**1. Introduction to Python-**

- Python installation, jupyter installation

- Variables in python.

- Data Types in python.

- Arithmetic operations in python.

- Control statements in python.

Mini Project 1- Number guessing game.

- Generating random numbers.

- Taking input from users.

- Relational operators in python

- Checking whether the guessed number is correct or not.

- Giving hints about the actual number to the player.

- Getting the score for the game.

Mini Project 2- Building an Arithmetic Calculator

- Basic operations: Addition, Subtraction, Multiplication, Division

- Creating functions for basic operations

- Creating a main menu for the calculator

- Using functions for performing calculation.

Assignment 1- Building a personal talking pet

Mini Project 3- Days in a month calculator

- Functions in python

- Collections in python: Lists, Tuples, Set, Dictionary.

- Creating a tuple for month names and number of days in a month

- Constructing a dictionary using a single for loop

- Performing operations using the created dictionary

- Getting the results out of the calculator

Assignment 2- Student Verification system using Dictionary

Mini Project 4- Number system converter

- Basic number systems: Binary, Decimal, Hexadecimal, Octal

- Taking information from user about source number system

- Getting the number from user

- Taking information from user about target number system

- Giving the converted number.

Assignment 3- Build your own personalised Report Card using Dictionary.

**2. Object Oriented Programming in Python-**

- Objects and classes in python

- Inheritance, Polymorphism, Abstraction and Encapsulation

**-** Method Overloading and overriding

Mini Project 5- Employee information Handling

- Constructor and Destructor

- Structuring the attributes for an employee

- Creating instances of an employee.

- Storing the information about the employee.

- Getting the message about the information that are stored.

- Keeping the employee’s information safe in your own system.

- Deleting the record of an employee

Assignment 4- Building your own Class Register.

Mini Project 6- Arithmetic Calculator handling illegal inputs

- What are illegal inputs

- Basic exception handling commands: try, except, else, finally

- Checking for illegal entries from user and preventing the calculator from crash

- Asking the user to enter a legal number for performing the operation

- Finalising the calculator

Assignment 5- Making your Class Register more robust and error-free.