# **Python Syllabus**

**Covered Topics**

1. Introduction
2. Variables and Types
3. Operators
4. Math and User Input
5. Conditionals and Loops
6. Array and Numpy
7. Functions
8. Modules
9. OOPs Concepts
10. Exception Handling
11. Miscellaneous
12. Searching
13. Sorting
14. Database Connection

**Introduction**

1. Introduction of Python
2. Python installation – Pycharm

**Variables and Types**

1. Variables or Identifiers
2. List
3. Tuple | Set
4. Datatypes
5. String
6. String Manipulation
7. Immutable Property and Mutable Property
8. Dictionary

**Operators**

1. Operators
2. Number System Conversion (Type Casting)
3. Bitwise Operator

**Math and User Input**

1. Import Math Fuction
2. User Input – input()
3. Multi Inputs in Single Line

**Conditional and Loops**

1. If Elif Else Statement
2. While Loop
3. For Loop
4. Break Continue Pass
5. Break vs Continue vs Pass
6. Printing Patterns

**Arrays and Numpy**

1. Array
2. Accepting Array values from user and search in array
3. why Numpy and installing numpy
4. Way of Creating an Array
5. Copying an Array
6. Solve Matrix Problem

**Functions**

1. Functions
2. Function Arguments
3. Keyworded Variable Length
4. Global Keyword
5. \_\_init\_\_ Method
6. Pass List to a Function
7. Recursion
8. Anonymous Functions | Lambda
9. Filter Map Reduce

**Modules**

1. Modules
2. Special Variable Names

**OOPs Concept**

1. Introduction
2. Class and Object
3. Init Method
4. Constructor | Self and Comparing Objects
5. Types of Variable
6. Types of Method
7. Inner Class
8. Inheritance
9. Constructor in Inheritance
10. Abstract Base
11. Duck Typing
12. Operator Overloading
13. Method Overloading and Method Overriding

**Exception Handling**

1. Exception Handling

**Miscellaneous**

1. MultiThreading
2. File Handling
3. File Reading and Writing
4. CSV File Reading and Writing
5. Comments

**Searching**

1. Linear Search
2. Binary Search

**Sorting**

1. Bubble Sort
2. Selection Sort

**Database Connection**

1. SQLite 3 DB Connection
2. MySQL Workbench Setup
3. Database Connectivity (My SQL)

**React JS**

**Topics Covered**

1. React Routers
2. React Hooks and Custom Hooks
3. State Management with Redux
4. Redux Saga
5. React Localization (i18n)
6. React Firebase
7. React Typescript
8. React GraphQL
9. Payment Integration
10. React PWA
11. Next.js and Remix.js