## **Python Programming**

(Commencing from Sunday, 05<sup>th</sup> March 2023 Via Hybrid Mode (Online/Offline) Timing: 10-1 PM (Only on Sundays) Duration: 8 weeks)

This course introduces the python concepts from basics to advance. Python programming is used in various business sectors, such as programming, web development, machine learning, and data science. The course tries to equip the students/working professionals upgrade their skill sets in different fields like Machine Learning, Data Science, Web Development etc. This will be an 8-week course with emphasis on the hands-on sessions.

1. Basics of Python Programming	2. Dictionaries
History	Introduction Accessing values in
<ul> <li>Features</li> </ul>	dictionaries
<ul> <li>Setting up path</li> </ul>	<ul> <li>Working with dictionaries</li> </ul>
Working with Python	• Properties
Basic Syntax	• Functions
<ul> <li>Variables</li> </ul>	
Data Types	
Operator	
Input Output Functions	
3. Installation of PyCharm &	4. Functions
Introduction to Google Colab for	<ul> <li>Defining a function</li> </ul>
running Python Script	Calling a function
	Types of functions
	Function Arguments
	Anonymous functions
	Global and local variables
5. Conditional Statements	6. Modules
• If	Importing module
• If- else	Math module
<ul> <li>Nested if-else</li> </ul>	Random module
	Packages
	Composition
7. Looping	8. Exception Handling & File Operations
• For	Exception
• While	Exception Handling
<ul> <li>Nested loops</li> </ul>	Except clause
	• Try? finally clause
	User Defined Exceptions
	Read Files
	Write/Create Files
	Delete Files

9. Control Statements	10.OOPs concept
Break	<ul> <li>Class and object</li> </ul>
Continue	• Attributes
• Pass	<ul> <li>Inheritance</li> </ul>
	<ul> <li>Overloading</li> </ul>
	<ul> <li>Overriding</li> </ul>
	<ul> <li>Data hiding</li> </ul>
11.String Manipulation	12.Regular expressions
<ul> <li>Accessing Strings</li> </ul>	<ul> <li>Match function</li> </ul>
Basic Operations	<ul> <li>Search function</li> </ul>
<ul> <li>String slices</li> </ul>	<ul> <li>Matching VS Searching</li> </ul>
<ul> <li>Function and Methods</li> </ul>	<ul> <li>Modifiers</li> </ul>
	<ul> <li>Patterns</li> </ul>
12.Lists	13. Machine Learning Libraries
<ul> <li>Introduction</li> </ul>	<ul> <li>NumPy</li> </ul>
<ul> <li>Accessing list</li> </ul>	<ul> <li>Pandas</li> </ul>
<ul> <li>Operations</li> </ul>	<ul> <li>SciPy</li> </ul>
<ul> <li>Working with lists</li> </ul>	<ul> <li>Scikit-learn</li> </ul>
Function and Methods	<ul> <li>Matplotlib</li> </ul>
14. Tuple	15.Matplotlib
<ul> <li>Introduction</li> </ul>	<ul> <li>Introduction</li> </ul>
<ul> <li>Accessing tuples</li> </ul>	<ul> <li>Pyplot</li> </ul>
<ul> <li>Operations</li> </ul>	<ul> <li>Plotting</li> </ul>
<ul> <li>Working</li> </ul>	Line Chart
<ul> <li>Functions and Methods</li> </ul>	<ul> <li>Scatter Chart</li> </ul>
	Bar Chart
	Pie Charts

Course Fee: Rs.10,000/-

 $25\%\ discount\ for\ IETE\ Members\ \&\ 50\%\ for\ Students/Teaching\ Staffs$ 

Fee Excluding of GST (18%) as per Govt. norms

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