1 – An Introduction to Python.

- → Intro Programming Language
- → What is Python?
- → Python History and Versions
- → Why Learn Python
- → Where is Python Used?
- → Python Popular frameworks and libraries
- → What is IDE?
- → Installing Python
- → Installing IDE
- → Environment setup

2 – Basic Python Syntax

- → Python Variable
  - Declare a variable and assign a value
  - Variable naming rules
  - Variable Multiple Assignment
  - Delete variable
  - 5 tips for better variable names
- → Object Identity
- → Input and Output
  - Taking input in Python
  - Taking input from the console in Python
  - Taking multiple inputs from the user in Python
  - Output using print() function
  - print without newline in Python
  - end and sep parameters in print()
  - Python Output Formatting
- → Statement, Indentation, and Comment in Python

3 – Data type

- → Introduction to Data Types
- → Strings
- → List
- → Tuples
- → Sets
- → Dictionary
- → Variable Type Check and Typecasting

4 – Python Operators

- → Introduction to Operators
- → Operand vs Operators
- → Arithmetic Operators
- → Comparison Operators
- → Assignment Operators
- → Logical Operators
- → Membership Operators
- → Identity Operators
- → Operator Precedence
- → Ternary Operators
- → Difference between == and is operator in Python

5 – Conditional Statements in Python

- → If the statement
- → If else statement
- → Nested if statement
- → If…Elif ladder
- → Shorthand if statement
- → Shorthand if-else statement

6 – Control Flow

- → Introduction to Loop
- → Types of Loops
- → Break, Continue, Pass
- → range() vs xrange() in Python
- → For Loop
- → While Loop
- → Looping Techniques in Python
- → else with for

7 – Function

- → Introduction to Functions
- → Empty function – pass statement
- → Return Multiple Values
- → *args and **kwargs
- → Python Scope
- → Recursion

8 – Lambda Function and Comprehension

- → Introduction to the Lambda function
- → Use cases of the Lambda function
- → Introduction to Comprehension
- → List, Dictionary, and Set Comprehension

9 – Popular Built-in Function

- → Python Datetime/Date
- → Python Math
- → Python JSON
- → Regular Expression
- → Magic Method

10 – Module and Packages

- → Introduction to Module and Packages
- → Use cases of Module and Packages

11 – Iterator and Generator

- → Introduction to Iterator and Generator
- → Use cases of Iterator and Generator
- → Yield

12 – File and Error Handling

- → Exception handling
- → Built-in Exceptions
- → try…except…else…finally

→ File – Open, Read, Write, and Append
→ Excel – Read, Write, Appending, Arithmetic Operation in Excel

13 – Object Oriented Programming

→ Introduction to OOP
→ Class
→ Object
→ Constructor
→ Destructor
→ Self
→ Inheritance
→ Polymorphism

14 – Database

→ Database concepts
→ Database design
→ SQL

15 – GIT and GitHub

→ Introduction to Git and GitHub
→ Importance of GIT
→ Git Add
→ Git Commit
→ Git Clone
→ Git Fork
→ Git Repository
→ Git Checkout
→ Git Branch
→ Merge & Merge Conflict
→ Git Pull
→ Git Push

16 – HTML and CSS

→ Introduction to HTML and CSS

17 – Django 01

→ PIP
→ Creating a virtual environment
→ Installing Django
→ Creating a Project
→ Creating Our First App
→ Overview of a Basic App
→ Django Project MVT Structure

18 – Django 02

→ Django Model
→ Django URL Mapping
→ Django Model Forms

19 – Django 03

→ Django View
→ Django Forms
→ Form Validation

20 – Django 04

→ Django Template

21 – Django 05 (Project)

→ Virtual Environment.
→ Git setup.
→ Django Setup.
→ Project Requirement Analysis
→ Live Project