**COURSE CONTENT (SYLLABUS):**

**Module 1: Introduction to OOPS, Methods [10 Sessions]**

Classes and Objects, Constructors, Namespaces, Encapsulation, Abstraction, Creating a Class, The self variable, Constructor - Types of Methods: Instance Method, Class Method, Static Method, Passing members of one class to another class - Create a Parent Class, Create a Child Class, Add the \_\_init\_\_() Function, Use the super() Function, Add Properties

**Module 2: Python Inheritance, Polymorphism & Exception Handling**

**[8 Sessions]**

Types on inheritance, Single Inheritance, Multiple Inheritance, Method overloading and Method Overriding, Method Resolution Order(MRO), Duck Typing Philosophy of Python Abstract method and Abstract Class, Interfaces in Python - Compile time errors, Runtime Errors, Logical Errors, Exception, Exception handling, Types of Exception.

**Module 3: Files & Threads [10 Sessions]**

Types of Files, Opening a file, Closing a file, Working with text files containing strings, Working with Binary files, The with statement, Seek() and Tell() methods, Random accessing, Understand Thread based application process, Single Tasking, Multitasking, Creating and Working with Threads.

**SKILL SETS TO BE DEVELOPED:**

1. **An attitude of enquiry.**
2. **Confidence and ability to tackle new problems.**
3. **Ability to interpret events and results.**
4. **Ability to work as a leader and as a member of a team.**
5. **Assess errors in systems/processes/programs/computations and eliminate them.**
6. Observe and measure physical phenomena.
7. Write reports.
8. Select suitable equipment, instrument, materials & software
9. **Locate faults in system/Processes/software.**
10. Manipulative skills for setting and handling systems/Process/ Issues
11. **The ability to follow standard / Legal procedures.**
12. An awareness of the Professional Ethics.
13. Need to observe safety/General precautions.
14. To judge magnitudes/Results/issues without actual measurement/actual contacts.