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EAST POINT COLLEGE OF ENGINEERING & TECHNOLOGY
An Autonomous Institution Affiliated to Visvesvaraya Technological University (VTU) Belagavi

USN | | | | | | | | | | |

25ET15/25ET25

First/Second Semester B.E. Degree Examination, June/July 2026
INTRODUCTION TO AI AND APPLICATIONS

TIME:3 hrs. Max.Marks:100

Note: 1. Answer **any FIVE** full questions, choosing **ONE** question from **each MODULE.**
2. M: Marks, L: Bloom's level,C: Course outcomes.
3. Assume missing data suitably.

		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 uniform cost search algorithm in detail with suitable example	**6**	**L2**	**CO1**
	c	What is knowledge-based agents? Describe the architecture and operations of knowledge-based agent system?	**7**	**L1**	**CO1**
		OR			
Q.2	**a**	Define Artificial Intelligence (AI). Explain how do AI systems work and give advantages and disadvantages of this technology.	**7**	**L2**	**CO1**
	b	Explain five components of Intelligence with example. Compare Inductive reasoning with deductive reasoning	**6**	**L2**	**CO1**
	c	What is Learning agents? Describe the architecture and components of Learning agent?	**7**	**L1**	**CO1**
		Module–2			
Q.3	**a**	Explain the steps for effective prompt engineering	**7**	**L2**	**CO4**
	b	What is self-consistency prompting and how does it improve model performance	**6**	**L1**	**CO4**
	c	Explain the use of prompts in brainstorming ideas for essays, reports or stories	**7**	**L2**	**CO4**
		OR			
Q.4	**a**	Differentiate between zero-shot, one-shot and few shot prompting with examples	**7**	**L2**	**CO4**
	b	What is the future of LLM Communication and describe its key trends with suitable examples.	**6**	**L1**	**CO4**
	c	Explain the role of context and clarity in creating effective prompts	**7**	**L2**	**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	What is regression analysis in machine learning?	**6**	**L1**	**CO2**
	c	Explain K-Means algorithm in detail with merits and demerits.	**8**	**L2**	**CO2**
		OR			
Q.6	**a**	"ML Model is a combination of Task, Performance and Experience", Explain with suitable an example.	**6**	**L2**	**CO2**

	b	What are classification techniques in machine learning? Give examples	**6**	**L1**	**CO2**
	c	Summarize the features of: (i) Reinforcement Learning (ii) Support Vector Machines (SVM)	**8**	**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	What are the recent advancements and emerging trends in AI	**6**	**L1**	**CO5**
		OR			
Q.8	**a**	Explain the working of an expert system taking any example	**8**	**L2**	**CO5**
	b	Relate the role of ethics in AI.	**6**	**L2**	**CO5**
	c	What is Artificial Intelligence of Things (AIoT). How Does AIoT Work?	**6**	**L1**	**CO5**
		Module–5			
Q.9	**a**	What is No-Code AI. why No-Code AI Must be Used?	**6**	**L1**	**CO3**
	b	Explain the key components of robotic system	**7**	**L2**	**CO3**
	c	Explain how AI is applied in healthcare industry	**7**	**L2**	**CO3**
		OR			
Q.10	**a**	What is the role of AI in Medical Diagnosis? Give three applications of AI in Medical Diagnosis.	**6**	**L1**	**CO3**
	b	Explain the use of AI in fraud detection and risk management	**7**	**L2**	**CO3**
	c	Explain how AI enhances Drone navigation and obstacle detection	**7**	**L2**	**CO3**

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