

Roll No.

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B.Tech. (CSE)(Sem.-5)
PROGRAMMING IN PYTHON

Subject Code :BTCS-510-18

M.Code : 78324

Date of Examination :05-12-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Differentiate between remove(), pop() and del functions in Python with examples.
- b) Discuss the role of ORMs in Python.
- c) Explain how multiprocessing is different from multithreading in Python. Write an example of multiprocessing.
- d) Write a Python program to design a simple message box using Tkinter.
- e) How can a whileloop be used with else in Python? Give example.
- f) Consider the following tuple, what will be the output?
 - i. T1 = (10, 20, 30, 40, 50); print(T1 [1:4])
 - ii. T2 = (10,20, 30,40, 50); print(T2 [-3:-1])
- g) Define Exception. List 4 built-in exceptions with the purpose of each.
- h) How are class methods and static methods defined and used in Python classes? Give example.

- i) List and explain at least 6 commonly used string methods in Python with examples.
- j) What will list(range(10, 0, -2)) return?

SECTION - B

- 2. How inheritance, is implemented in Python? Illustrate single and multiple inheritance with programming examples.
- 3. Suppose you need to store information about students: roll number, name, marks in three subjects, and grade. Which data structure will you use in Python? Write Python code to access and display each component.
- 4. Write a Python program to demonstrate file handling by reading and writing data into a text file.
- 5. How exception handling flow works in Python (try, except, else, finally)? Demonstrate with an example program.
- 6. In how many ways can functions return values in Python? Justify your answer with examples.

SECTION - C

- 7. **Write Python code to create a new list containing the cubes of all the numbers in this list :[1, 2, 3, 4, 5, 6]. Code this using:**
 - a. A for loop
 - b. The map () function with lambda.
 - c. List comprehension

Which approach do you find more readable and why?

- 8. What do you understand by web programming? Design a simple web client in Python.
- 9. **Write the following programs in python:**
 - a. To take 15 integers as input and display only the even numbers in ascending order.
 - b. To generate and display the first 20 terms of the Fibonacci sequence.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.