



Reg. No.:

Name:

University of Kerala

First Semester FYUGP Degree Examination, December 2025

Discipline Specific Core Course

COMPUTER SCIENCE

UK1DSCCSC107 - Introduction to Artificial Intelligence

Academic Level: 100-199

2024 Admission onwards

Time: 2 Hours(120 Mins)

Max. Marks: 56

Part A.6 Marks:Time 5 Minutes.(Cognitive Level :Remember(RE)/Understand(UN)) Objective Type.1 mark each,
Answer all questions

Qn No.	Question	CL	CO
1	Expand Lisp	RE	1
2	Which of the following is an example of an application of Artificial Intelligence? Options : A)Manual data entry B)Online payment without verification C)Speech recognition systems D)Mechanical typewriting	RE	1
3	Write an example for artificial intelligence?	UN	1
4	Describe forward chaining	UN	2
5	In _____ search, the path with the lowest total cost from the start node is expanded first.	UN	2
6	A system that perceives its environment and takes actions to achieve goals is called an _____.	UN	1

Part B.10 Marks.Time:20 Minutes (Cognitive Level:Understand(UN)/Apply(AP))Two-three sentences.2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	Discuss the purpose of resolution in logical reasoning.	UN	3
8	Discuss the importance of decision tree	UN	4
9	How does hill climbing work in finding a solution, and what is a drawback?	AP	2
10	Explain the structure of an Intelligent Agent	AP	1
11	Write an example for AI language tool	AP	1

Qn No.	Question	CL	CO

Part C.16 Marks.Time:35 Minutes.(Cognitive Level :Apply(AP)/Analyse(AN))Short Answer.4 marks each, Answer all 4 questions,choosing among options * within each question

Qn No.	Question	CL	CO
12	<p>A) Illustrate the working of Breadth First Search with a step-by-step example.</p> <p>OR B) Discuss the foundations and history of artificial intelligence</p>	AP	2, 2
13	<p>A) Discuss any four areas where artificial intelligence is applied in daily life</p> <p>OR B) Apply Uniform Cost Search (UCS) to a sample weighted graph with at least four nodes. Show how the algorithm expands nodes based on path cost and explain why UCS is guaranteed to find the least-cost solution.</p>	AP	2, 2
14	<p>A) Evaluate the use of CLIPS as a tool for building expert systems.</p> <p>OR B) Analyse the heuristic search technique with the help of an example</p>	AN	3, 3
15	<p>A) Given two statements such as “<i>It is raining</i>” and “<i>If it is raining, the ground is wet,</i>” analyse how a conclusion can be drawn using an inference rule.</p> <p>OR B) Analyse the main features of the Lisp programming language and explain how these features make it useful for AI tasks.</p>	AN	3, 3

Part D.24 Marks.Time: 60 Minutes.(Cognitive Level :Analyse(AN)/Evaluate(EV)/Create(CR)) Long Answer 6 Marks each.Answer all 4 questions choosing among options * within each question

Qn No.	Question	CL	CO
16	<p>A) Compare different learning techniques with appropriate examples.</p>	AN	4, 4

Qn No.	Question	CL	CO
	<p>OR</p> <p>B)</p> <p>Analyse Decision trees method with an example</p>		
17	<p>A)</p> <p>Describe the difference between propositional logic and predicate logic, with examples of their use in AI.</p> <p>OR</p> <p>B)</p> <p>Evaluate Rule based learning</p>	EV	3, 4
18	<p>A)</p> <p>Evaluate the role of logical reasoning in AI. How does it help in decision-making and problem-solving?</p> <p>OR</p> <p>B)</p> <p>Evaluate Reinforcement learning</p>	EV	3, 4
19	<p>A)</p> <p>Propose a small example with five possible states where Best First Search could be applied. Create a simple heuristic and describe how the search would proceed using that heuristic.</p> <p>OR</p> <p>B)</p> <p>Construct Propositional logic for a suitable example</p>	CR	2, 2