

Python

1. Introduction to Programming
 - a. Need of Python Programming
 - b. Programs and Translations
 - c. Compile v/s Interpreter
 - d. Script v/s Program
2. Python is Scripting Language and Programming Language
3. Installation of Python
4. Python IDEs
5. Procedure Oriented / Object Oriented Programming
6. Program elements and Structure
7. Variables
 - a. Local variables
 - b. Global variables
8. Functions
 - a. Definition, Syntax
 - b. Classifications
 - c. Argument type functions
9. Operators
 - a. Arithmetic Operators
 - b. Relational operators
 - c. Logical operators
 - d. Bitwise operators
 - e. Shift operators
10. Control Statements
 - a. Conditional Control Statements
 - b. Loop Control Statements
 - c. Branching Statements
11. Introduction to Object Oriented Programming
 - a. Class and Object
 - b. Class level members
 - c. Object level members
 - d. self variable
 - e. Constructor and Initialization of object
12. Encapsulation
13. Inheritance
 - a. Introduction
 - b. Types of Inheritance
 - c. Single inheritance
 - d. Multi Level inheritance
 - e. Method overriding
 - f. Object initialization using constructor
 - g. Multiple inheritance
 - h. Hierarchical inheritance
 - i. Method overriding in Multi-level inheritance
14. Abstraction
15. Polymorphism

16. String handling
 - a. Introduction to Strings
 - b. Indexing and Slicing
 - c. Special operators in String handling
 - d. Old style String formatting
 - e. String library methods
 - f. Quotes and Escape characters in String representation
 - g. String Immutability
 - h. Logical programs using Strings
17. Modules
18. Packages
19. Exception Handling
 - a. Introduction
 - b. Handling exception
 - c. Finally block
 - d. User exceptions
 - e. Exceptions based application
20. Multi threading
 - a. Introduction
 - b. Creating thread
 - c. Life cycle of thread
 - d. Single threaded application
 - e. Multi threaded application
 - f. sleep method
 - g. join method
 - h. Execution time of single threaded application
 - i. Execution time of multi threaded application
21. Garbage collection
22. Inner classes
 - a. Introduction
 - b. Access class level members of inner classes
 - c. Access object level members of inner classes
23. Tkinter – GUI
 - a. Introduction
 - b. Types of Layouts
 - c. Create Labels and Display images
 - d. Create Buttons
 - e. Create Events
 - f. StringVar class
 - g. Calculator program using GUI
24. Regular expressions
25. Lambda expressions
- 26. Lists**
- 27. Tuples**
- 28. Sets**
- 29. FrozenSet**
- 30. Dictionaries**
31. My-sql Connectivity
 - a. Introduction to Mysql
 - b. Mysql – Python connectivity

- c. Execute DDL commands
 - d. Execute DRL commands
 - e. Execute DML commands
 - f. Transaction management examples (rollback and commit)
 - g. GUI – Database connectivity
- 32.OS module
 - 33.Time and Date
 - 34.Calendar module
 - 35.File Handling
 - 36. Numpy module**
 - 37. Pandas module**
 - 38. Matplotlib module**
 - 39.At property class and Object
 - 40.Iterators
 - 41.Generators
 - 42.Decorators
 - 43.Closures
 - 44.Monkey patching
 - 45.Introduction to Django
 - 46.Introduction to Flask