USN | | | | | | | | | | | **18EC646**

Sixth Semester B.E. Degree Examination, June/July 2024
Python Application Programming

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1 a. Explain any five salient features of python. **(06 Marks)**
   b. What is short circuit evaluation of logical expressions? How is it useful? **(06 Marks)**
   c. Write a program to solve quadratic equation. Your program should prompt the user to input the coefficients of quadratic equation. **(08 Marks)**

OR

2 a. With help of suitable examples, explain the rules of precedence used in python for evaluation of expressions. **(06 Marks)**
   b. Explain the feature of exception handling in python with help of suitable example. **(08 Marks)**
   c. Write a program to prompt the user to input an integer and print the factorial of the fed number. **(06 Marks)**

Module-2

3 a. Explain with suitable example the difference between continue and break in a for loop. **(08 Marks)**
   b. Write a program to prompt the user for a file name and then read through the file and look for presence of your USN. If USN is found print the line containing your USN. **(12 Marks)**

OR

4 a. With the help of suitable examples explain the various slicing methods of string. **(08 Marks)**
   b. Explain any three methods of string with help of suitable example. **(06 Marks)**
   c. Write a program to write table of integers from 0 to 10 and their corresponding squares into a file. **(06 Marks)**

Module-3

5 a. Write a program to build statistics of a file in form of dictionary. The key of dictionary should be word in the read file and the corresponding value should be the frequency (number of times the word is found) of word. **(10 Marks)**
   b. Write a program to read all the lines in a file accepted from user and print all the ip addresses in file contents. **(06 Marks)**
   c. Differentiate between lists and tuples. How is a tuple created? Give two possible ways. **(04 Marks)**

OR

6 a. Describe any three methods of dictionary. Use suitable example to illustrate these methods.
  (06 Marks)
  b. What is tuple? Write a program to find the longest word in a list using DSU pattern of tuple.
  (06 Marks)
  c. Write program segment to perform following operations using regular expressions:
  i) Filter given list to exclude elements that contain either 'a' or 'e'.
  ii) Search for a valid USN in a paragraph containing multiple lines with each line separated by a newline character. (08 Marks)

Module-4

7 a. Define classes and objects in python. Explain with examples. (06 Marks)
  b. Write a program to create class rectangle which has attributes length and breadth, a parameterized constructor and method for finding area of rectangle. (08 Marks)
  c. With the help of suitable example explain the concept of polymorphism. (06 Marks)

OR

8 a. With the help of suitable example explain the differences between pure functions and modifier. (06 Marks)
  b. Explain the concept of operator overloading with a suitable example. (08 Marks)
  c. What is the significance of _ _str_ _ and _ _init_ _ methods in a class? (06 Marks)

Module-5

9 a. What is Socket? With the help of suitable program segment explain how socket connection can be established to internet over TCP/IP connection and the http protocol to get the web document. (08 Marks)
  b. What is JSON? Write a program to parse data in JSON format. (06 Marks)
  c. What is a database cursor? Explain its significance in data base operations. Illustrate how a new table can be created in a database. (06 Marks)

OR

10 a. Write a program to retrieve data from romeo.txt file on internet and compute frequency of each word in the retrieved file. (08 Marks)
  b. What is API? Explain the service oriented architecture with the help of suitable block diagram. (06 Marks)
  c. What is SQL? Explain any 3 SQL commands with the help of suitable examples. (06 Marks)

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