



Reg. No.:

Name:

University of Kerala

W7139

Third Semester FYUGP Degree Examination, November 2025

Discipline Specific Elective

COMPUTER SCIENCE

UK3DSECSC202/ UK3DSECAP202 - Introduction to Artificial Intelligence

Academic Level: 200-299

2024 Admission

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	State the logic that uses quantifiers \forall and \exists .	RE	2
2	Who is the inventor of artificial intelligence?	RE	1
3	Interpret the role of search in AI.	UN	1
4	Explain how inference is related to knowledge representation	UN	1
5	Define Neural network	UN	4
6	Explain logic	UN	3

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	Describe the basic logical connectives in propositional logic	UN	1
8	Differentiate between supervised and unsupervised learning	UN	4
9	Convert the sentence "All humans are mortal" into predicate logic.	AP	2
10	Explain resolution	AP	3
11	Demonstrate reinforcement learning in a robot.	AP	4

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) Explain the role of goal based intelligent agent in solving a real world problem</p> <p>OR</p> <p>B) Demonstrate how inference rules can derive conclusions from given facts</p>	AP	1, 3
13	<p>A) Prepare a note on decision tree</p> <p>OR</p> <p>B) Analyze the differences between Breadth-First Search and Depth-First Search with an example</p>	AP	2, 1
14	<p>A) Categorize the role of intelligent agents in AI.</p> <p>OR</p> <p>B) Differentiate between supervised learning and unsupervised learning with examples.</p>	AN	2, 4
15	<p>A) Compare forward and backward reasoning.</p> <p>OR</p> <p>B) Investigate how genetic algorithms explore the solution space using crossover and mutation. Explain their roles.</p>	AN	2, 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) Differentiate between Uninformed and Informed search strategies with suitable examples.</p> <p>OR</p> <p>B) Design a simple search method to find the shortest path in a city map.</p>	AN	1, 3
17	<p>A) Explain about Uninformed Search Strategies with examples.</p>	EV	1, 3

Qn No.	Question	CL	CO
	OR B) Evaluate the different proposition or connectives to create propositional logic		
18	A) Evaluate the advantages and disadvantages of neural networks. OR B) Justify the use of Genetic Algorithms (GA) over traditional search algorithms for optimization problems.	EV	4, 3
19	A) Develop a rule-based system for diagnosing whether a patient has flu based on symptoms like fever, cough, and body pain. OR B) Create a simple model that demonstrates how an intelligent agent interacts with its environment.	CR	4, 1