Python Programming Practical R1UC427B

Practical 1: Python Data Types & Variables

1. Print “Hello, World”
2. Program to declare and print different types of variables
3. Program to take user input and display its data type
4. Program to swap two variables
5. Program to assign multiple variables in a single line.

Practical 2: Operators in Python

6. Program using arithmetic operators
7. Program using relational operators
8. Program using logical operators
9. Program using assignment operators

Practical 3: Conditional Statements

10. Program using simple if statement
11. Program using if–else statement
12. Program using nested if–else
13. Program using elif ladder

Practical 4: Looping Statements

14. Program using for loop
15. Program using while loop
16. Program using nested for loop
17. Program using break statement
18. Program using continue statement

Practical 5: Pattern Printing

19. Program to print star pattern
20. Program to print number pattern
21. Program to print pyramid pattern
22. Print alphabet triangle pattern
23. Print Pascal’s triangle pattern

Practical 6: Strings

24. Program to create and index a string
25. Program demonstrating string slicing
26. Program using built-in string methods

27. Program to check palindrome string
28. Program to find length of a string
29. Program to reverse a string
30. Program to check palindrome string

Practical 7: Lists

31. Program to create and access list elements
32. Program demonstrating list slicing
33. Program using built-in list methods
34. Program to find sum of list elements
35. Program to find largest and smallest element in a list
36. Program to remove duplicate elements from a list
37. Program to sort a list

Practical 8: Tuples

38. Program to create and access tuple
39. Program demonstrating tuple slicing
40. Program to convert tuple to list
41. Program to find length of a tuple
42. Program to concatenate two tuples

Practical 9: Sets and Dictionary

43. Program to perform set operations
44. Program using set methods
45. Program to create and print a dictionary
46. Program to add new key-value pairs to a dictionary
47. Program to update and modify dictionary values
48. Program to delete elements from a dictionary

Practical 10: Functions

49. Program to define and call a function
50. Program to check prime number using function
51. Program to find greatest of three numbers using function
52. Program to find sum of digits using function
53. Program to check palindrome using function
54. Program to perform calculator operations using functions

Practical 11: Lambda Function, Importing Modules, Math Module

55. Program to create and use a simple lambda function
56. Program to find square of a number using lambda function
57. Program to add two numbers using lambda function
58. Program to import a module and use its functions
59. Program to use math module constants (pi, e)
60. Program to perform square root and power operations using math module
61. Program to find factorial using math module
62. Program to use trigonometric functions (sin, cos, tan)

Practical 12: Creating Class and Object

63. Program to create a simple class and object
64. Program to create a student class and display details
65. Program to create an employee class and calculate salary

Practical 13: Constructors

66. Program using default constructor
67. Program using parameterized constructor

Practical 13: Inheritance

64. Program demonstrating single inheritance
65. Program demonstrating multilevel inheritance
66. Program demonstrating multiple inheritance

Practical 14: Inheritance

67. Program demonstrating encapsulation
68. Program demonstrating abstraction using abstract class
69. Program demonstrating method overriding

Practical 15: Inheritance

70. Program to create NumPy array

71. Program to create Pandas Series
72. Program to plot line graph, bar chart, pie chart

Practical 16:

73. Student Class Management System: Use class, object, constructor.
74. Library Management System: Use inheritance for books and members.
75. Shape Area Calculator: Use method overriding for different shapes
76. Attendance Visualization: Plot attendance using Matplotlib.