**CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**DEVANG PATEL INSTITUTE OF ADVANCE TECHNOLOGY AND RESEARCH**

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**ACADEMIC YEAR: 2020-21**

**List of Experiments**

Name of Teacher: Parth Goel , Chintal Raval Date: 06/07/2020

Subject: ARTIFICIAL INTELLIGENCE (CS341) (5th Sem)

|  |  |  |  |
| --- | --- | --- | --- |
| Exp. No | Name of Experiment | | No. of Lab Hours |
| 1. | Write Programs to demonstrate knowledge of Python Basics. | | 4 |
|  | 1.1 | Write a program to demonstrate variable creation in python |  |
|  | 1.2 | Write a program to demonstrate command input in python |  |
|  | 1.3 | Write a program to demonstrate numbers and stings in python |  |
|  | 1.4 | Write a program to demonstrate operators in python |  |
|  | 1.5 | Write a program to demonstrate decision making in python |  |
|  | 1.6 | Write a program to demonstrate control structures in python |  |
|  | 1.7 | Write a program to demonstrate lists and dictionary in python |  |
| 2. |  | Write a program to solve Tower of Hanoi problem in python. | 2 |
| 3. |  | Write a program to solve Monkey Banana problem in Prolog | 2 |
| 4. |  | Write Programs to demonstrate knowledge of Prolog Basics. | 4 |
|  | 4.1 | Write a program in prolog to implement simple facts and Queries. |  |
|  | 4.2 | Write a program in prolog to implement phone list which stores name, phone number and birthdays of friends and family members. Write a query to get a list of people whose birthdays are in the current month. | 2 |
|  | 4.3 | Write predicates one converts centigrade temperatures to Fahrenheit, the other checks if a temperature is below freezing. | 2 |
| 5. |  | Write Programs to demonstrate knowledge of arithmetic operators in prolog | 2 |
|  | 5.1 | Write a program to display Fibonacci series in prolog | 2 |
|  | 5.2 | Write a program to find factorial of a number in prolog | 2 |
| 6. |  | Write a prolog program for medical diagnosis system of childhood diseases. | 2 |
| 7. |  | Write a program which contains three predicates: male, female, parent. Make rules for following family relations: father, mother, grandfather, grandmother, brother, sister, uncle, aunt, nephew and niece, cousin. | 2 |
| 8. |  | Write a program to perform following operations on lists in prolog. | 2 |
|  | 8.1 | Print member of a list |  |
|  | 8.2 | Write list |  |
|  | 8.3 | Membership |  |
|  | 8.4 | Concatenation |  |
|  | 8.5 | Add an item |  |
|  | 8.6 | Delete an item |  |
|  | 8.7 | Sub list |  |
|  | 8.8 | Permutations |  |
|  | 8.9 | Append list |  |
|  | 8.10 | Finding nth element |  |
| 9. |  | Write a program to demonstrate cut and fail in prolog. | 2 |
| 10. |  | Design Depth First Search Tree and Breadth First Search Tree for Water-Jug Problem in python |  |
| 11. |  | Write a program to solve 8 puzzle problem using A\*Algorithm in python | 2 |
| 12. |  | Write a program for game Tic-Tac-Toe using MINIMAX Algorithm in python. | 2 |
| 13. |  | Perform classification on Iris dataset using neural network tools such as WEKA, ORANGE, NEUROINTELLIGENCE, EasyNN. | 2 |
| 14. |  | Perform sentiment analysis of movie reviews using nltk in python | 2 |