**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU -27**

Registration Number:

Date & Session

**B.Sc–V SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November /December 2023)**

**CS 5123: Programming In Python**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 60**

**This paper contains TWO printed pages and THREE parts**

**PART-A**

 **Answer all the questions. (2\*5=10)**

1. Identify the difference between global and local variables in Python.

2. What will be the output of the following Python code?

**def cube(x):**

 **return x \* x \* x**

**x = cube(3)**

**print(x)**

3. What happens when a function doesn’t have a return statement? Is this valid?

4. Discuss inheritance in Python programming language.

5. Explain the need for **continue** and **break** statements.

**PART B**

**Answer any five of the following questions. (4\*5=20)**

6. Write a Python program to create a class representing a Circle. Include methods to calculate its area and perimeter.

7. Write a Python code to determine whether the given string is a Palindrome or not, using slicing.

8. Write a Python program which handles ZeroDivisionError exception.

9. Write a Python program to find whether a given number is a perfect number or not.

10.Illustrate “List “ with a program to find the second largest number in the list.

11. Explain the use of join() and split() string methods with examples. Describe why strings are immutable with an example.

12. Write a Program to Prompt for a Score between 0.0 and 1.0. If the Score is out of range, print an error. If the score is between 0.0 and 1.0, print a grade using the following table.



**PART C**

**Answer any three of the following questions. (10\*3=30)**

13. a. Discuss the following dictionary methods with an example.

1. get()
2. keys()
3. pop()
4. update()
5. values()
6. items()

 b. Write Python Program to find the sum of digits of a number. [6+4]

14. Create a menu driven program using python that takes a number from the user and does the following using recursion

 a. Print Fibonacci series

 b. Print if the given number is prime or not. [5+5]

15.a. Illustrate **for loop** with a program to find the sum of the series

 “ 1+2+………n “

 b. What is the difference between the else block and the finally block in exception handling?

 [5+5]

16. a. Write a python program that takes a string as input and checks the regular expression “matches a string that has an ‘**e’** followed by anything ,ending with **‘t’**.

 b. Write a Python program to

 1. create a file name “**SJU.txt**”

 2. enter your personal information in the file

 3. print the data of the file.

 4. print the total number of words in the file.

 [2+8]

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