

GUJARAT TECHNOLOGICAL UNIVERSITY**MCA – SEMESTER – III • EXAMINATION – SUMMER 2018****Subject Code: 3630006****Date: 25-May-2018****Subject Name: Programming with Python****Time: 02.30 pm to 5.00 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) Define Terms: i) docstring, ii) stubs, iii) memorization **03**
 (2) **Do as Directed** **04**
 i) Write an multiple assignment statement which will swap two variable values (a=6, b=7) without using temporary variable.
 ii) What will be the output of below code
`L=[x**2 for x in range(1,5)]`
`print(L)`
 iii) Say TRUE or FALSE: Best kinds of bugs to have are covert and persistent.
 iv) Say TRUE or FALSE: Lists are mutable while Dictionaries are immutable.
- (b)** Explain using suitable example methods of LIST: i) append(), ii) extend() iii) count() **07**
 iv) insert() v) sort() vi) remove() viii) index()
- Q.2 (a)** Explain using suitable examples formal parameters, actual parameters, keyword arguments and Default values implementation of Function in Python. **07**
(b) Explain `__add__()` to overload + operator with example. **07**
- OR**
- (b)** Explain how to create and import module in python using example. **07**
- Q.3 (a)** What is abstract data type? Write a program to describe data abstractions using classes. **07**
(b) Why exceptions are called a convenient flow-of-control mechanism that can be used to simplify programs? **07**
- OR**
- Q.3 (a)** Explain in brief Exception handling in python. How Exception differs from Error? **07**
(b) Write a Python program to implement the concept of inheritance. **07**
- Q.4 (a)** What is “Glass Box” testing? List advantages and limitations of glass box testing. How it differs from black box testing? **07**
(b) Write a Python program to search a specific value from a given list of values using binary search method. **07**
- OR**
- Q.4 (a)** What is defensive programming? Discuss various categories of runtime bugs. **07**
(b) Explain Hash Tables in Python. **07**
- Q.5 (a)** Write a suitable python program and explain below functions of pylab library: 1) figure(), 2) plot(), 3) savefig(), 4) title(), 5) xlabel(), 6) ylabel(), 7) legend() **07**
(b) What do you mean by Dynamic Programming? Explain with the help of Recursive Fibonacci function example. **07**
- OR**
- Q.5 (a)** Explain in brief file handling methods: write(), writelines(), read() and readLines(). **07**
(b) Write short Note: 0/1 Knapsack problem and assertion **07**
