

USN

--	--	--	--	--	--	--	--	--	--

Model Question Paper- with effect from 2022(CBCS Scheme)

Fifth Semester B.Tech Degree Examination

Intelligent systems and Machine Learning Algorithm

TIME:03Hours

Max.Marks:100

Note: Answer any FIVE full questions, choosing at least ONE question from each MODULE

Module-1			*Bloom's Taxonomy Level	COs	Marks
Q.01	a	How does the human brain interpret and process information?	L2	1	10
	b	Provide a brief overview of the evolution of Artificial Intelligence.	L2	1	10
OR					
Q.02	a	Describe how agents use sensors and actuators to interact with their environment.	L2	1	10
	b	What does it mean for an agent to exhibit rational behavior?	L2	1	10
Module-2					
Q.03	a	What are the five components used to formally define problems for problem	L2	2	10
	b	What is the 8-puzzle problem, and how is it structured?	L2	2	10
OR					
Q.04	a	How does the breadth-first search algorithm work?	L2	2	10
	b	What is iterative deepening depth-first search, and how does it function?	L2	2	10
Module-3					
Q.05	a	How does the accuracy of a heuristic impact the performance of a search algorithm?	L2	3	10
	b	What is the Wumpus World, and how is it structured?	L2	3	10
OR					
Q.06	a	What is the syntax of propositional logic, and how is it defined?	L2,L3	3	10
	b	What are the semantics of propositional logic, and how do they determine meaning?	L2,L3	3	10
Module-4					
Q.07	a	What are the different types of machine learning, and how do they differ?	L2,L3	4	10
	b	What are the key perspectives and challenges in machine learning?	L2,L3	4	10
OR					
Q.08	a	How does the concept learning approach work, and what is the candidate elimination algorithm?	L2,L3	4	10

	b	What is a biased hypothesis space, and why is it important in machine learning?	L2,L3	4	10
Module-5					
Q.09	a	Explain the process of preparing data for machine learning. Discuss the key steps involved in data preprocessing, including handling missing values.	L2	5	10
	b	Describe the process of choosing the right model for a machine learning task. Discuss the factors to consider when selecting a model for regression and classification problems	L2,L3	5	10
OR					
Q.10	a	Define binary classification and explain its key components with suitable examples.	L2,L3	5	10
	b	Explain the concept of error analysis in machine learning. How do you perform error analysis for a classification model?	L2,L3	5	10

*Bloom's Taxonomy Level: Indicate as L1,L2 ,L3 ,L4 etc. It is also desirable to indicate the Cos and Pos to be attained by every bit of questions.