IT454: PYTHON PROGRAMMING
CREDITS = 6 (L=4, T=0, P=2)

Course Objective:

Learn various techniques to solve and automate real time problems.

Teaching and Assessment Scheme:

Teaching Scheme			Credits	Assessment Scheme				Total Marks
				Theory		Practical		
L	T	P	C	ESE	CE	ESE	CE	
4	0	2	6	70	30	30	20	150

Course Contents:

Unit No.	Topics	Teaching Hours
1	**Introduction to Python:** The basics of python, Data types, Variables and Expressions, Global Variables.	04
2	**Control Structure and Functions:** If statement, elif statement, for loop, while loop, Function prototyping, Recursion, Default arguments, Function overloading, Basic of modules, User defined modules.	08
3	**Files, Exception Handling, Testing and Debugging:** Basic of file, Types of file, File functions, Exception handling, method of exception handling, Overview of testing and debugging.	08
4	**Class and Objects:** Class and object, Features of object oriented programming, inheritance, Polymorphism, Access specifier, private data member, constructor and destructor, Overloading of constructor, Overloading of operators.	08
5	**Regular Expression:** Introduction to regular expression, Method of Regular Expression, Regular expression symbols, Greedy vs Non Greedy approach, User defined regular Expression.	08
6	**Networking:** Introduction socket, TCP and UDP protocol, Client and server communication, chat application using socket.	06

7	**Advanced Python Programming:** Introduction to PyLab, Method of Pylab, Introduction to turtle, Basic turtle command, Application of turtle, Introduction to tkinter, Container and widget, Event drive Programming, Application of tkinter.	16
	TOTAL	**58**

List of References:

1. John V Guttag, *"Introduction to Computation and Programming Using Python",* Prentice Hall of India.
2. Kenneth A. Lambert, *"Fundamentals of Python – First Programs",* cengage Publication.

Course Outcomes (COs):

At the end of this course students will be able to …

1. Understand basic concept of python programming.
2. Develop module for removing redundancy of tasks.
3. Design a file to handle multiple task and errors.
4. Design a regular expression to automate the tasks.
5. Create charts for various data using Pylab.
6. Create GUI using python programming.