Branch: BCA	Semester-IV
Subject Code: 4101	Lecture: 04 Credit: 04
Course Opted	Core Course - 11
Subject Title	**PYTHON PROGRAMMING**

Course Objective:

- Learn the fundamentals of writing Python scripts.
- Learn core Python scripting elements such as variables and flow control structures.
- Discover how to work with lists and sequence data.
- Write Python functions to facilitate code reuse.

Course Outcome:

- Able to apply the principles of pythonprogramming.
- Write clear and effective pythoncode.
- Create applications using pythonprogramming.
- Implementing database usingSQLite.
- Access database using pythonprogramming.
- Develop web applications using pythonprogramming.
- Develop and use Web Services usingpython.

Modules	Sr. No.	Topic and Details	No. of Lectures Assigned	Marks Weightage %
UNIT-I	1	**Introduction to Python Programming Language:** Understandingpython blocks, Introduction to Python Language,Installation and Working with Pytho, Understanding Python variables, Python basic Operators, Strengths andWeaknesses	8	16
	2	**Python Data Types:** Declaring and using Numeric data types: int, float, complex, Using string data type and string operations, Defining list and list slicing,Use of Tuple data type, Conversions, Built InFunctions		
UNIT-II	3	**PythonProgramFlowControl** Conditional blocks using if, else and elif, Simple for loops in python, For loop using ranges, string, list and dictionaries, Use of while loops in python, Loop manipulation using pass, continue, break and else, Programming using Python conditional and loops block	10	20
UNIT-III	4	**Functions and Modules :** Organizing python codes using functions, Organizing python projects into modules, Importing own module as well as external modules, Understanding PackagesPowerful Lamda function in python, Programming using functions, modules and external packages	16	32

	5	**Python File Operation:** Reading config files in python, Writing log files in python, Understanding read functions, read(), readline() and readlines(), Understanding write functions, write() and writelines()		
UNIT-IV	6	**Creating the GUI Form and Adding Widgets:** Widgets: Button, Canvas, Checkbutton, Entry, Frame, Label, Listbox, Menubutton, Menu, Message, Radiobutton, Scale, Scrollbar, text, Toplevel, spinbox, PanedWindow, LabelFrame, tkMessagebox. Handling Standard attributes and Properties of Widgets.	16	32
	7	**Layout Management:** Designing GUI applications with proper Layout Management features.		
Total			**50**	**100**

Text Book:

1. Learning With Python, by Allen Downey, Jeff Elkner and Chris Meyers

References:

1. Dive into Python,Mike
2. Learning Python, 4th Edition by Mark Lutz
3. Programming Python, 4th Edition by MarkLutz
4. Python Cookbook, Third edition by David Beazley and Brian K. Jones
5. Head First Python: A Brain-Friendly Guide, by Paul Barry
6. Learn Python The Hard Way, by Zed A. Shaw