

SRI VENKATESWARA UNIVERSITY
B.Sc. DEGREE COURSE IN WEB ENABLED TECHNOLOGY
FIRST YEAR - FIRST SEMESTER
(Syllabus under CBCS w.e.f. 2020-21)

**Core Course Paper - C1: FUNDAMENTALS OF COMPUTERS, WEB & PYTHON -
PROGRAMMING**

(Total hours of teaching – 60 @ 04 Hrs./Week, Credits 3)

Course Objectives

To explore basic knowledge on computers, solving common types of computing problems, data types and control structures of Python, programming features of Python

Course Outcomes

Upon successful completion of the course, a student will be able to:

1. Understand the working of a digital computer.
2. Analyze a given problem and develop an algorithm to solve the problem.
3. Improve upon a solution to a problem.
4. Use the Python language constructs in the right way and Design programs in Python.
5. Acquire skills to implement and test Python programs.

UNIT I

Introduction to computers: Definition, Characteristics and limitations of computers - Elements of Computers - Hardware - CPU - Primary and Secondary memory - Input and Output devices. IT enabled services.

Operating System and Windows: Operating Systems: Meaning, Definition, Functions and Types of Operating Systems, Computer Virus, Cryptology. Windows operating system - Desktop, Start menu, Control panel, Windows accessories. Understanding Web Technologies, Difference between Web Applications and Desktop Applications.

UNIT II

Introduction to Python Programming:

Introductions Etc: Resources, A general description of Python Interactive Python - Lexical matters : Lines, Comments, Names and tokens, Blocks and indentation, Doc strings, Program structure, Operators, Code evaluation - Statements and inspection -- preliminaries - Built-in data- types :Numeric types, Tuples and lists, Strings : The new string.format method, Unicode strings , Dictionaries, Files, Other built-in types :The None value/type, Boolean values, Sets and frozensets - Functions and Classes -- A Preview

UNIT III

Statements : Assignment statement, import statement, print statement, if: elif: else: statement, for: statement, while: statement, continue and break statements, try: except: statement, raise statement, with: statement :Writing a context manager, Using the with: statement, del, case statement.

UNIT IV

Functions, Modules, Packages, and Debugging : Functions: The def statement, Returning values, Parameters, Arguments, Local variables, Global variables and the global statement, Doc strings for functions, Decorators for functions - lambda, Iterators and generators, Modules: Doc strings for modules - Packages,

Unit V

Classes: A simple class, Defining methods, The constructor, Member variables, Calling methods, Adding inheritance, Class variables, Class methods and static methods, Properties, Interfaces, New-style classes, Doc strings for classes, Private members

Reference Books:

1. Fundamentals of Computers by Reema Thareja from Oxford University Press
2. Introduction to Python by Dave Kuhlman

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports.
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

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Practical Paper - C1: PYTHON PROGRAMMING LAB

(Total hours of teaching – 30 @ 02 Hrs./Week, Credits 2)

Python Programming Lab

1. Write a Python program to convert temperatures to and from celsius, fahrenheit.
2. Write a Python program that accepts a word from the user and reverse it
3. Write a Python program to get the Fibonacci series between 0 to 50.
4. Write a Python program which takes two digits m (row) and n (column) as input and generates a two-dimensional array. The element value in the i-th row and j-th column of the array should be $i*j$.
5. Write a Python program that accepts a string and calculate the number of digits and letters
6. Write a Python program to check whether an alphabet is a vowel or consonant
7. Write a Python program to calculate the sum and average of n integer numbers
8. Write a Python program to create the multiplication table (from 1 to 10) of a number
9. Write a Python function to find the Max of three numbers.
10. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.
11. Write a Python function that takes a number as a parameter and check the number is prime or not.
12. Write a Python function to check whether a number is perfect or not.
13. Write a Python function that checks whether a passed string is palindrome or not.
14. Write a Python program for sequential search.
15. Write a Python program to sort a list of elements using the selection sort algorithm.

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**Core Course Paper - C1: FUNDAMENTALS OF COMPUTERS, WEB & PYTHON -
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MODEL QUESTION PAPER

Time: 3 hours

Marks: 75 marks

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer any five of the following questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks

PART – A

Answer any Five of the following question.

(5X5=25M)

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	

PART – B

Answer All The Questions. Each question carries 10 marks (5X10= 50M)

1.	(A)	OR
	(B)	
2.	(A)	OR
	(B)	
3.	(A)	OR
	(B)	
4.	(A)	OR
	(B)	
5.	(A)	OR
	(B)	