

## Certificate Course in Data Science using Python (6 Months)

S. No	Topic
1	Introduction to Data Science: Introduction, Types of Data, Data collection and pre-processing methods
2	Basics of Python/R, Data visualization: Introduction to Python, Data Structures in Python, Control Structures and functions, Classes and Objects, Introduction to NumPy, NumPy Arrays, Introduction to Panda, MatplotLib, Data visualisation using Panda, Matplotlib.
3	Statistics Fundamental: Descriptive & Inferential Statistics, Probability Concept: Marginal, Joint & Conditional Probability, Bayes Theorem, Probability Distributions, Entropy & Information Gain, Regression & Correlation, Confusion Matrix, Bias & Variance, Covariance and correlation
4	Machine learning using Python: Applications of Machine Learning, Supervised and Unsupervised Learning, Regression and Classification, Introduction to Clustering, Python Libraries used for Machine Learning, Intuition using Python
5	Case study using Machine learning concepts: Pre-processing, data analysis and modelling, model evaluation and deployment of model.