Jain College of Engineering & Research

Udyambag, Belagavi.

(Approved by AICTE, New Delhi, Affiliated to VTU Belagavi & Recognized by Govt. of Karnataka)

NBA Accredited Programs- ECE & ME

Program: Computer Science and Engineering (AIML)

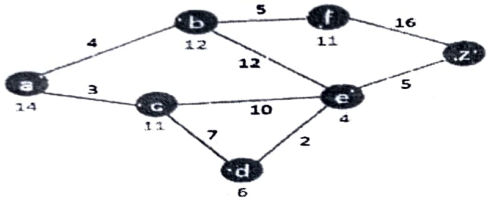
CONTINUOUS INTERNAL EVALUATION-II

Semester: 4 **Date:** 26/05/2025

Course: Artificial Intelligence **Code:**BAD402 **Max. Marks:** 50

Course Coordinator: Dr. Anand Gudnavar **Duration:** 1 Hour 30 Min

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

Q. No.	Question	Marks	CO	R.B.T. Level
	Part-A			
1 a)	Discuss Heuristic functions in detail.	12	3	L2
1 b)	 Apply the A* search to find the solution path from a to z. Heuristics are with nodes, and cost is with edges. Write all steps as well as open and closed lists for full marks	13	3	L3
	OR			
2 a)	Describe the Wumpus world environment and the PEAS specification for the knowledge based agent. Explain how does the agent navigate and make decisions based on percepts in this environment.	12	3	L2
2 b)	Explain contraposition, double implication elimination, De'Morgans rules with examples. Prove logically that there is no pit in [1,2].	13	3	L3
	Part-B			
3 a)	List the drawbacks of Propositional Logic. Explain the Syntax and Semantics in First order Logic.	12	4	L2
3 b)	Explain the following with respect to firs-order logic: i) Assertions and queries ii) Numbers, Sets and Lists iii) The kinship domain	13	4	L2
	OR			
4 a)	Write appropriate quantifiers for the following (i) Some students read well (ii) Some students like some books (iii) Some students like all books (iv) All students like some books (v) All students like no books	12	4	L3
4 b)	Explain various ambiguities in Natural Language processing with examples and summarize in the form of a table about formal languages and their ontological and epistemological commitments	13	4	L2

COURSE OUTCOMES (COs)	
1	Apply knowledge of agent architecture, searching and reasoning techniques for different applications.
2	Compare various Searching and Inferencing Techniques.
3	Develop knowledge base sentences using propositional logic and first order logic.
4	Describe the concepts of quantifying uncertainty.
5	Use the concepts of Expert Systems to build applications.

REVISED BLOOMS TAXONOMY LEARNING LEVEL (RBT)					
L1: Remember	L2: Understand	L3: Apply	L4: Analyze	L5: Evaluate	L6: Create

PROGRAM OUTCOMES (POs)					
1	Engineering Knowledge	5	Modern tool usage	9	Individual and Team-Work
2	Problem Analysis	6	Engineer and Society	10	Communication
3	Design / Development Solutions	7	Environment and Sustainability	11	Project Management and Finance
4	Conduct Investigations of Complex problems	8	Ethics	12	Life-long Learning