## Fifth Semester B.E. Degree Examination, Dec.2023/Jan.2024 **Principles of Artificial Intelligence**

Max. Marks: 100

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Note: Answer any FIVE	C 11	1	E C. 11 are action	to funta anala mandrila
Notes Anguay and HILL	tull amostions	c choosing livi	e, tuu auesua	n from each module.
Noie: Answer and Five	iuu uucsuun	3, CHOUSING OT 12	a juice question	iv ji o iiv o iiv ii

	IV	ofe: Answer any FIVE jun questions, choosing ONL jun question from each mo	unici			
		Module-1				
4		Define AI. Explain the foundation of AI in detail.	(10 Marks)			
1	a.	Define Al. Explain the foundation of Al in detail	(10 Marks)			
	b.	Explain the history of AI in detail.	(101111111)			
		O.D.				
		OR	(40 3/1 1 )			
2	a.	Briefly explain the properties of task environment.	(10 Marks)			
	b.	Explain the following with respect to structure of agents:				
		i) Simple reflex agents ii) Model-based reflex agents iii) Utility-based agents	s. (10 Marks)			
		Module-2				
3	a.	Explain Goal formulation and problem formulation with examples.	(10 Marks)			
3	b.	Discuss problems that uses problem solving methods.	(10 Marks)			
	υ.	Discuss proofers that uses pro-				
		OR				
4		Explain BFS, DFS and Depth-limited search along with example.	(10 Marks)			
4	a.	Discuss the different solutions and metrics for searching.	(10 Marks)			
	b.	Discuss the different solutions and metres for searching.				
		Module-3				
-			(10 Marks)			
5	a.	Explain A* search and Memory-bounded heuristic search with example.	(10 Marks)			
	b.	Discuss Heuristic functions in detail.	(10 Marks)			
		OD				
		OR	(10 Marks)			
6	a.	Explain the propositional logic syntax and semantics.	(10 Marks)			
	b.	Explain the following with examples:	(10 Mayles)			
		i) Logical Equivalence ii) Inference rules iii) Horn clauses	(10 Marks)			
		Module-4	(4035.1)			
7	a.	Explain the syntax and semantics of first-order logic.	(10 Marks)			
	b.	Explain the following with respect to firs-order logic:	of the last time time and the			
		i) Assertions and queries ii) Numbers, Sets and Lists iii) Wumpus world	(10 Marks)			
		OR				
8	a.	Explain Unification and Simple forward chaining along with the examples.	(10 Marks)			
Ü	b.	Explain backward chaining algorithm with example.	(10 Marks)			
	0.	2.17.1				
		Module-5				
9	a.	Explain Basic Probability Notation in detail.	(10 Marks)			
,	ь.	Explain Inference using Full Joint distributions.	(10 Marks)			
	υ.	Explain inference using a service and a serv				
	ORCMRIT LIBRARY (10 Montes)					
10	-	Explain Baye's rule and its use in detail.  BANGALORE - 560 037	(10 Marks)			
10	a.	Explain Independence with respect to Quantifying uncertainty.	(10 Marks)			
	b.	Explain independence with respect to Quantifying uncertainty.	Laure market property			