

**PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY**  
**KANURU, VIJAYAWADA**  
**II B.Tech – I Sem CSE (AI&ML)**  
**PROGRAMMING FOR ARTIFICIAL INTELLIGENCE LAB**

<b>Course Code</b>	20ESI357	<b>Year</b>	II	<b>Semester</b>	I
<b>Course Category</b>	ES Lab	<b>Branch</b>	CSE (AI & ML)	<b>Course Type</b>	Practical
<b>Credits</b>	1.5	<b>L-T-P</b>	0-0-3	<b>Prerequisites</b>	Discrete Mathematical Structures
<b>Continuous Internal Evaluation:</b>	15	<b>Semester End Examination:</b>	35	<b>Total Marks</b>	50

<b>Course Outcomes</b>		
Upon successful completion of the course, the student will be able to		
<b>CO1</b>	Apply knowledge of agent architecture, searching and reasoning techniques for different applications.	<b>L3</b>
<b>CO2</b>	Implement programs as an individual on different IDEs/ online platforms	<b>L3</b>
<b>CO3</b>	Develop an effective report based on various programs implemented.	<b>L3</b>
<b>CO4</b>	Apply technical knowledge for a given problem and express it with effective oral communication.	<b>L3</b>
<b>CO5</b>	Analyze outputs with given constraints for a given problem.	<b>L4</b>

<b>Syllabus</b>		
<b>Exp No.</b>	<b>Contents</b>	<b>Mapped CO</b>
1	Exploring syntax and semantics of Prolog Programming	CO2,CO3,CO4,CO5
2	Apply various prolog programming techniques to implement recursive and iterative programs	CO2,CO3,CO4,CO5
3	Implement List manipulation operations in prolog	CO2,CO3,CO4,CO5
4	Implement Breadth first search and Depth first search algorithms	CO1,CO2,CO3,CO4,CO5
5	Implement A* search algorithm	CO1,CO2,CO3,CO4,CO5
6	Implement Alpha-beta algorithm	CO1,CO2,CO3,CO4,CO5
7	Create a knowledge base using propositional logic and perform various tasks.	CO1,CO2,CO3,CO4,CO5
8	Create a knowledge base using First-order logic statements and check various operations.	CO1,CO2,CO3,CO4,CO5
9	Chatbot Application	CO1,CO2,CO3,CO4,CO5
10	Use Case-1	CO1,CO2,CO3,CO4,CO5
11	Use Case-2	CO1,CO2,CO3,CO4,CO5

12	Use Case-3	CO1,CO2,CO3,CO4,CO5
13	Use Case-4	CO1,CO2,CO3,CO4,CO5
14	Use Case-5	CO1,CO2,CO3,CO4,CO5

**Learning Resources**
**Text Books**

1. Artificial Intelligence Saroj Kaushik, Cengage Learning India, 2011.
2. Prolog Programming for Artificial Intelligence, Ivan Bratko, Fourth Edition, Addison-Wesley.
2. Logic Programming with Prolog, Max Bramer, Second Edition, 2013, Springer