Program: T.Y.B.Sc IT **Semester:** V **Program Code:** UGIT01

Course: Agentic AI **Course Code:** NUIT501

Duration: 1 Hour **Examination Pattern:** NEP-Autonomous-External **Max. Marks:** 30

Instructions:

1. All questions are compulsory with internal choice.
2. Figures to the right indicate full marks.
3. Draw neat diagrams wherever necessary.
4. CO (Course Outcome), KL (Knowledge Level).

Examination:

REGULAR

Q. 1		**Attempt any THREE of the following.**	[15]	CO's	KL's
	(a)	Differentiate between forward chaining and backward chaining in First Order Logic with suitable examples.		CO1	L1
	(b)	Discuss different types of environments in AI. Explain fully observable, partially observable, deterministic, stochastic, static and dynamic environments with examples.		CO1	L1
	(c)	Explain Artificial Neural Networks (ANN). Describe the structure and working of a simple neural network.		CO1	L1
	(d)	What is Alpha–Beta Pruning? Explain its role in reducing the search space in game-playing problems.		CO2	L2
	(e)	Explain heuristic functions in Artificial Intelligence. How do heuristic functions improve informed search?		CO2	L2
Q. 2		**Attempt any THREE of the following.**	[15]	CO's	KL's
	(a)	Explain the foundational elements of Agentic AI. Discuss supervised, unsupervised, semi-supervised, and reinforcement learning.		CO3	L3
	(b)	What are Multi-Agent Systems (MAS)? Explain their features, advantages, and applications.		CO4	L4
	(c)	Write a short note on deliberative and hybrid agents with suitable examples.		CO4	L4
	(d)	Differentiate between Traditional AI, Generative AI, and Agentic AI with suitable examples.		CO3	L3
	(e)	An online shopping company wants an AI system that can: • answer customer queries, • process refunds, • recommend products, • escalate complaints when required. Propose an Agentic AI-based solution for the company. Explain whether a single agent or multi-agent approach is better and justify your answer. What you should apply: Single vs multi-agent reasoning and orchestration.		CO5	L5

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