



**Second Semester MCA Degree Examination, June/July 2025**  
**Artificial Intelligence**

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
 Marks, L: Bloom's level, C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Discuss the less desirable properties of knowledge and representation of knowledge for AI technique.	10	L2	CO1
	b.	Discuss the problem characteristics necessary to analyze the problem with examples.	10	L2	CO1
OR					
Q.2	a.	Solve the following Cryptarithmic problem. SEND + MORE = MONEY	08	L3	CO2
	b.	Discuss Heuristic Search Technique. Write Steepest – Ascent Hill Climbing algorithm.	08	L2	CO2
	c.	Write note on : i) a local maximum                      ii) a plateau	04	L2	CO2
Module – 2					
Q.3	a.	Discuss the steps in the algorithm to convert wff into clause form.	10	L2	CO3
	b.	Discuss approaches to knowledge representation with example.	10	L2	CO3
OR					
Q.4	a.	Briefly explain adding alpha – Beta cut offs with an example.	08	L2	CO3
	b.	Consider the following statements: <ul style="list-style-type: none"> <li>John likes all kinds of food</li> <li>Apples are food</li> <li>Anything anyone eats and is not killed by is food</li> <li>Bill eats peanuts and is still alive</li> <li>Sue eats everything Bill eats.</li> </ul> i) Translate all the sentences into formulas in predicate logic. ii) Convert previous step wff into clause form iii) Prove that John likes peanuts using resolution.	12	L3	CO3
Module – 3					
Q.5	a.	Discuss Bayesian Network with an example.	10	L2	CO4
	b.	Define Baye's Theorem. What are its limitations? Discuss how certainty factor is used to overcome its limitations.	10	L2	CO4
OR					
Q.6	a.	Discuss Dempster Shafer Theory with an example.	10	L2	CO4
	b.	Write note on : i) Frame system                      ii) Semantic nets	10	L2	CO4

Module – 4					
Q.7	a.	Discuss the types of learning with example.	10	L2	CO5
	b.	Explain Winston's Learning Program.	10	L2	CO3
OR					
Q.8	a.	Discuss Goal stack planning technique used by STRIPS.	10	L2	CO5
	b.	Explain the components of planning system.	10	L2	CO5
Module – 5					
Q.9	a.	Explain the architecture of an expert system, using a neat diagram.	10	L2	CO5
	b.	Explain knowledge acquisition process with necessary diagram.	10	L2	CO5
OR					
Q.10	a.	Discuss MYCIN Expert System with example.	10	L2	CO5
	b.	Discuss Expert System shells with example.	10	L2	CO5

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