

# CBCS SCHEME

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18CB753

## Seventh Semester B.Tech. Degree Examination, Dec.2023/Jan.2024 Python Programming

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. What is program? What are the building blocks of programs? (06 Marks)
- b. Explain computer hardware architecture with neat diagram. (08 Marks)
- c. Write a python program to prompt the user for hours and rate per hours to compute gross pay. (06 Marks)

OR

- 2 a. Explain if, else and elif statement in python. (06 Marks)
- b. Define the following:  
(i) Value (ii) Variables (iii) Expressions (iv) Arguments (08 Marks)
- c. Write a user defined function to find given number is positive, zero or negative. (06 Marks)

### Module-2

- 3 a. Write a program which repeatedly reads numbers until user enters 'done'. Once 'done' is entered, printout the total, count and average of the numbers. (10 Marks)
- b. Apply following string functions to given string:  
S = "Hello World"  
(i) len ( ) (ii) S[4] (iii) S.upper ( ) (iv) S.[6: ] (v) S.lower ( ) (10 Marks)

OR

- 4 a. Discuss read and write mode on files. Write a python program to count number of lines in a file. (10 Marks)
- b. What is iteration? Explain while loop and for loop syntax with example. (10 Marks)

### Module-3

- 5 a. Explain the following methods of list data types in python with suitable example:  
(i) append ( ) (ii) insert ( ) (iii) Sort ( )  
(iv) remove ( ) (v) pop ( ) (10 Marks)
- b. What is dictionary? Write a python program to accept string from user and print the dictionary for count of each character in string. (10 Marks)

OR

- 6 a. Explain how to use tuple as keys in dictionaries. (06 Marks)
- b. How is tuple different from list data type? Explain with example the function used to convert list into tuple and tuple into list. (06 Marks)
- c. Write a python program that uses regular expression to search for words that starts from 'a'. (08 Marks)

### Module-4

- 7 a. Define class. How class and objects are created in python? (06 Marks)
- b. Explain \_\_init\_\_ and \_\_str\_\_ methods. (06 Marks)
- c. Explain pure function and modifiers with examples. (08 Marks)

**OR**

- 8 a. Explain type based dispatch with an example. (06 Marks)  
b. Discuss operator overloading with suitable examples. (06 Marks)  
c. Explain the concept of inheritance with class diagram. (08 Marks)

**Module-5**

- 9 a. Explain how to retrieve an image over HTTP. (06 Marks)  
b. What is socket? Explain how socket connection can be established over TCP/IP connection. (08 Marks)  
c. Explain significance of XML over the web development. Illustrate with examples. (06 Marks)

**OR**

- 10 a. What is JSON? Explain concept of parsing JSON. (06 Marks)  
b. Explain the four basic SQL commands needed to create and maintain data. (08 Marks)  
c. Explain a four keys of database cursor. (06 Marks)

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