



# **Certification in Python Programming Language**

## **Syllabus**

**Duration: 120 Hours**

### **1. Introduction**

- History
- Features
- Setting up path
- Working with Python
- Basic Syntax
- Variable and Data Types
- Operator

### **2. Conditional Statements**

- If
- If- else
- Nested if-else

### **3. Looping**

- For
- While
- Nested loops

### **4. Control Statements**

- Break
- Continue
- Pass

### **5. String Manipulation**

- Accessing Strings
- Basic Operations
- String slices
- Function and Methods

### **6. Lists**

- Introduction
- Accessing list
- Operations
- Working with lists





- **Function and Methods**

## **7. Tuple**

- **Introduction**
- **Accessing tuples**
- **Operations**
- **Working**
- **Functions and Methods**

## **8. Dictionaries**

- **Introduction**
- **Accessing values in dictionaries**
- **Working with dictionaries**
- **Properties**
- **Functions**

## **9. Functions**

- **Defining a function**
- **Calling a function**
- **Types of functions**
- **Function Arguments**
- **Anonymous functions**
- **Global and local variables**

## **10. Modules**

- **Importing module**
- **Math module**
- **Random module**
- **Packages**
- **Composition**

## **11. Input-Output**

- **Printing on screen**
- **Reading data from keyboard**
- **Opening and closing file**
- **Reading and writing files**
- **Functions**

## **12. Exception Handling**

- **Exception**
- **Exception Handling**



- **Except clause**
- **Try ? finally clause**
- **User Defined Exceptions**

### **13.OOPs concept**

- **Class and object**
- **Attributes**
- **Inheritance**
- **Overloading**
- **Overriding**
- **Data hiding**

### **14.Regular expressions**

- **Match function**
- **Search function**
- **Matching VS Searching**
- **Modifiers**
- **Patterns**

### **15.CGI**

- **Introduction**
- **Architecture**
- **CGI environment variable**
- **GET and POST methods**
- **Cookies**
- **File upload**

### **16.Database**

- **Introduction**
- **Connections**
- **Executing queries**
- **Transactions**
- **Handling error**

### **17.Networking**

- **Socket**
- **Socket Module**
- **Methods**
- **Client and server**
- **Internet modules**

## **18.Multithreading**

- Thread
- Starting a thread
- Threading module
- Synchronizing threads
- Multithreaded Priority Queue

## **19.GUI Programming**

- Introduction
- Tkinter programming
- Tkinter widgets

## **20.Sending email**

## **21.HTML**

- Introduction to HTML
- HTML Tags
- Creating Forms
- Creating tables
- Managing home page

## **22.CSS**

- Introduction to CSS
- Three ways to use CSS
- CSS Properties
- Designing website
- Working with Templates

## **23.JAVA SCRIPT**

- Introduction to Javascript
- Three ways to use Javascript
- Working with events
- Client-side Validation

## **24.Major Project Work**

## **25.Placement Assistance Sessions**

- Mock Interviews
- GDs
- Preplacement Talks
- Industry Exposer Sessions

## **26.Internship**