

## GUJARAT TECHNOLOGICAL UNIVERSITY

**BE – SEMESTER-VIII- EXAMINATION- SUMMER 2020**

**Subject Code: 2180711**
**Date: 27/10/2020**
**Subject Name: Python Programming**
**Time: 02.30 PM TO 05.00 PM**
**Total Marks: 70**
**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

|     |   | MARKS |
|-----|---|-------|
| Q.1 | (a) What is the duck typing philosophy of python?   | 03    |
|     | (b) What is the difference between compiler and Interpreter? Explain How python interpreter works.  | 04    |
|     | (c) Which are the different types of operators in python language? Explain membership and identity operators with examples.   | 07    |
| Q.2 | (a) Explain List comprehension with an example.   | 03    |
|     | (b) Describe following string functions with syntax: title() , strip(), islower(), isupper().   | 04    |
|     | (c) Explain different sequences types with example in python.   | 07    |
|     | <b>OR</b>   |       |
|     | (c) Explain mutable and immutable data types with example in python.  | 07    |
| Q.3 | (a) Explain the lambda function with syntax and example.  | 03    |
|     | (b) Explain indexing and slicing operation for string manipulation with example in python.  | 04    |
|     | (c) What is the difference between error and exception? Explain exception handling in python with example.  | 07    |
|     | <b>OR</b>   |       |
| Q.3 | (a) Explain Method Resolution Order in python.  | 03    |
|     | (b) Explain Indexing and Slicing operation for the list with example in python.   | 04    |
|     | (c) What is testing? Explain Black box v/s glass box testing.   | 07    |
| Q.4 | (a) Explain match and search methods with the syntax of the regular expression module in python.  | 03    |
|     | (b) Explain object orientation in python with example.  | 04    |
|     | (c) Differentiate Abstract class and interface with example.  | 07    |
|     | <b>OR</b>   |       |
| Q.4 | (a) Explain built-in class attributes in a python class.  | 03    |
|     | (b) Write a program to implement a student class with five-member variables and with at least two methods to get and set values.                                    | 04    |
|     | (c) Explain Inheritance in python with example.   | 07    |
| Q.5 | (a) Write a program to create two threads to print the first 100 numbers.   | 03    |
|     | (b) How to create a Socket in python? Explain with example.   | 04    |
|     | (c) Write a program for a linear search and binary search.  | 07    |
|     | <b>OR</b>   |       |
| Q.5 | (a) Write a GUI program to create two buttons using Tkinter. When one button pressed another button to disappear and when again pressed the other button to appear. | 03    |
|     | (b) Write a program to implement Caesar Cipher.   | 04    |
|     | (c) Write a program for bubble sort and quicksort.  | 07    |