



Department of Computer Science & Engineering (Accredited by NBA)

LABORATORY MANUAL

PYTHON

CS – 506

V Semester

**Prestige Institute of Engineering
Management and Research**

Department of Computer Science & Engineering (Accredited by NBA)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CERTIFICATE

This is to certify that Mr./Ms. _____ with RGPV enrolment no. _____ has satisfactorily completed the course of experiments in **Programming in python laboratory**, as prescribed by **Rajiv Gandhi Proudyogiki Vishwavidhyalaya, Bhopal** for **V Semester** of the **Computer Science and Engineering Department** during year **202 -202** .

Signature of Faculty

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| Expt. No | Name of Experiment | Date of Conduction | Signature |
|----------|---|--------------------|-----------|
| 1 | Write a Python program to find the GCD of two numbers. | | |
| 2 | Write a Python program to find the square root using Newton's Method. | | |
| 3 | Write a Python program for exponentiation of a number. | | |
| 4 | Write a Python program to find the maximum from a list of numbers. | | |
| 5 | Write a Python program to perform Linear Search. | | |
| 6 | Write a Python program to perform Binary Search. | | |
| 7 | Write a Python program to perform Selection Sort. | | |
| 8 | Write a Python program to perform Insertion Sort. | | |
| 9 | Write a Python program to perform Merge Sort. | | |
| 10 | Write a Python program to print the first N prime numbers. | | |
| 11 | Write a Python program to multiply two matrices. | | |
| 12 | Write a Python program to use command line arguments. | | |
| 13 | Write a Python program to find the most frequent words in a text file. | | |
| 14 | Write a Python program to simulate elliptical orbits using Pygame. | | |
| 15 | Write a Python program to create a bouncing ball using Pygame. | | |
| 16 | Write a program to perform rock paper scissor game | | |
| 17 | Write a program to create a pyramid, box and cross pattern  | | |
| 18 | Write a Python program that takes an integer k from the user and reverse the given list at position k . | | |

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| 19 | Write a Python program to right-rotate an array by k positions by repeatedly shifting the last element to the front. | | |
| 20 | Write a program to perform lambda, * args and ** args function in python | | |
| 21 | Write a Python program to perform Quick Sort. | | |
| 22 | <p>Write a Python program to develop a simple hotel ordering system.</p> <p>The program should display a menu card with item codes, item names, and prices.</p> <p>The user will enter:</p> <ul style="list-style-type: none"> • An item code, and • The quantity required. <p>You must calculate and display:</p> <ul style="list-style-type: none"> • The item name, • The quantity, and • The total bill amount. <p>Instead of using multiple if-elif statements to match item codes,</p> | | |
| 23 | Write a Python program that checks if a given input string can be rearranged to form a palindrome (an anagram of a palindrome) | | |
| 24 | Develop a Python program using Object-Oriented Programming (OOP) principles to simulate a basic bank account system. The system must include a base class (Bank) for general account operations and a specialized class (Saving_Account) that demonstrates Inheritance and Polymorphism by adding specific features like interest calculation. | | |
| 25 | Implementation of Library and Student Management System Using Python Classes and Objects | | |
| 26 | Write a program to implement Stack using class Stack | | |
| 27 | Write a program to implement Queue using class Queue | | |
| 28 | Write a program to implement Linked List | | |