

21ACY01	PYTHON PROGRAMMING	L	T	P	C
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<u>Course Objectives:</u>					
<ul style="list-style-type: none"> Learners will be familiar with this course provides the Python Training module will make the reader accustomed to python language. This will help the reader in understanding the basics of the python language, Python libraries and the use of python for the analytics. Understanding what Python, its advantages and disadvantages, is how to run python scripts, how to use variables, string operator and functions. Understanding the different topics which are important from the point of view of data analytics and analysing some advance data analytics techniques. 					
UNIT I		6 Hours			
What python is actually - advantages and disadvantages of python - how to get started with python and its different versions - variables, strings and functions - use the mathematical operators and functions - different statement like if, for etc.					
UNIT II		6 Hours			
Python libraries - details of the pandas library - series and data frames and grouping and aggregating and merging and joining - error handling in python and re objects - pattern matching and parsing of data and regression with use case study - exploratory data analysis and correlation matrix					
UNIT III		6 Hours			
Visualization using matplotlib - advance machine learning algorithms - support vector machine random forest - install and get start with python - churn analysis with use case					
UNIT IV		18 Hours			
How to use basic variables and strings in python - Work with mathematical operators in python - input data in python - boolean with python - if and elif statement in python - while loop in python - lists – functions - string operator – variables - python scripts - disadvantages of python - advantages of python					
UNIT V		9 Hours			
Python in different ways - Boolean and other statements - in depth working of Python like inputting the data - use of pandas’ library for data analysis - different type of errors that one can encounter while working with Python - miscellaneous things in python - regression analysis with the help of a use case - different topics which are important from the point of view of data analytics - some advance data analytics techniques					

Course Outcomes:

- Understanding what Python, its advantages and disadvantages, is how to run python scripts, how to use variables, string operator and functions.
- Understanding to consist more in depth working of Python like inputting the data, working with Boolean and other statements.
- Analyzing to provide the use of pandas' library for data analysis.
- Analyzing how to deal with different type of errors that one can encounter while working with Python.
- Creating and finding how to deal with miscellaneous things in python and regression analysis with the help of a use case.
- Understanding the different topics which are important from the point of view of data analytics and analyzing some advance data analytics techniques.

Text Books:

1. Software Foundation Course with Python Programming © Copyright International Business Machines Corporation 1993, 2009. US Government Users Restricted Rights - Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Reference Books:

1. E Balagurusamy., "Python programming concepts", Tata McGraw-Hill 2015, India.
2. Robert Lafore, "Programming in Python", Waite Group, December 2013.
3. Herbert Schildt, "Python - The Complete Reference", Tata McGraw-Hill 2014, New Delhi.
4. Bjarne Stroustrup: "The Python Programming Language" (4th Edition). Addison-Wesley. May 2012.
5. Elements of Programming Interviews in Python: The Insiders' Guide, 2nd edition by 15 September 2016.

Other Resources (Online Resources or others)

1. Python Crash Course, 2nd Edition: A Hands-On, Project-Based Introduction To Programming by Eric Matthes Programming Languages.
2. Learning Python, Programming Python, and Python Pocket Reference, all currently in fourth or fifth editions. He has been using and promoting Python since 1992, started writing Python books in 1995, and began teaching Python classes in 1997.