

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2180711****Date: 02/05/2017****Subject Name: Python Programming(Departmental Elective - III)****Time: 10:30 AM to 01:00 PM****Total Marks: 70****Instructions:**

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

- Q.1** (a) 1. Write a python program to know the current working directory and to print all contents of the current directory. What changes we need to make in the program if we wish to display the contents of only 'mysub' directory available in current directory? **03**
2. Write a python program to append data to an existing file 'python.py'. Read data to be appended from the user. Then display the contents of entire file. **04**
- (b) 1. Write a python program to retrieve strings starting with m and having 5 characters. **03**
2. Write a python program to retrieve name and date of birth (mm-dd-yyyy) of students from a given file student.txt. **04**
- Q.2** (a) 1. Explain the function that is used to retrieve the parts of URL. **02**
2. Write a python program to create a TCP/IP client-server chat application. **05**
- (b) What are the differences between C and Python? **07**
- OR**
- (b) 1. What is lambda function in python? Explain with any one example. **03**
2. Explain built-in datatypes of python. **04**
- Q.3** (a) 1. Briefly describe the methods of regular expression. **02**
2. Write a Python program that counts the number of occurrences of the character in the given string. Provide two implementations: recursive and iterative. **05**
- (b) Write a python program to search a specific value from a given list of values using binary search method. **07**
- OR**
- Q.3** (a) 1. What is duck typing philosophy of python? **02**
2. What is Method Resolution Order (MRO)? Explain the principles followed by MRO with example. **05**
- (b) Write a python program to arrange the characters of a given string 'welcome' in an alphabetical order using insertion sort algorithm. **07**
- Q.4** (a) Explain the types of methods available in python with a suitable example of each method. **07**
- (b) Which are the different ways of creation of threads? Explain each with an example. **07**
- OR**
- Q.4** (a) What are the differences between abstract class and interface? Write a python program in which Maruti and Santro sub classes implement the abstract methods of the super class Car. **07**

- (b) Create a class student with following member attributes: roll no, name, age and total marks. Create suitable methods for reading and printing member variables. Write a python program to overload '==' operator to print the details of students having same marks. **07**
- Q.5** (a) Explain the creation of different types of containers available in Tkinter? Elaborate the explanation with suitable example. **07**
- (b) Create following regular polygons (regular means all sides the same lengths, all angles the same) using for loop in turtle **07**
- An equilateral triangle
  - A square
  - A hexagon
  - An octagon
- OR**
- Q.5** (a) Explain the major steps used to create widgets. Write a python program to display a label upon clicking a push button. **07**
- (b) Write a Python GUI program to create three push buttons using Tkinter. The background color of frame should be different when different buttons are clicked. **07**

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