BCA-2-02T: Python Programming

Total Marks: 100
External Marks: 70
Internal Marks: 30
Credits: 4
Pass Percentage: 40%

INSTRUCTIONS FOR THE PAPER SETTER/EXAMINER

1. The syllabus prescribed should be strictly adhered to.
2. The question paper will consist of three sections: A, B, and C. Sections A and B will have four questions from the respective sections of the syllabus and will carry 10 marks each. The candidates will attempt two questions from each section.
3. Section C will have fifteen short answer questions covering the entire syllabus. Each question will carry 3 marks. Candidates will attempt any ten questions from this section.
4. The examiner shall give a clear instruction to the candidates to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.
5. The duration of each paper will be three hours.

INSTRUCTIONS FOR THE CANDIDATES

Candidates are required to attempt any two questions each from the sections A and B of the question paper and any ten short questions from Section C. They have to attempt questions only at one place and only once. Second or subsequent attempts, unless the earlier ones have been crossed out, shall not be evaluated.

Course: Python Programming		
Course Code: BCA-2-02T		
Course Outcomes (COs)		
After the completion of this course, the students will be able to:		
CO1	Explain the basic syntax and structure of Python programs.	
CO2	Understand variables, data types, and basic operations.	
CO3	Understand and use common programming constructs like loops and conditionals.	
CO4	Define and use functions in Python.	
CO5	Understand the basics of object-oriented programming in Python.	

Detailed Contents:

Module	Module Name	Module Contents
Section-A		
Module 1	**Introduction to Python**	Python installation and setup, Command line Basics; Python Objects and Data Structures Basics: Introduction to Python data types,

		Variable assignments, Numbers, String, String methods, Lists, Python Comparison Operators: Chaining comparison operators with logical operators, Pass Break and continue.
Module II	**Program Flow control & Methods and Functions in Python**	**Program Flow control in Python:** If, Elif and Else statements in python, for loops, While loops **Methods and Functions in python:** Introduction to functions, Def keyword, User defined functions, arguments and parameters, Parameter naming in python
Section-B		
Module III	**Object Oriented Programming**	Introduction, Classes and objects, attributes and methods, Inheritance and polymorphism, Special methods; Modules and Packages: Pip install and PyPi.
Module IV	**Use of Python Libraries and File handling in Python**	**Python Libraries:** Utilize common Python libraries for specific tasks (e.g., NumPy for numerical computing, Pandas for data manipulation). Use libraries for data manipulation, analysis, and visualization. **File Handing in Python:** Files in python, importing own files, Read and writing text files, working with CSV, XML and JSON files.

Books

1. Timothy Budd, "Exploring Python", TMH, 1st Ed, 2011
2. Allen Downey, Jeffrey Elkner, Chris Meyers, "How to think like a Computer Scientist: learning with Python", Green Tea Pr, 2002
3. Paul Barry, "Head First Python: A Brain-Friendly Guide", O'Reilly, 2nd ed. 2016
4. Udemy, https://www.udemy.com/course/complete-python-bootcamp/
5. Udemy,https://www.udemy.com/course/python-the-complete-python-developer-course