MCA-161

MCA, 5th Sem
Minor Test 2021-22
PROGRAMMING IN·PYTHON

Marks: 20

Time: 2hrs

Note: Attempt all questions.

Q1. Attempt any 3 parts of the following. Q1(a) is compulsory

(a) Define token and discuss its types. What are the rules for creating an identifier? For the statement given below, draw a table which should have information regarding the type of token and the number of tokens in each category: **4**

var = "Hello, my percentage of marks in the mid-term exam is" + 97

(b) What do you understand by nesting? What is the effect of Nesting on time complexity of the program? To which programming constructs, we can apply nesting? Give the suitable examples for all the possibilities. **2**

(c) Does Python have switch statement? If Yes, then give an appropriate example. If No, then explain with a suitable example how do we get around this fact. **2**

(d) Write a program in Python to print the following pattern: **2**

```
MMM
MMM MMM
MMM MMM MMM
MMM MMM MMM MMM
```

Q2. Attempt any 2 parts of the following. Q2(a) is compulsory

(a) "Python is dynamically typed language." Justify this statement. **4**
Define the datatypes viz., List, Tuple, Set and Dictionary. Discuss their properties in brief. Also, provide suitable examples for each of them.

(b) Write a Python program to print sum of the digits of a two-digit number. Also, check whether this result is Even or Odd. **2**

(c) How do you perform Exponentiation and Floor division in Python? Define Identity and Membership Operators by providing the suitable examples for each of them. **2**

Q3. **Attempt any 2 parts of the following. Q3(a) is compulsory**

(a) What is recursion? In what circumstances it is advantageous or disadvantageous? Give some   4
examples of such circumstances. Write down a program in Python to print the Fibonacci
Sequence using Recursion. Number of terms of this series have to be provided by the user.
Also, include the code to check whether number of the terms entered by user are valid or not.

(b) Discuss the basic properties of an array? What is the minimum condition to multiply two   2
matrices? Write down a Python program to multiply two matrices.

(c) Differentiate between entry controlled and exit controlled loops. Give suitable examples for   2
both. Write down a Python program to check whether an input number is Prime or not.