

Branch Name:	Bachelor of Computer Application (BCA)
Program Code:	CS101
Course Title:	Python Programming
Course Code:	23-SEC201-2C
Pre-requisite Course:	Python Basic, Condition, Loop, functions, file handling, Python GUI.

Course Objective (CO):

This course is intended to make the students:

- This course is focus to learn about emerging programming concept that learns python importance, history, and area of python as technology development.
- For UG level python with variable, control statement.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)								
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory				Practical				Total
				University Assessment		Continuous Assessment		University Assessment		Continuous Assessment		
				Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	
2	-	4	4	09	25	09	25	09	25	09	25	100

Course Contents:

Sr. No	Topic	Total Hours	Weightage (%)
1.	Beginning with Python : Introduction of Python ,Features of Python ,History of Python , Python Virtual Machine , Memory Management in Python , Comparisons between C and Python. Programming skills with Python : Data types in Python: Built-in data type ,Operators in python , Input – output statement of python ,Variable declaration with data types. Control statements: Conditional Statement. If Statement, If Else statement, Comprehension statement (multiple conditions), Looping: for loop, while loop.	12	25
2.	Built In Functions of Python: Built in general functions, String Methods ,List Methods, Tuples Methods.	12	25
3.	File handling in python: Introduction of File handling in python ,Opening and reading text file , Using loop read text file ,Writing data in the file ,Reading file in buffer size ,Writing data in binary file ,Manipulation of file process using renaming and deleting file.	12	25
4.	Python GUI – tkinter : Importing the module – tkinter , Create the main window (container) ,Add any number of widgets to the main window , Apply the event Trigger on the widgets.	12	25

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

1. **CLO1:** To understand the scope of python.
2. **CLO2:** To understand and implement programming concepts in python.
3. **CLO3:** To understand inbuilt library of python with functions.
4. **CLO4:** To understand and implement File handling using python.
5. **CLO5:** To understand GUI programs.
6. **CLO6:** To understand Tkinter.

List of Text Book:

1. "Beginning with Python: From Novice to Professional" written by Magnus Lie Hetland and published by Apress.
2. "Learning Python" written by Mark Lutz and David Ascher and published by O'Reilly Media.
3. "Python Programming: Using Problem Solving Approach" written by Reema Thareja and published by Oxford University Press.
4. "Python Programming: A Modern Approach" written by Vamsi Kurama and published by Pearson Education.

List of Reference book:

1. A Byte of Python, By Swaroop C H.
2. Python Cookbook, Recipes of Mastering Python 3, By David Beazely & Brian K. Jones.
3. Core Python Programming By, Dr. R. Nageswara Rao, 2018 edition.

E-Resource / Web Links:

1. <https://www.tutorialspoint.com/python/index.html>
2. <https://docs.python.org/3/tutorial/>
3. <https://www.python.org/about/gettingstarted/>
4. <https://www.w3schools.com/python/>
5. <https://www.programiz.com/python-programming>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

Practical List:

1. Write a Python program to display 'Hello World' Message on Screen.
2. Write a Python program to swap two variables.
3. Write a Python program to display the Fibonacci series.
4. Write a Python program to calculate sum of given number.
5. Write a Python Program to print first prime number.
6. Write a Python Program to check Armstrong Number.
7. Write a Python Program to create a sequence of numbers using range data type to display 1 to 30, with an increment of 2.
8. Write a Python Program to find area of circle.
9. Write a Python program to implement Factorial series up to user entered number.
10. Write a Python program to check the given number is palindrome or not.
11. Write a python program to display ascending and descending order from given 10 numbers.
12. Write a Python program to print the duplicate elements of an array 13. Write Python programs to create functions and use functions in the program.
13. Write Python programs to using lambda function.
14. Write Python programs to load the module in Python code.
15. Write a program to print following pattern.
1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
16. Write Python programs to implement a concept of list.
17. Write Python programs to implement a concept of tuples.
18. Write Python program to add your input data into scjpcps.txt file 20. Write a Python program to read data from scjpcps.txt.
19. Write a Python program to Displaying Text and Images With Label Widgets.
20. Displaying Clickable Buttons With Button Widgets.
21. Write a Python program to Getting User Input With Entry Widgets.
22. Write a Python program to Getting Multiline User Input With Text Widgets.
23. Write a Python program to Assigning Widgets to Frames With Frame Widgets.
24. Write a Python program to Adjusting Frame Appearance With Reliefs.
25. Write a Python program to Understanding Widget Naming Conventions.

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	L	M		M	M	M			M					M	
CLO2	H		L	M	L	L	L		M	M	M			L	
CLO3		M	L	H	L	L	L	L					M		
CLO4	L	L		M	M	M	L		L					L	
CLO5	L	L	M	M	H	H	M	M	M	L	H	M	M	M	
CLO6	L	M	M	H	H	H	M	H	M	L	H	M	M	M	M

H: High, M: Medium, L: Low