CONTINUOUS INTERNAL EVALUATION - 2

Dept: AI	Sem / Div: 4	Sub: Artificial Intelligence	S Code: BAD402
Date:28/5/2025	Time: 3:00-4:30	Max Marks: 50	Elective:N

Note: Answer any 2 full questions, choosing one full question from each part.

QN		Questions	Marks	RBT	CO's
		PART A			
1	a	Explain the Syntax and Semantics of First Order Logic.	8	L2	CO4
	b	Explain the following with respect to the First Order Logic: i) Assertions and Queries in First Order Logic ii) The Kinship Domain iii) Numbers, Sets and Lists	10	L2	CO4
	c	Interpret the following with an example: i) A simple Knowledge Base ii) A simple Inference procedure iii) Logical Equivalence	7	L3	CO3
		OR			
2	a	Explain Unification and Lifting in Detail.	8	L2	CO4
	b	Explain Forward Chaining Algorithm in detail with an example Criminal(West).	10	L2	CO4
	c	Using the Simple Knowledge base, Modus Ponen and Inference rule prove that neither [1,2] nor [2,1] contains a pit.	7	L3	CO3
		PART B			
3	a	Explain the basic probability notation in Detail: i) Sample space, ii) The probability associated with a	8	L2	CO5

		proposition, iii) Prior Probability, iv) Posterior Probability, v) Joint Probability , vi) Probability Density Function, vii) Random variable.			
	b	Illustrate the probabilistic reasoning in Wumpus World Scenario.	10	L3	CO5
	c	Deduce the R17 label by the simple resolution rule applied to Wumpus world to proove that there is pit in 3,1 ie P3,1.	7	L3	CO3
		OR			
4	a	Explain Bayes Rule and its Use in detail.	8	L2	CO5
	b	Illustrate the absolute or marginal Independence with respect to Quantifying Uncertainity.	10	L3	CO5
	c	Write a pseudocode function PL-RESOLVE for a simple resolution algorithm for propositional logic that returns the set of all possible clauses.	7	L3	CO3

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