**Cyber Prism Software Solutions**

**PYTHON-DJANGO SYLLABUS**

**Chapter 1: Introduction to Python**

* Install Python and Environment Setup
* First Python Program
* Python Identifiers, Keywords and Indentation
* Comments and document interlude in Python
* Getting User Input
* Python Data Types
* What are variables?
* Python Core objects and Functions

**Chapter 2: Control Statements**

* if-else
* if-elif-else
* while loop
* for loop
* break
* continue
* return

**Chapter 3: Arrays In Python**

* • Introduction
* • Lists in Python
* • More about Lists
* • Understanding Iterators

**Chapter 4: Python Dictionaries and Sets**

* Python Dictionaries
* More on Dictionaries
* Sets
* Python Sets Examples

**Chapter 5: Python Files**

* Reading and writing text files
* writing Text Files
* Appending to Files and Challenge

**Chapter 6: Python Functions**

* Python user defined functions
* Python packages functions
* Defining and calling Function
* The anonymous Functions
* Loops and statement in Python
* Python Modules & Packages

**Chapter 7: Python Object Oriented**

* Overview of OOP
* The self variable
* Constructor
* Creating Classes and Objects
* Inheritance

**Chapter 8: Using Databases in Python**

* MySQL
* Python MySQL Database Access
* Install the MySQLdb and other Packages
* Create Database Connection
* Working with MySql queries using python
* MongoDB
* Python MongoDB Access
* Install MongoDB
* Create Database Connection
* Working with Mongo queries using python

**Chapter 9: Data Analysis Using Python**

* Numpy:
* Introduction to numpy
* Creating arrays
* Pandas:
* What are pandas?
* Series in pandas
* What are DataFrames
* Series in pandas
* Matplotlib:
* Python for Data Visualization
* Welcome to the Data Visualization Section
* Introduction to Matplotlib

**Chapter 10: Django Web Framework in Python**

* Introduction to MVC and MVT architecture in Web development
* Django folder structure and flow of control
* Basic HTML,CSS,JS
* Template Rendering.
* CRUD Operations using Django.
* Cookies and Session in Python
* ORM in Python
* Table Relations in django
* Django REST Framework.
* Writing Serializers and REST API Methods.
* Decorators
* Token generation.
* Routing API’s
* Version Control-Git (Bitbucket)
* Testing Tool- Postman
* Sample Projects
* Live Project.