

Date: 10.10.2019

Time : 2½ Hours

Total Marks: 75

- N.B. (1) All questions are compulsory.
(2) Figures to the right indicate marks for respective sub questions.
(3) Make suitable assumptions wherever necessary and state the assumptions made
(4) Answers to the same question must be written together.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculators is allowed.

Q.1) Attempt **any THREE** of the following. (15)

- Explain the use of logical operators and membership operators in Python.
- Write a program that asks the user to enter their name and age. Print a message addressed to them that tells the year when they will turn 100 years old.
- Define the term “debugging”. What are the different types of errors in programming?
- List and explain various data types in Python.
- Explain the use of logical operators and membership operators in Python.
- Explain the continue statement with a suitable example.

Q.2) Attempt **any THREE** of the following. (15)

- Explain any five basic operations performed on string.
- Discuss the difference between local and global variable.
- Write a program to print the sum of natural numbers using recursive function.
- What is a fruitful function? Explain with the help of an example.
- Write a function to check whether the number entered by the user is an Armstrong number.
- How can string be traversed with a loop? Give suitable example.

Q.3) Attempt **any THREE** of the following. (15)

- Explain various built-in list functions and methods
- Explain try...except block for exception handling in Python
- Explain open() and close() for opening and closing file.
- What is tuple in Python? How to create and access it?
- What is list? How to create list?
- Explain the properties of dictionary keys. Also explain any 3 methods of dictionary.

Q.4) Attempt **any THREE** of the following. (15)

- (a) What is regular expression? What are the types of regular expression?
- (b) Explain any 5 methods used in multithreading.
- (c) Explain Class Inheritance in Python with an example
- (d) What is module? How can we create module?
- (e) Explain math module with its any five function.
- (f) How are threads synchronized?

Q.5) Attempt **any THREE** of the following. (15)

- (a) Explain Checkbutton widget with example.
- (b) Write a program to create a popup menu with two options – Black and White. The background color of the window should change when user selects the option
- (c) What is the use of Entry Widget? Explain any five properties of Entry Widget.
- (d) Write and explain the steps insert a row into Mysql database with example.
- (e) What are the different functions to retrieve rows from a table? Explain with a suitable example.
- (f) What is layout management? Explain Grid manager.
