CBCS SCHEME

BAI654D

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

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Introduction to Artificial Intelligence

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 with examples, some of the task domains of Artificial Intelligence. Explain Question Answering.	10	L2	CO1
	b.	Explain the application of control strategies and heuristic search for production systems.	10	L2	CO1
		OR			
Q.2	a.	Bring out the features that used to represent AI as exploiting knowledge. Give the data structures and algorithm for a program that converts input text into structured internal form.	10	L3	CO1
	b.	Explain with examples, the issues in the design of search programs.	10	L3	CO1
		Module – 2			
Q.3	a.	Define the desirable properties of good system for representation of knowledge, with an algorithm explain property inheritance.	10	L2	CO2
	b.	With examples, show representation of Instance , ISA relationship , Computable functions and predicates.	10	L3	CO2
		OR			
Q.4	a.	With examples, explain the selection of granularity of representation and finding the right structures.	10	L1	CO2
	b.	Explain forward V/s backward reasoning with examples. What are the three basic approaches to the problem of conflict resolution in production system?	10	L2	CO2
		Module – 3			
Q.5	a.	Explain the key issues to be addressed in non montonic reasoning systems? Explain with examples working of default logic and abduction.	10	L1	CO3
	b.	Define and explain the notions of Bayes Theorem with example. Describe some of the properties to be satisfied by combining functions.	10	L2	CO3
		OR			
Q.6	a.	With examples, describe the working of non dependency directed back tracking and context lattices.	10	L1	CO3
	b.	Bring out the concepts of Bayesian networks like Causality , DAG , Conditional probabilities with examples.	10	L2	CO3

		Module – 4			
Q.7	**a.**	Explain the working of MINIMAX search procedure with example.	**10**	**L2**	**CO5**
	b.	Write algorithms for Depth First Iterative deepening and Iterative Deepening A* and illustrate on an example.	**10**	**L3**	**CO5**
		OR			
Q.8	**a.**	Explain the various components of natural language understanding process.	**10**	**L2**	**CO5**
	b.	Give simple grammar for fragment of English and differentiate Top down V/s Bottom up parsing.	**10**	**L3**	**CO5**
		Module – 5			
Q.9	**a.**	Explain the working of Rote learning and learning by taking advice.	**10**	**L2**	**CO4**
	b.	Explain Knowledge Acquisition process in MOLE and SALT.	**10**	**L1**	**CO4**
		OR			
Q.10	**a.**	Explain the working and characteristics of Theory driven discovery.	**10**	**L2**	**CO4**
	b.	Explain the rules included in R1 , PROSPECTOR and DESIGN ADVISOR shells.	**10**	**L2**	**CO4**

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