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| **S\_No** | **Projects\_List** | **Projects\_Time** |
| 1 | **Introduction**   * 1. Introduction to the course   2. What is data science?   3. Why is data science important and where is it used?   4. Python in data science | 1 |
| 2 | **Python – I**  2.1 Introduction to python  2.2 IDEs, Installing and getting started  2.3 Numbers, Strings and Boolean  2.4 Lists, Dictionaries, Tuples, Sets  2.5 Control flow, functions  2.6 OOP in Python | 3 |
| 3 | **Python – II**  3.1 Lambda functions  3.2 Generators, Decorators  3.3 Errors and Exceptional Handling  3.4 Regular Expressions  3.6 Modules and packages  3.7 Name and main | 3 |
| 4 | **Numpy**  4.1 Introduction, Arrays in Numpy  4.2 Basic Operations, slicing  4.3 Numpy for basic arithmetic  4.4 Solve equation with Numpy  4.5 Numpy for statistical Operations | 1 |
| 5 | **SkiPy**  5.1 Introduction  5.2 Sub package for integration and optimization  5.3 Calculating Eigenvectors, eigenvalues  5.4 Subpackage – static, weave, IO  5.5 Linear Algebra using SkiPy | 2 |
| 6 | **Pandas**  6.1 Introduction, data frames  6.2 Missing data, group by  6.3 Merging, Joining and concatenating  6.4 Operations  6.5 Data Input, Output | 3 |
| 7 | **Matplotlib**  7.1 What is data Visualization? Its Importance.  7.2 Introduction to matplotlib  7.3 Histogram, Boxplot, Scatterplot  7.4 Bar chart, Line chart, Pie chart | 2 |
| 8 | **Seaborn**   * 1. Introduction to visualisation with Seaborn   2. Distribution Plots, Categorical Plots   3. Matrix Plots, Regression Plots   4. Grids, Style and Colour | 2 |
| 9 | **Data Visualisation using Plotly and Cufflinks** | 1 |
| 10 | **Machine Learning**  10.1 Introduction  10.2 ML with Python  10.3 Why is it important? | 1 |
| 11 | **Linear Regression**  11.1 Introduction  11.2 ScikitLearn  11.3 Linear regression  11.4 Logistic regression | 2 |
| 12 | **KNN and SVM**  12.1 K Nearest Neighbours introduction  12.2 KNN theory  12.3 KNN with Python  12.4 SVM Classification – Linear, Non linear  12.5 Support Vector Regression  12.6 K Means Clustering  12.7 K means Algorithm | 4 |
| 13 | **Natural Language Processing**  13.1 NLP Introduction  13.2 NLP Theory  13.3 NLP with Python | 1 |
| 14 | **Recommendation System with Python** | 2 |
| 15 | **Big Data and Spark with Python**  15.1 Big Data Introduction  15.2 Local Spark Set-up, Spark Intro  15.3 PySpark setup  15.4 Spark with Python  15.5 RDD Transformation and actions | 3 |