Python Syllabus

1 Python Introduction

- Python introduction
- Python Applications
- Python Features
- Python Setup

2 Python Basics

- Python variables
- Python Data types
- Python Keywords
- Python literals
- Python operators
- Python comments

3 Python Basics Program

- Python arithmetic
- Python input output
- Python type casting

4 Python Control Flow

- If
- If else
- Loops
- For loop
- While loop
- Break and continue
- pass

5 Python String

- String Introduction
- String Slicing
- String immutability
- String Formatting

- String Functions

6 Python List

- List Introduction
- List Slicing
- List Properties
- List iteration
- List Operator
- List Functions

7 Python Tuple

- Tuple Introduction
- List vs Tuple
- Tuple Slicing
- Tuple Properties
- Tuple iteration
- Tuple Operator
- Tuple Functions

8 Python Set

- Set Introduction
- List vs Tuple vs Set
- List Slicing
- List Properties
- Set iteration
- Set Functions
- Set Operations
- Frozen Set

9 Python Dictionary

- Dictionary Introduction
- Dictionary Properties
- Dictionary iteration

10 Python Functions

- Function Introduction
- Types of Function
- Types of variables
- Lambda functions

11 Python Module

- Function Introduction
- Inbuilt module
- User define module

12 Python Exception Handling

- Exception Introduction
- Exception handling by try and except
- Else block
- Finally block
- Raising exception

13 Python Files

- Function Introduction
- Create file
- Read in file
- Write in file
- File functions
- Pickle

14 Python Database

- Sqlite database Introduction
- Database crud operations

15 Python OOPS

- OOPS introduction
- Class and object
- constructor
- Str method

- Inheritance
- Abstraction

16 Python Thread

- thread introduction
- Single tasking using thread
- Multitasking using thread

17 Python Date and Time

- Time
- Sleep time
- Datetime module
- Calendar module

18 CSV File

- Read CSV file
- Read CSV file using pandas
- Write in CSV file
- Write in CSV file using pandas

19 Python Assert and list comprehension

- assert introduction
- Assert keyword
- List comprehension

20 Python inbuilt module

- Math module
- Os module
- Random module
- Statistics module

21 Python Array

- Array introduction
- Array iteration
- Array operations

22 Python JSON

- write json file
- Read json file

ML Syllabus

Chapter 1	Chapter 2	Chapter 3
Introduction to ML	Linear Regression	Linear Discriminant Analysis
Reinforcement Learning	Multivariate Regression	Linear Classification
Unsupervised Learning	Partial Least Squares	Logistic Regression
Supervised Learning	Shrinkage Methods	Project

Chapter 4	Chapter 5	Chapter 6
Support Vector Machines	Artificial Neural Networks	Regression Trees
Hinge Loss Formulation	Training and Validation	Decision Trees
Perceptron Learning	Parameter Estimations	Decision Trees Examples

Chapter 7	Chapter 8	Chapter 9
ROC Curve	Random Forests	Hidden Markov Models
Evaluation Measures	Bayesian Networks	Treewidth and belief
Ensemble Methods	Gradient Boosting	Undirected Graphical Method
Minimum Desc. Lgth Analysis	Naive Bayes	Variable Elimination

Chapter 10	Chapter 11	Chapter 12
Clustering	Expectation Maximization	Reinforcement Learning
Birch and Cure Algorithms	Gaussian Mixture Models	Linear Theory