TOTAL PAGES: 2

24CMU634N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2026
(Sixth Semester)

Branch – **COMPUTER SCIENCE**

ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is an example of AI application? (i) Calculator (ii) Speech recognition (iii) Printer (iv) Scanner	K1	CO1
	2	Water Jug problem is an example of _____. (i) Optimization problem (ii) State space search (iii) Classification problem (iv) Learning problem	K2	CO1
2	3	Greedy Best First Search selects node with minimum _____. (i) g(n) (ii) h(n) (iii) f(n)+g(n) (iv) Depth	K1	CO2
	4	The 4-Queen problem is an example of _____ problem. (i) Classification (ii) Optimization (iii) Constraint satisfaction (iv) Regression	K2	CO2
3	5	The process of selecting the best individuals in genetic algorithms is called _____. (i) Mutation (ii) Crossover (iii) Selection (iv) Evaluation	K1	CO3
	6	Alpha–Beta pruning improves efficiency by _____. (i) Increasing nodes (ii) Removing tree (iii) Eliminating unnecessary branches (iv) Increasing depth	K2	CO3
4	7	Classification predicts _____ values. (i) Continuous (ii) Discrete (iii) Random (iv) Infinite	K1	CO4
	8	Machine learning is a subset of _____ (i) Networking (ii) Artificial Intelligence (iii) Robotics (iv) Statistics	K2	CO4
5	9	K-Nearest Neighbor is a _____ learning algorithm (i) Unsupervised (ii) Reinforcement (iii) Supervised (iv) Semi-supervised	K1	CO5
	10	Multilayer perceptron uses _____ layers (i) Single (ii) Multiple hidden layers (iii) No layers (iv) Random layers	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Describe applications of AI in different domains.	K2	CO1
		(OR)		
	11.b.	Explain Breadth First Search with example (Water Jug problem).		
2	12.a.	Determine informed search and explain heuristic functions.	K3	CO2
		(OR)		
	12.b.	Explore Hill Climbing algorithm and its working.		
3	13.a.	Explain the concept of global optimization algorithms.	K2	CO3
		(OR)		
	13.b.	Describe Alpha–Beta pruning algorithm.		
4	14.a.	Classify AI vs Machine Learning.	K3	CO4
		(OR)		
	14.b.	Identify feature selection and its importance in learning systems.		
5	15.a.	Investigate Naïve Bayes classifier and its assumptions.	K3	CO5
		(OR)		
	15.b.	Illustrate perceptron and multilayer perceptron.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Elaborate agents and environments with diagram.	K2	CO1
2	17	Explain A* search in detail with evaluation function and properties.	K2	CO2
3	18	Investigate genetic algorithm in detail with operators (selection, crossover, mutation).	K3	CO3
4	19	Compare classification and regression techniques.	K4	CO4
5	20	Classify KNN, Naïve Bayes, and Decision Tree classifiers.	K3	CO5

Z-Z-Z END