

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER– III EXAMINATION – WINTER 2018

Subject Code: 3630006

Date: 09-01-2019

Subject Name: Programming with 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)** Do as directed.
- i) Write syntax of “lambda” function to sum of two variables (x & y). **01**
 - ii) Give one example of List comprehension. **01**
 - iii) What is the difference between extend() and append() methods of list. **01**
 - iv) Give one guideline for defensive coding. **01**
 - v) What is recursion? **01**
 - vi) What is driver and stub in python? **01**
 - vii) What happens if a local variable exists with the same name as the global variable you want to access? **01**
- (b)** Say TRUE of FALSE with justification. **07**
- i) List and Tuple are immutable sequence objects in python.
 - ii) Binary search needs sorted array while merge sort does not need sorted array.
 - iii) Two parameters of pylab.plot() must be sequences of the same length.
 - iv) fp=open("aa.txt","w") will errored out if file does not exists.
 - v) _name =1 is invalid statement.
 - vi) Suppose d = {"A":10, "B":45}, d.remove() command will delete the entry for "A".
 - vii) Functions and Methods are same.
- Q.2 (a)** State in your words "+" operator overloading and __add__() method overloading in python. **07**
- (b)** Write a python program which will implement following methods using class: **07**
- Structure(ItemId, ItemName, Qty,Rate)
- i) Constructor to initialize
 - ii) AddItem() to add Items and store into file (item.txt)
 - iii) display() will display all items via reading file (item.txt)
- OR**
- (b)** A company having turnover=[100000,120000,154000,180000,205000] and profit percentage =[9,9.5,9.25,9,9.5] of past 5 years. Draw line chart showing growth of profit (in amount) and turnover using pylab module in python. Draw both graph in same figure. **07**
- Q.3 (a)** What is exception? Explain how to handle user defined exception in python (Give example)? **07**
- (b)** Compare List, Tuple and Dictionary data types. **07**
- OR**
- Q.3 (a)** Write exception block in python. How to use exception as a control flow mechanism? **07**
- (b)** What is Defensive programming? Discuss assertion using suitable example. **07**

- Q.4 (a)** What is function? How it differs from methods? Discuss use of default parameters in function using suitable example. **07**
- (b)** Differentiate between **07**
- i) Linear search and Binary search
 - ii) Selection sort and merge sort

OR

- Q.4 (a)** What is module? Why we need module? Discuss various ways to use module. **07**
- (b)** Differentiate between **07**
- i) Dynamic Programming and Divide & conquer
 - ii) Black box and White box testing

- Q.5 (a)** Explain how dynamic programming solve knapsack 0/1 problem. **07**
- (b)** What is abstract data type? Explain inheritance using suitable example in python. **07**

OR

- Q.5 (a)** Explain class and generators using suitable example in python. **07**
- (b)** What fallacies, consistencies, inconsistencies appear during implementation of recursion? **07**
