Semester: I	**Department of ISE & CS-AI**	**AY:** 2026-27
Course Code: 1BAIA103	**Course Name:** Introduction to Artificial Intelligence	

Question Bank

Q.	Module-01	M	L	C
1	Define Artificial Intelligence. Explain how does AI work? List out three advantages and disadvantages of Artificial Intelligence.	8	L2	CO1
2	Compare weak AI and strong AI.	6	L2	CO1
3	Explain five components of Intelligence with example. Compare Inductive reasoning with deductive reasoning.	10	L2	CO1
4	What are Informed Search Strategies? Explain Pure Heuristic Search and Best-First (Greedy) Search with examples	10	L2	CO1
5	How is AI classified? Explain the types of AI based on capabilities and functionalities with suitable examples.	8	L2	CO1
6	Differentiate between the following: (i) Inductive and deductive reasoning (ii) Human and machine intelligence (iii) Episodic and non – episodic environment	6	L2	CO1
7	What are knowledge-based agents? Explain their role and architecture of agent-based system.	6	L2	CO1
8	Define Knowledge and Logic in the context of AI. Show the structure of a generic knowledge-based agent program.	8	L2	CO1
9	What is AI Agent? Classify the agents in an AI system.	6	L2	CO1
10	Outline the merits and demerits of the following search algorithms. (i) Breadth First Search (BFS) (ii) Uniform Cost Search (UCS) (iii) Depth – First Search (DFS)	8	L3	CO1
11	Explain the cycle of Knowledge Representation in AI. Describe the architecture and functions of a Knowledge-Based Agent (KBA).	8	L2	CO1
12	What is Machine Learning. Relate AI and Machine Learning, and Compare traditional programming with machine learning.?	7	L2	CO1
	Module-02			
13	Define Prompt Engineering and explain its components with an example?	10	L2	CO2
14	Explain why becoming a prompt engineer is increasingly important in the AI era.	8	L2	CO2
15	Describe the evolution of Prompt Engineering and its impact on modern AI systems.	10	L2	CO2
16	List and explain the types of prompts.	7	L2	CO2
17	Apply LLM-based writing prompts to produce creative content for digital marketing campaigns.	10	L3	CO2
18	Design a Few-Shot Prompt that trains ChatGPT to classify customer feedback as positive, neutral, or negative.	10	L2	CO2

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19	Develop imaginative prompts to enhance product design creativity in engineering students	**8**	**L3**	**CO2**
20	Write short notes on the following prompt types with examples: 1. Zero-shot prompting 2. One-Shot Prompting 3. Few Shots Prompting 4. Self-consistency Prompt	**6**	**L2**	**CO2**
21	Develop a use-case scenario where prompt engineering improves communication clarity in cross-cultural conversations.	**6**	**L3**	**CO2**
22	Apply creative prompts to generate innovative ideas for a sustainable startup project	**8**	**L3**	**CO2**
23	Apply ethical prompt construction to minimize bias in AI-generated content.	**8**	**L3**	**CO2**
24	Explain the working mechanism of Prompt Engineering and how it improves AI outputs.	**8**	**L2**	**CO2**
25	Discuss the advantages of Prompt Engineering in generating accurate and creative AI responses.	**10**	**L2**	**CO2**
26	Elaborate on Instructions and Prompt Techniques in AI, and provide a concrete example of an effective prompt.	**10**	**L2**	**CO2**
27	A user repeatedly gets ambiguous answers from an AI tool. Apply prompt - engineering strategies to redesign the prompt to improve clarity and intent.	**8**	**L3**	**CO2**
28	Build a zero-shot prompt to classify comments as positive or negative. Explain why it qualifies as zero-shot.	**6**	**L3**	**CO2**
29	Develop a writing prompt that helps a student begin an essay on “The Impact of Social Media on Teenagers.” Explain how the prompt stimulates the writing process.	**6**	**L3**	**CO2**
30	You are building a customer – support assistant using a Large Language Model (LLM). Develop a prompt that ensures the model responds politely and provides step-by-step troubleshooting guidance. Explain how your prompt uses principles of prompt engineering.	**8**	**L3**	**CO2**
31	Develop a one-shot example to help an LLM convert active voice to passive voice. Illustrate with the example and the instruction	**6**	**L3**	**CO2**
32	Build a creative prompt that encourages ChatGPT to propose futuristic transportation ideas. Explain how this promotes imaginative thinking.	**6**	**L3**	**CO2**
	Module-03			
33	Define Machine Learning (ML) and differentiate between regression and classification approaches.	**8**	**L2**	**CO3**
34	Explain the concept of Regression Analysis in machine learning with a suitable real-world example.	**6**	**L2**	**CO3**
35	Describe any two commonly used classification algorithms, highlighting their working principles.	**8**	**L2**	**CO3**
36	Discuss the key steps involved in the K-Means clustering algorithm and its significance in data grouping.	**6**	**L2**	**CO3**

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37	Difference between supervised and unsupervised learning with examples	**6**	**L2**	**CO3**
38	Explain the working principle of linear regression in machine learning	**8**	**L2**	**CO3**
39	Apply your understanding of machine learning concepts to compare classification and clustering techniques, highlighting their practical advantages and limitations in real-world applications.	**10**	**L3**	**CO3**
40	Explain how Linear Regression, Logistic Regression, and Polynomial Regression can be applied to analyze and predict real-world data in Artificial Intelligence and Machine Learning.	**8**	**L3**	**CO3**
41	Differentiate between the following: (i) Supervised and Unsupervised Machine Learning (ii) Forward and Backward Propagation (iii) Classification and Regression	**6**	**L3**	**CO3**
42	Explain how Machine Learning, Deep Learning, and Natural Language Processing techniques can be applied to solve real-world problems in Artificial Intelligence.	**8**	**L3**	**CO3**
43	Summarize the features of: (i) Reinforcement Learning (ii) Support Vector Machines (SVM)	**6**	**L3**	**CO3**

***Note:**

1. All modules should contain a minimum of **10** questions each and the total number of questions must be **50**.
2. Questions can carry marks of 06, 07, 08, 09, 10 and for problems: 04 or 05.
3. Follow the RBTL as per the keywords used to frame the questions.
4. Maintain the Course Outcomes (COs) as per the syllabus.
5. M: Marks, L: RBTL, C:COs.

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