SYIT/SEM III/SUB: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) Describe for and while loop with example.
(b) What are variables? What are the rules used for naming variable names.
(c) Differentiate between formal and natural languages.
(d) Explain features of python.
(e) Print first 10 natural numbers using while loop.
(f) Write a Python program to count the number of even and odd numbers from a series of numbers.
Sample numbers: numbers = (1, 2, 3, 4, 5, 6, 7, 8, 9)
Expected Output:
Number of even numbers: 5
Number of odd numbers: 4

Q.2 **Answer the following (any three)** (15)
(a) Explain string slices with example.
(b) Explain any five string methods with example.
(c) Explain function call in python.
(d) Explain recursion with example.
(e) Describe searching in string
(f) Write a function that takes a character (i.e. a string of length 1) and returns True if it is a vowel, False otherwise.

Q.3 **Answer the following (any three)** (15)
(a) Explain any five list methods with example.
(b) What is exception? How to handle exception?
(c) Explain basic tuple operation with example.
(d) Explain tuple in python.
(e) How to create, update and deleting element in dictionary. Also explain properties of dictionary keys.
(f) Write a program in Python to delete first and last elements from a list.

Q.4 **Answer the following (any three)** (15)
(a) Explain concept of overriding with example.
(b) What is the principle of object-oriented programming in python?
(c) Write a short note on random module.
(d) Write a short note on class and object.
(e) What is regular expression? Also explain metacharacters in regular expression.
(f) What is inheritance and explain with example.

Q.5 **Answer the following (any three)** (15)
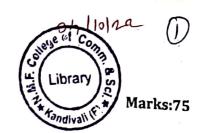(a) Write a note on create and insert table using python.
(b) Explain Canvas and Label widget with suitable example.
(c) How to connect to mysql database in python.
(d) What is Layout management? What are geometry managers in python.
(e) Explain check button and scale widget with suitable example.
(f) Write a note on update and delete table using python.

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