DATA SCIENCE
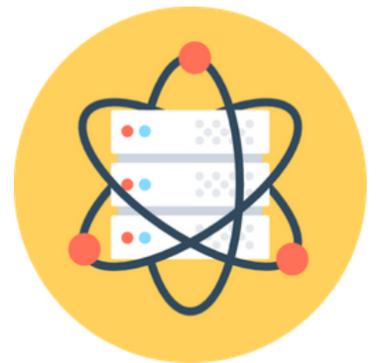
INTRODUCTION TO DATA SCIENCE AND ANALYTICS

-What is Data Science ?
-What's the need & why it's in demand ?
-What is Data Analytics ?
-Components of Data Science
-Real-life examples & applications
-Introduction to R programming and statistics

R BASICS

-Introduction to R Programming
-Data Structures in R
-Control structure and Loops in R
-Vectors, creating, using, modes of vectors
-Arrays, creating, using
-Matrices 2-D array, creating, merging
-Factors, Lists and Data Frames
-R Functions

ADVANCE R PROGRAMMING

-Data Manipulation using Packages
-Graphics and Data Visualization in R
-Exploratory Data Analysis in R
-ggplot2 Package
-Applied Statistics using R

STATISTICS

-Random Variable
-Mean Mode, Median
-Probability, Probability Distribution of
  Random Variables
-Type of Random Variables - Based on Scale of
  Measurement
-Variance & Standard Deviation
-Normal, Binomial, Poisson Distribution
-Standard Normal Distribution and Z-Score
-Sampling & Sampling Distribution
-Central Limit Theorem
-Simulation
-Hypothesis and hypothesis Testing
-Hypothesis Testing using z-test, t-test

MACHINE LEARNING

-Overview & Terminologies
-What is Machine Learning ?
-Difference between AI & ML
-Supervised & Unsupervised ML
-Supervised ML Models
-Linear & Logistic Regression
-Regression methods, Classification
-K Nearest Neighbours KNN
-Decision Tree, Random Forest
-Unsupervised ML Models
-K Means Clustering
-Under fitting and Overfitting
-Confusion Metrix
-K-Fold Cross Validation
-Regression Evaluation Metrics
-Time Series Analysis
-Support Vector Machine (SVM)
-Na'ive Bayes

TABLEAU
(FOR VISUALIZATION)

-Introduction to Tableau
-Installation, Tableau and R connectivity
-Calculated fields, hierarchy, parameters, sets,
  groups in Tableau
-Various visualizations Techniques in Tableau
-Map based visualization using Tableau
-Adding Totals, sub totals, Captions
-Formatting Options
-Using Combined Field, filters
-Table Calculations
-Story telling, creating dashboards

PROJECT AND CASE STUDY

-PROJECT 1
-PROJECT 2
-CASE STUDY 1
-CASE STUDY 2