Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER–III EXAMINATION – WINTER 2018

Subject Code: 4639304   **Date: 09-01-2019**

Subject Name: Programming in Python

Time: 10.30 am to 1.00 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)** Explain the following with appropriate examples: **07**
1. Relational operators
2. Iterative construct in python.

(b) Answer the following: **07**
1. What is comment in python programming?
2. What is use of 'del' statement?
3. Explain 'pass' statement in python.
4. List any two dictionary methods
5. Explain the ** operator.
6. Can a function in python return multiple values?
7. Explain the 'input' function.

Q.2 **(a)** Give a comparison between List, Tuple and Dictionaries in Python.   **07**
(b) How are files handled in Python? List at least four types of files that python can   **07**
handle. Explain any five modes in which files can be operated with proper
syntax.

OR

(b) Briefly explain file handling in Python? Give the purpose and syntax of the   **07**
following:
open(), close(), read() and write()

Q.3 **(a)** What do you mean by Assertions? Support your answer with code.   **07**
(b) What is lambda function in python? Support your answer with appropriate code.   **07**

OR

Q.3 **(a)** What are Exceptions? Write a python code to explain exception handling.   **07**
(b) Explain Formal and Actual arguments in Python. Also explain the following type of   **07**
arguments with proper code.
a) Positional Arguments
b) Keyword Arguments
c) Default Arguments
d) Variable Length Arguments

Q.4 **(a)** What is the use of MatPlotLib in Python? Explain use of plot(), show() and title()   **07**
functions of MatPlotLib.
(b) How is a 'class' defined in python? What is a class variable? Discuss constructor   **07**
and data hiding from python view point.

OR

Q.4 **(a)** Explain show(), figure(), plot(), savefig(), xlabel(), ylabel() with suitable example.   **07**
(b) What do you mean by polymorphism? Explain overloading and overriding from   **07**
python view point. Write an appropriate code to support your answer.

Q.5 **(a)** Explain the concept of threading in Python. Also explain the concept of single   **07**
thread for single-task and multiple threads for multi-tasks.
(b) Give the details regarding data base connectivity of MySQL with Python. What   **07**
methods are used to select, delete and update records from a table in a database?

Take a sample table 'Subject' from the database Institute, with the columns as: SubjectCode, SubjectName and Semester. Write the code to setup the database connectivity. Also write code to perform select all records and delete all the records from the table.

OR

Q.5 **(a)** What are regular expressions in Python? How to find out that an email id entered by a user is valid or not using the python 're' module. **07**

(b) What is a socket? Give the details of various socket methods with appropriate syntax and explanation. **07**

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