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KAMALA INSTITUTE OF TECHNOLOGY & SCIENCE, SINGAPUR
23AM28PC403

II.B. Tech. II. Semester Regular/Supplementary Examinations, April/May- 2026
INTRODUCTION TO ARTIFICIAL INTELLIGENCE
(AIML)

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

Note: Question paper consists of Part-A & Part-B.

i) **Part-A** for 10M, ii) **Part-B** for 50marks

- Part A** is compulsory, consisting of 10 sub questions from all units carrying equal marks.
- Part-B** consists of **10 questions** (numbered from 2 to 11) carrying **10marks** each. From each unit there are 2 questions and the students should answer one of them. Hence the student should answer **5 questions** from **Part-B**.

PART-A (10Marks)			
Q. No	Questions	Marks	BTL
1.a)	Define an Intelligent Agent.	1M	1
1.b)	What is a Problem-Solving Agent?	1M	1
1.c)	Define Constraint Satisfaction Problem	1M	1
1.d)	Explain the Propositional Theorem Proving	1M	2
1.e)	Define Forward Chaining.	1M	1
1.f)	What is an Event?	1M	1
1.g)	What is Classical Planning?	1M	1
1.h)	Define State Space Search in planning.	1M	1
1.i)	Explain the Conditional Probability.	1M	2
1.j)	What is uncertainty in AI?	1M	1
PART-B (50Marks)			
Q.No	Questions	Marks	BTL
2. a)	Categorize different types of artificial intelligent agents and inspect the architecture of model based and goal-based agents.	5M	4
b)	Illustrate A* search algorithm with a suitable example.	5M	3
OR			
3. a)	Explain the Simulated annealing search with an example?	5M	2
b)	Explain hill-climbing algorithm with an example. What are the problems associated with hill-climbing algorithm	5M	2
4. a)	Explain Constraint Satisfaction Problems (CSPs) with suitable examples.	5M	2
b)	Differentiate between Horn clauses and definite clauses.	5M	2
OR			
5. a)	Demonstrate with an example the working of 'mini max' algorithm and explain alpha-beta pruning technique.	5M	3
b)	How an intelligent backtracking is better than chronological backtracking explain with an example.	5M	2

6. a)	Explain the syntax and semantics of First-Order Logic with examples.	5M	2
b)	Explain the Unification algorithm with an example.	5M	2
OR			
7. a)	Differentiate between Propositional Logic and First-Order Logic inference.	5M	4
b)	Describe Ontological Engineering with examples.	5M	2
OR			
8. a)	Explain Planning Graphs and their role in planning.	5M	2
b)	Analyse different classical planning approaches	5M	5
OR			
9. a)	Discuss algorithms for planning with state-space search.	5M	4
b)	Explain Hierarchical Planning with a suitable example.	5M	2
OR			
10.a)	Describe Bayes' Rule and its applications.	5M	2
b)	Explain the structure and semantics of Bayesian Networks.	5M	2
OR			
11.a)	Describe approximate inference methods in Bayesian Networks.	5M	2
b)	Explain probabilistic reasoning with suitable examples.	5M	2

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