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# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## February / March 2023 Semester End Main Examinations

**Programme: B.E.**

**Semester: V**

**Branch: Electronics and Instrumentation Engineering**

**Duration: 3 hrs.**

**Course Code: 19EI5PE1PY**

**Max Marks: 100**

**Course: Python Programming and Applications**

**Date: 07.03.2023**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

1 a) Explain the various building blocks of a program in python. **06**  
 b) List the rules for variable declaration in python. **06**  
 c) Write a program which prompts the user for a temperature in Celsius, convert the temperature to Fahrenheit, and print the same. **08**

### UNIT - II

2 a) Describe the various comparison operators in python. **06**  
 b) Use the if-then-elseif logic in python and write a python program to compare two numbers x and y. **08**  
 c) What are type conversion functions? Explain the following: int(), float( ), str(). **06**

### OR

3 a) How to create a new function in python? List out the advantages of functions. **06**  
 b) Explain the flow of execution of a while loop in python with a code snippet. **08**  
 c) Write a python program to compute the factorial of a given number using functions. **06**

### UNIT - III

4 a) Strings are immutable. Justify the statement with an example code snippet. **06**  
 b) Write a python program to read the contents of the file short.txt and print the first 20 characters of the file. **06**  
 c) Explain the following string methods: islower(), isupper(), lower(), upper() with an example for each. **08**

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

## **UNIT - IV**

5 a) For a given list  $t = ['a', 'b', 'c', 'd', 'e', 'f']$  , perform the list slicing operations and write the updated list items. **05**

- i.  $t[1:3]$
- ii.  $t[:4]$
- iii.  $t[3:]$
- iv.  $t[:]$
- v.  $t[1:3] = ['x', 'y']$

b) Write a note on Tuple assignment and comparing in python with examples. **08**

c) Explain the list operations of concatenation and repetition with proper examples. **07**

## **OR**

6 a) List out the differences between Tuple and Dictionary in python. **06**

b) Illustrate the working of the following list functions  $\min()$ ,  $\max()$ ,  $\text{append}()$ ,  $\text{extend}()$ ,  $\text{sort}()$ ,  $\text{pop}()$ ,  $\text{remove}()$ ,  $\text{del}()$ . **08**

c) Tuples are immutable. Justify the statement with python code snippet. **06**

## **UNIT - V**

7 a) Write a note on class and object in python with syntax. **06**

b) Explain the working of  $\text{__init__}$  method and  $\text{__str__}$  method in python. **08**

c) Define the following: Pure function, Modifier, Invariant, Assert Statement, Shallow Copy, Instantiate. **06**

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