B.Sc. (Computer Science)
III - YEAR/ V - SEMESTER
THEORY PAPER – VI (Elective - IC)
Programming in Python

Scheme of Instruction	Scheme of Examination
Total durations Hrs : 60	Max. Marks : 100
Hours/Week : 05(3T+2P)	Internal Examination :30
Credits : 4	SBT : 10
Instruction Mode: Lecture +practical	External Examination :60
Course Code : BS.07.201.14C.T	Exam Duration : 3 Hrs
Course Objectives:	
To prepare the students with the knowledge of concepts of Programming in Python	
Course Outcomes:	
On completion of the course the student will • Be able to do basic programming in python • Gain knowledge on CGI and GUI Programming	

UNIT - I: Introduction to Programming in Python.
Introduction to Programming in Python**:**
What Is Python? Features of Python, Python environment set up: Installing Python, Running Python, Python Documentation, Structure of a Python Program
Basics of Programming in Python**:**
Input statement, output statement, variables, operators, numbers, Literals, strings, lists and tuples, dictionaries.

UNIT - II: Conditionals, Loops and Functions.
Conditionals and Loops: if statement, else Statement, elif Statement, while Statement, for Statement break Statement, continue Statement, pass Statement.
Functions: Built-in Functions, User defined functions: Defining a Function, Calling a Function, Various Function Arguments.

UNIT - III: Files, Modules and Introduction to Advanced Python.
Files**:** File Objects, File Built-in Methods, File Built-in Attributes, Standard Files, Command-line Arguments
Modules: Modules and Files, Namespaces, Importing Modules, Importing Module Attributes, Module Built-in Functions, Packages.
Introduction to Advanced Python**:** Classes and objects declaration, Inheritance, Regular Expressions.

UNIT - IV: Python GUI & CGI Programming and Python database connectivity.
Python GUI Programming (Tkinter): Tkinter Programming example, Tkinter widges, standard attributes, geometry management

Python CGI Programming: CGI Architecture, First CGI Program, HTTP Header, CGI Environment Variables, GET and POST Methods, Simple FORM Example: Using GET Method, Passing Information Using POST Method

Python database connectivity**:** Establishing connection, insert, retrieve, delete, and rollback and commit operations.

References:

1.Core Python Programming Wesley J. Chun Publisher: Prentice Hall PTR First Edition
2.T. Budd, Exploring Python, TMH, 1st Ed, 2011
3.Python Tutorial/Documentation www.python.or 2010
4.Allen Downey, Jeffrey Elkner, Chris Meyers , How to think like a computer scientist : learning with Python , Freely available online.2015
5.Web Resource: http://interactivepython.org/courselib/static/pythonds