Roll No. | | | | | | | | | | | | |

Total No. of Pages: 01

Total No. of Questions: 09

B. Tech (AIML), Semester 7th
APPLIED INTELLIGENCE
Subject Code: BTAIML 709-20
M. Code: 93989
Date of Examination: 06-05-2026

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

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

Q. No.	Question	CO	BL
	SECTION-A		
1.	Answer briefly:		
a.	Name the key evaluation metrics used in classification problems.	CO-1	L1
b.	Explain how random variables differ from deterministic variables.	CO-1	L2
c.	What are the function of the Kalman estimator in dynamic systems?	CO-2	L1
d.	Compare organizational impact on system design across industries.	CO-2	L2
e.	Explain the importance of Systems Engineering in modern project development.	CO-3	L1
f.	Illustrate the role of propositional logic in problem-solving.	CO-3	L2
g.	How logic is applied in representing engineering domain knowledge?	CO-4	L1
h.	Summarize the process of converting natural language statements into logical form.	CO-4	L2
i.	List the examples of deep learning applications in object detection?	CO-5	L1
j.	Illustrate how CNN extract features from image data?	CO-5	L2
	SECTION-B		
2.	Compare the advantages and limitations of statistical versus machine learning approaches.	CO-1	L4
3.	Choose a simple model to represent the interaction between system components.	CO-2	L3
4.	Explain the validity of conclusions drawn from automated inference systems.	CO-4	L5
5.	Analyze the working of sensor networks step by step.	CO-3	L4
6.	Evaluate the performance of deep learning models using precision, recall, and F1-score.	CO-5	L5
	SECTION-C		
7.	Examine how enhancing human competencies can improve the performance of system processes, and recommend strategies to effectively integrate human factors into system design and operation.	CO-2	L4
8.	Distinguish between syntax errors and semantic inconsistencies in logic expressions, and evaluate how each type of error affects logical validity, system interpretation, and execution outcomes.	CO4	L4
9.	Explain the effectiveness of various features of logic-based reasoning agents in achieving automated decision-making, and propose enhancements to improve performance in complex systems.	CO-1	L5

NOTE: Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the student.