SYLLABUS 2020-2021

CLASS: 12 **SUBJECT: COMPUTER SCIENCE**

UNIT	CONTENT
1 Function	1.1 Introduction 1.2 Function with respect to Programming language
2 Data Abstraction	2.1 Data Abstraction - Introduction 2.2 Abstract Data Types 2.3 Constructors and Selectors
3 Scoping	3.1 Introduction 3.2 Variable Scope 3.3 LEGB rule 3.4 Types of Variable Scope
4 Algorithmic Strategies	4.1 Introduction to Algorithmic strategies 4.4 Algorithm for Searching Techniques 4.5 Sorting Techniques
5 Python - Variables and Operators	5.1 Introduction 5.2 Key features of Python 5.3 Programming in Python 5.4 Input and Output functions 5.5 Comments in Python 5.6 Indentation 5.7 Tokens
6 Control Structures	6.1 Introduction 6.2 Control structures
7 Python Functions	7.1 Introduction - Types of functions 7.2 Defining functions 7.3 Calling a function 7.4 Passing Parameters 7.6 Anonymous functions 7.7 Return Statement 7.8 Scope of Variables

8 Strings and String Manipulations	8.1	Introduction
	8.2	Creating Strings
	8.3	Accessing characters in a string
	8.4	Modifying and Deleting String
	8.5	String operators
9 Lists, Tuples, Sets and Dictionaries	9.1	Introduction To List
	9.2	Tuples
	9.3	Sets
10 Python Classes and Objects	10.1	Introduction To Classes and Objects
	10.2	Defining Classes
	10.3	Creating Objects
	10.4	Accessing Class Index
	10.5	Class Methods
	10.6	Constructors and Destructors in Pythod
	10.7	Public and Private Members
11. Database Concepts	11.1	Data
	11.2	Information
	11.3	Database
	11.4	DBMS Concepts
	11.5	Database Structure
12. Structured Query Language	12.1	Introduction To SQL
	12.4	Creating Database
	12.5	Components of SQL
	12.7	SQL Commands and Functions
13 Python and CSV Files	13.1	Introduction
	13.2	Difference between CSV and XLS file formats
	13.3	Purpose Of CSV File
	13.4	Creating a CSV file using Notepad (or any text editor)
	13.6	Read and write a CSV file Using Python
	13.6.1	Read a CSV File Using Python
	13.7	Writing Data Into Different Types in Csv
	13.7.1	Creating A New Normal CSV File
	13.7.2	Modifying An Existing File
	13.7.3	CSV Files With Quotes

14 Importing C++ Programs in Python	14.1	Introduction
	14.2	Scripting Language
	14.3	Applications of Scripting Languages
	14.5	Importing C++ Files in Python
	14.6	Python Program to import C++
15 Data Manipulation through SQL	15.1	Introduction
	15.2	SQLite
	15.3	Creating a Database using SQLite
	15.4	SQL Query Using Python
	15.4.1	SELECT Query
	15.6	Querying A Date Column
	15.7	Aggregate Functions
	15.8	Updating A Record
	15.9	Deletion Operation
16 Data Visualization using Pyplot	16.1	Data Visualization Definition
	16.2	Getting Started
	16.3	Special Plot Types

PRACTICALS	
CLASS: 12	SUBJECT: COMPUTER SCIENCE
Sl.No	Topic
1	PY1(a) Calculate Factorial PY1(b) Sum of Series
2	PY2(a) Odd or Even PY2(b)Reverse the String
3	PY3 Generate values and remove odd numbers
4	PY4 Generate Prime numbers and Set Operations
5	PY5 Display a String elements – Using Class