SCSA1204	PYTHON PROGRAMMING	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVES

- To understand why Python is a useful scripting language for developers.
- To learn how to use lists, tuples, and dictionaries in Python programs.
- To build and package Python modules for reusability.
- To understand how to read and write files in Python.
- To learn how to use exception handling in Python applications for error handling.
- To design and program Python applications.

UNIT 1 INTRODUCTION 9Hrs.

History of Python- Introduction to the IDLE interpreter (shell) - Data Types - Built-in function - Conditional statements - Iterative statements- Input/output functions - Compound Data Types - Nested compound statements – Introduction to Object Oriented Concepts**.**

UNIT 2 FILES AND EXCEPTIONS HANDLING, MODULES, PACKAGES 9Hrs.

File Operations –Iterators - Exception handling - Regular Expressions- Creating Modules-Import Statement-Introduction to PIP-Installing Packages via PIP-Using Python Packages.

UNIT 3 GUI PROGRAMMING 9 Hrs.

GUI Programming in Python - Introduction to GUI library - Layout management - Events and bindings - Fonts – Colours - Canvas - Widgets (frame, label, button, check box, entry, listbox, message, radiobutton, text, spinbox).

UNIT 4 DATABASE AND NETWORK 9Hrs.

Database (using NoSQL): Connector Module –Cursor – Statements - Exceptions in database. Network connectivity: Socket module - Client – Server – Email – URLAccess.

UNIT 5 CASE STUDY 9Hrs.

Web Programming using Python Image Processing – Facebook Analysis – Twitter Analysis.

Max. 45 Hrs.

COURSE OUTCOMES

CO1: Describe the Numbers, Math functions, Strings, List, Tuples and Dictionaries in Python.

CO2: Do the decision making and write functions in Python.

CO3: ExplainhowtodesignGUIApplicationsinPythonandevaluatedifferentdatabaseoperations.

CO4: Design and develop Client Server network applications using Python.

CO5: Ability to design real life situational problems and think creatively about solutions of them.

CO6: Apply the best features of mathematics, engineering and natural sciences to program real life problems.

TEXT /REFERENCE BOOKS

1. Y. Daniel Liang, “Introduction to Programming Using Python”, Pearson,2013.
2. Python Notes for Professionals by Stack Overflow Documentation (https://books.goalkicker.com/PythonBook/)
3. Dr. Charles R. Severance, “ Python for Everybody- Exploring Data Using Python 3”, 2016.
4. Paul Gries, Jennifer Campbell, Jason Montojo, “Practical Programming: An Introduction to Computer Science using Python 3”, Pragmatic Bookshelf, 2nd Edition,2014.
5. Magnus Lie Hetland, “Beginning Python: From Novice to Professional”,Apress.

END SEMESTER EXAM QUESTION PAPER PATTERN

Max. Marks : 100 **Exam Duration : 3 Hrs.**

PART A : 10 Questions of 2 marks each-No choice **20 Marks**

PART B : 2 Questions from each unit with internal choice, each carrying 16 marks **80 Marks**