

Time: 2 ½ Hrs
Marks

Marks: 75

N.B.

- 1) All questions are compulsory.
 - 2) Figures to the right indicate marks.
 - 3) Illustrations, in-depth answers and diagrams will be appreciated.
 - 4) Mixing of sub-questions is not allowed.
 - 5) Each question carries 5 Marks.
-

Q.1 Attempt any four of the following:

20 Marks

- a) What are the features of the python programming language?
- b) Write a python program using Math Expressions.
- c) Explain Expression evaluation in python.
- d) What is a list? Explain with an example?
- e) Explain in detail:
 1. mutable and
 2. immutable
- f) Write the difference between Dynamic Typing and Static Typing.

Q.2 Attempt any four of the following:

20 Marks

- a) Write a short note on Functions in python.
- b) Explain the purpose of loop structure in a programming language. Describe the syntax and semantics of any two loop structures provided by Python.
- c) What is a dictionary? Explain Operations and functions of the dictionary.
- d) Explain following:
 1. Expressions
 2. Statement
 3. docstring
- e) Write short notes on types of operators in python with appropriate examples.
- f) Write the following python programs, to find the sum of n natural numbers.

Q.3 Attempt any four of the following:

20 Marks

- a) Explain with an example how list comprehensions can be used with an existing list.
- b) State and explain any five tuple functions.
- c) Explain the following methods in the list.
 1. sort()
 2. len(list)
 3. extend()

Write a simple program to implement it.

- d) Explain the concept of Anonymous functions.
- e) What are the three types of import statements in Python? Explain
- f) Write a Python program to Swapping two numbers with and without using a temporary variable.

Q.4 Attempt any three of the following:

15 Marks

- a) Explain various operators used in python.
- b) Explain Assert statements in detail.
- c) Compare and contrast between list and tuple.
- d) Explain with an example how list comprehensions can be used with range().
- e) State and explain any five string functions.
- f) Explain with example the use of Anonymous function with map().
