

Subject Code: 2CS1010401	Subject Title :Programming with Python
Pre-requisite:	-

Course Objective:

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

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)								
Lecture	Tutorial	Practical	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	
3	-	4	5	28	70	12	30	12	30	8	20	150

Subject Contents			
Sr. No.	Topics	Total Hours	Weight (%)
1.	Introduction of Python : History and need of python , Applications , Advantages and disadvantages of python , Programming structure of python , Installing python. Identifiers, keywords, Operators of python.	10	20
2.	Programming skills with Python : Input – output statement of python , variable declaration with data types , control statement (Decision making , looping , branching) implementation in python.	10	20
3.	Built In Functions of Python: Built in general functions, String functions , List functions , Introduction , Creating , Accessing , joining of Tuples. List operations	10	20
4.	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.	9	20
5.	Google sheet API and Python :Introduction of Google sheet API , creating Google sheet , Open Google sheet in python (by name , by URL) , create and delete worksheet using python , edit data in Google sheet using python : get cell value , update cell value , get all values from row , get all values from column , insert new row in Google sheet	9	20

Course Outcomes:

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

- To understand the scope of python
- To understand and implement programming concepts in python.
- To understand inbuilt library of python with functions.
- To understand and implement File handling using python.
- To understand Google spread sheet as API with python.
- To understand spread sheet, workbook, data interaction using python.

List of References:

- 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-Resources/ Web Links:

- <https://www.tutorialspoint.com/python/index.htm>
- <https://docs.python.org/3/tutorial/>
- <https://www.python.org/about/gettingstarted/>
- <https://www.w3schools.com/python/>
- <https://www.programiz.com/python-programming>
- <https://developers.google.com/sheets/api/quickstart/python>
- <https://www.analyticsvidhya.com/blog/2020/07/read-and-update-google-spreadsheets-with-python/>
- <https://pyshark.com/google-sheets-api-using-python/#edit-data-in-a-google-sheet-using-python>

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.

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.
14. Write Python programs to using lambda function.
15. Write Python programs to load the module in Python code.
16. Write a program to print following pattern
17.

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5
18. Write Python programs to implement a concept of list.
19. Write Python programs to implement a concept of tuples.
20. Write Python program to add your input data into scjpcps.txt file
21. Write a Python program to read data fromscjpcps.txt.
22. Write a Python program for Error Handling.
23. Create interface of Google sheet API using Python for open Google sheet by various method.
24. Create interface of Google sheet API using Python for getting cell value from Google sheet.
25. Create interface of Google sheet API using Python for update cell value into Google sheet.
26. Create interface of Google sheet API using Python for getting cell values from Google sheet column.