 **ST. JOSEPH’S UNIVERSITY, BENGALURU -27**

**BCA – IV SEMESTER**

**SEMESTER EXAMINATION: APRIL 2024**

**(Examination conducted in May/June 2023)**

**CA 4122: PYTHON PROGRAMMING CONCEPTS**

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

**This paper contains 2 printed pages and 3 parts**

**PART-A**

**Answer all FIVE questions (2 X 5 = 10)**

1. Find and write the output of the following Python code:

 TXT = ["20", "50", "30", "40"]

 CNT = 3

 TOTAL = 0

 for C in [7,5,4,6]:

 T = TXT[CNT]

 TOTAL = float(T) + C

 print(TOTAL)

 CNT -= 1

1. Carefully observe the following Python code and answer the questions that follow

 Explain the output concerning the scope of the variables.

global x

x=5

def fun2():

x=3

print(x)

x=x+1

print(x)

fun2()

1. Write a Python program to generate and print the prime number in the given range 1 to 50
2. What do you mean by a resultset in ADO.net? Give a suitable example?
3. Differentiate between file modes r+ and w+ with respect to Python.

**PART- B**

**Answer any FIVE questions (4 X 5 = 20)**

6. For a=[ ‘hello’, ‘how’, [1,2,3], [[10,20,30]] ] what is the output of following statement

 (i) print( a[ : : ] ) (ii) print(a[-3][0]) (iii) print(a[2][ : -1] ) (iv) print(a[0][ : : -1])

7. Create a student class and initialize it with name and roll number, design method to

1. Display method: to display all information of the student.
2. setAge method: to assign age to student
3. setMarks: to assign marks to the student

8. Explain \_\_add\_\_ method with suitable example

9. Write a Python program to create a function using lambda for the following

1. Calculate the square of a number
2. The square root of a number.

10. Define Module. Write a program to illustrate the same.

11. Write a Python program to accept two numbers and print a division of it using exception handling, if the user inputs the results it generates zero

12 . Explain the use of match() with an example. Write the difference between match() and search()

**PART- C**

**Answer any THREE questions (10 X 3 = 30)**

13. Illustrate inheritance in the Python programming language. Write a Python program to demonstrate the use of a super() function.

 14. Discuss file i/o in python. Explain how to perform the following operation in a file with a suitable example (2+2+2+2+2)

1. Open
2. Read
3. Write
4. Close

 15 . Describe the following with a suitable Python code snippet: (5+5)

1. Greedy and Non Greedy pattern matching
2. Find all() methods of regex object

16. a) Which function of MySQL.connector is used to open a connection to the MySQL database? Write its syntax with an example (3+2+3+2)

1. What is a cursor? Which function is used to create a cursor?
2. Discuss the types of fetch() function? Define each and give an example
3. Which function is used to execute the query? What does it return?