**CS 361 Artificial Intelligence Lab**

**Course Objectives**

1. Develop various applications in AI
2. Formulate and implement real-world problems as state space problems, optimization problems or constraint satisfaction problems
3. Select and apply AI techniques to solve complex problems.
4. To learn about various Python packages that are used for solving AI problems

**Course Outcomes**

1. Analyze artificial intelligence techniques
2. Solve problems using different uninformed search techniques
3. Solve problems using different heuristic search techniques
4. Implement the algorithms for game playing
5. Solve the given problems using logic.

**List of Programs**

1. Implement Exhaustive search techniques using
2. BFS
3. DFS
4. Uniform Cost Search
5. Depth-First Iterative Deepening
6. Bidirectional
7. Implement water jug problem with Search tree generation using
8. BFS b. DFS
9. Implement Missionaries and Cannibals problem with Search tree generation using
10. BFS b. DFS
11. Implement Vacuum World problem with Search tree generation using
    1. BFS b. DFS
12. Implement the following
13. Greedy Best First Search
14. A\* algorithm
15. Implement 8-puzzle problem using A\* algorithm
16. Implement AO\* algorithm for General graph problem
17. Implement Game trees using
18. MINIMAX algorithm
19. Alpha-Beta pruning
20. Implement Crypt arithmetic problems.
21. Program to implement Logic.

**Additional Programs:**

1. Implementation of Tic-Tac-Toe Problem
2. Implementation of 8- Queens problem