

First Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026 Introduction to AI and Applications

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Explain in detail the different types of Artificial Intelligence based on functionality and capabilities.	7	L2	CO1
	b.	Explain different types of knowledge used in AI with suitable examples.	6	L2	CO1
	c.	Compare traditional programming with machine learning.	7	L2	CO1
OR					
Q.2	a.	What is Machine Learning? Relate AI and Machine Learning?	7	L2	CO1
	b.	What is AI Agent? Classify the agents in an AI system.	7	L2	CO1
	c.	Compare weak AI and strong AI.	6	L2	CO1
Module – 2					
Q.3	a.	Differentiate between Zero-shot, One-shot, and Few-shot prompting.	6	L2	CO4
	b.	Explain Self-Consistency Prompting and how does it improve model performance.	6	L2	CO4
	c.	Apply LLM-based writing prompts to produce creative content for digital marketing campaigns.	8	L3	CO4
OR					
Q.4	a.	Build a zero-shot prompt to classify comments as positive or negative. Explain why it qualifies as zero-shot.	6	L3	CO4
	b.	Explain the steps for Effective Prompt Engineering.	6	L2	CO4
	c.	Build a creative prompt that encourages ChatGPT to propose futuristic transportation ideas. Explain how this promotes imaginative thinking.	8	L3	CO4
Module – 3					
Q.5	a.	Is Labelled data supervised or unsupervised machine learning? Extend your answer explaining different types of machine learning.	6	L2	CO2
	b.	Outline K-Means Algorithm with merits and demerits.	8	L2	CO2
	c.	Summarize the features of: (i) Reinforcement Learning (ii) Support Vector Machines (SVM)	6	L2	CO2
OR					

Q.6	a.	Explain the four steps to create Decision Trees with suitable example for each step.	6	L2	CO2
	b.	Define conditional probability and the Bayes rule with examples.	8	L2	CO2
	c.	How does computer vision work with deep learning? Explain the tasks involved in computer vision.	6	L2	CO2
Module – 4					
Q.7	a.	List and explain any four Trusted AI principles.	8	L2	CO5
	b.	Describe the concept of AI as a Service (AIaaS). Outline two advantages and two challenges of using AIaaS in organizations.	6	L2	CO5
	c.	Relate the role of ethics in AI.	6	L2	CO5
OR					
Q.8	a.	What is expert system? Explain three components of expert system.	6	L2	CO5
	b.	Differentiate between the following: (i) AI Programs and Robots (ii) Human-controlled and fully – autonomous bots	6	L2	CO5
	c.	What is Neuromorphic Computing? Explain its architecture, features resembling the human brain, and how it contributes toward achieving Artificial General Intelligence (AGI).	8	L2	CO5
Module – 5					
Q.9	a.	Relate the role of AI in Biology and Environmental Sciences.	6	L2	CO3
	b.	What is No-Code AI. Explain why No-Code AI Must be Used?	6	L2	CO3
	c.	Identify the role of AI in scientific experimentation by examining how it supports different disciplines and breaking down the specific experimental activities such as data collection, pattern identification, simulation, and hypothesis testing that AI enhances.	8	L3	CO3
OR					
Q.10	a.	Explain the role of AI in early disease prevention.	6	L2	CO3
	b.	What is Low Code AI. Compare Traditional tools with Low Code AI.	6	L2	CO3
	c.	Explain how AI contributes to environmental science by breaking down its role in climate modelling, air and water quality monitoring, waste management, and resource conservation. Describe the specific data, techniques, and decision-making processes involved in each area.	8	L3	CO3

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