

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 :

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