

## **SYIT/SEM III/REG/PYTHON PROGRAMMING**

**Time: 2½ hrs.**

**Marks:75**

- Note:**
1. All questions are compulsory with internal choice.
  2. Draw neat diagrams wherever necessary.
  3. Figures to the right indicate full marks.

- Q.1 Answer the following (any Three) (15)**
- (a) Explain the features of python programming language.
  - (b) Explain the difference between brackets, braces and parentheses.
  - (c) Explain break and continue with proper example.
  - (d) Explain operators in python along with its types.
  - (e) Write a program to check whether a number is positive, negative or zero.
  - (f) Write a python program to display sum of 1 to 20 numbers using while loop.
- Q.2 Answer the following (any Three) (15)**
- (a) What is a function? What do you mean by function calls? Explain with an example.
  - (b) Explain any 5 math functions with example.
  - (c) Write a python program to find addition of 2 numbers using user-defined function add().
  - (d) Write a python program to find area of a circle using user-defined function area\_circle().
  - (e) Write a note on String along with slicing in string.
  - (f) Explain any 5 string methods with proper example.
- Q.3 Answer the following (any Three) (15)**
- (a) Explain any 5 methods in list with example.
  - (b) Explain tuples with proper syntax and example.
  - (c) Explain dictionary with example, also explain how to access values in dictionary.
  - (d) Explain how to read and write in files with proper example.
  - (e) Explain any 5 file access methods.
  - (f) Explain the following exceptions with example: 1) ValueError 2) ZeroDivisionError 3) ArithmeticError 4) SyntaxError
- Q.4 Answer the following (any Three) (15)**
- (a) Explain the concept of Regular expressions also explain various types of regular expression.
  - (b) Explain the use of match function in regular expression with proper syntax and example.
  - (c) Explain what Class is with its proper syntax and suitable example.
  - (d) Define Inheritance with proper example.
  - (e) What is module? Explain how to create a module and use a module with example.
  - (f) What is Math Module? Explain how to import math module.
- Q.5 Answer the following (any Three) (15)**
- (a) What is UI? Explain any 5 components of GUI.
  - (b) Explain Tkinter along with its syntax.
  - (c) Write a python program to design a simple login page consisting of username, password and submit button using Tkinter.
  - (d) What is Layout Manager? Explain pack, grid and place in short.
  - (e) Write a python program to setup database connection.
  - (f) Write a python program to insert rows in table Student.

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