MARKS)

Answer All the questions

Q. No.	Questions	CO	BTL
1	What is an Agent in AI?	CO1	L1
2	Define Rationality in AI systems.	CO1	L1
3	State the types of Environment in AI.	CO2	L1
4	Differentiate between BFS and DFS.	CO2	L2
5	What is a Heuristic function?	CO3	L1
6	Define admissible heuristic.	CO3	L1

PART-B (3 X 16 = 48 MARKS)

Answer either (a) or (b) in each Question

Q. No.	Questions	CO	BTL
7	(a) Explain the various types of agents with neat diagrams.	CO1	L2
	Or		
8	(b) (i) Explain PEAS description for an automated taxi driver. (8) (ii) Discuss the properties of task environments. (8)	CO2	L3
	(a) Explain A* search algorithm with an example. Prove its optimality.		
9	Or	CO3	L3
	(b) Explain IDA* search algorithm and its advantages.		
	(a) Solve the 8-puzzle problem using Hill Climbing search.		
	Or		

Q. No.	Questions	CO	BTL
	(b) (i) Explain Simulated Annealing algorithm. (ii) List any two applications of local search.	(10) (6)	

Weightage of CO

BTL		CO1	CO2	CO3	CO4	CO5	Total Marks	Total Marks (%)
Remember (L1)	Q. No.	1,2	3	5,6				16.67
	Marks	4	2	4			10	
Understand (L2)	Q. No.	7	4,8					30.00
	Marks	16	2				18	
Apply (L3)	Q. No.	7	8	9				53.33
	Marks		16	16			32	
Analyze (L4)	Q. No.							
	Marks							
Total Marks		20	20	20			60	100