

# END TERM EXAMINATION

THIRD SEMESTER [BCA] DECEMBER 2024

Paper Code: BCAT-211

Subject: Basics of Python Programming

Time: 03 Hours

Maximum Marks:60

Note: Attempt five questions in all including Q. no. 1 which is compulsory.  
Select one question from each unit

- Q1 Write **short notes** on the following: (2x10=20)
- Give a brief account of the Origin and need for Python Programming.
  - What is IDLE? Write two modes of Python IDLE.
  - Explain any two methods of List with examples.
  - Give a brief account of the Formal Arguments and Actual Arguments.
  - Differentiate between break and continue statements.
  - Explain any two features of Python Programming Language
  - Differentiate between Mutable and Immutable Objects.
  - Compare between Text Files and Binary Files.
  - What is a membership operator in Python? Explain it with an example.
  - Explain NumPy Library in brief.

## UNIT-I

- Q2
- Explain in detail the various data types in Python Programming Language. (5)
  - Differentiate between for Loop and while Loop with Python code. (5)

## OR

- Q3
- Explain in detail about the various Operators in Python Programming Language. (5)
  - What is String in Python Programming Language? Give examples of various String handling functions and methods in Python. (5)

## UNIT-II

- Q4
- Explain the Dictionary and its various operations and methods with examples. (5)
  - Make a list of the first 10 letters of the alphabet, then use the slicing to do the following operations: (5)
    - Print the first 3 letters of the list
    - Print any 3 letters from the middle(6)

## OR

- Q5
- Explain Tuples and its various operations and methods with examples. (5)
  - Create a dictionary whose keys are month names and whose values are the number of days in the corresponding months. (5)
    - Ask the user to enter a month name and use the dictionary to tell them how many days are in the month.
    - Print all the keys in the alphabetical order.
    - Print out all the months with 31 days.

## UNIT-III

- Q6
- Write a program that uses a user-defined function that accepts name and gender (as M for Male, F for Female) and prefixes Mr. / Ms. Based on the gender. (5)
  - Explain any three methods of math module with an example. (5)

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**(OR)**

- Q7 a) Write a menu-driven program to implement a basic calculator. (5)  
b) Explain any three methods of random module with an example. (5)

**UNIT-IV**

- Q8 a) Create a binary file with roll number, name, marks and perform the following operations. (5)  
• Update the marks.  
• Delete the records.  
• Display the records.  
b) Explain the features of the NumPy Library. Explain any two methods of NumPy Library. (5)

**(OR)**

- Q9 a) Create a binary file with Item number, Name, Price and perform the following operations. (5)  
• Search the marks.  
• Append the records.  
• Display the records.  
b) Explain the features of the matplotlibLibrary. Explain any two methods of matplotlibLibrary. (5)

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