End Term Examination, Even Semester 2022-23
B.Tech (CSE/EC(CS)) 1st Year, 2nd Semester
BCSG 1001 Python Programming

Time: 3 Hours   **Maximum Marks: 50**

Instruction for students: ***Sample Paper***

Section – A

*Attempt **All** Questions*   4 X 5 = 20 Marks

No.	Detail of Question	Marks	CO	BL	KL
1	Discuss any 10 built-in functions in Python with explain with suitable examples.	4	NA	NA	NA
2	Explain logical operators in Python3 with suitable examples. What do you mean by short-circuit code explain with an example? Write the output of the code below? out = print('Hello') or print('Python') print(out, type(out))	4	NA	NA	NA
3	Explain the difference between the list comprehension and dictionary comprehension with suitable examples. Write a Python Program to find the frequency of each character in string using dictionary comprehension. *Sample input* banana *Sample Output* {'b': 1, 'a': 3, 'n': 2}	4	NA	NA	NA
4	Write a Python program for the addition of two nested lists (matrices) using List Comprehension.	4	NA	NA	NA
5	Define the scope the variable in Python. What is the use of the nonlocal keyword, explain with the suitable examples? Or Define any four operators in Python which work with list or tuple. Write a Program to check whether given number is prime or not. (In Python-looping use while loop only)	4	NA	NA	NA

Section – B

No.	Detail of Question	Marks	CO	BL	KL
1	Polycarp has n coins, the value of the i-th coin is ai. Polycarp wants to distribute all the coins between his pockets, but he cannot put two coins with the same value into the same pocket. For example, if Polycarp has got six coins represented as an array a=[1,2,4,3,3,2], he can distribute the coins into two pockets as follows: [1,2,3],[2,3,4]. Polycarp wants to distribute all the coins with the minimum number of used pockets. Help him to do that. **Input** The single line of the input contains n integers space separated a1 a2. (1≤ai≤100) values of coins. **Output** Print only one integer — the minimum number of pockets Polycarp needs to distribute all the coins so no two coins with the same value are put into the same pocket. Examples Input0 Input1 1 2 4 3 3 2 64 100 Output0 Output1 2 1	3	NA	NA	NA
2	a) Write a Python program to find the largest number among the three given numbers using conditional expressions. b) Write a Python program to filter out the even elements from the given list.	3	NA	NA	NA
3	Write a Python program to Addition of two matrix using numpy. Both matrix is to be entered by the user.	3	NA	NA	NA
4	Difference between the ceil() and floor() functions. How we can use these functions explain with suitable examples.	3	NA	NA	NA
5	Write a Program to read a text file 'sample.txt' and prints only those lines which starts with alphabet A.	3	NA	NA	NA

Section – C

No.	Detail of Question	Marks	CO	BL	KL
1	What is the difference between function read() and readline() in Python? Explain with a suitable example. Write a program to count the number of alphabets in a text file 'info.txt' and print all lines starts with vowels only.	5	NA	NA	NA

| 2 | What is the module in Python? Explain the random and math modules with suitable examples. Write a Python function sumsquare(l) that takes a nonempty list of integers and returns a list [odd,even], where odd is the sum of squares all the odd numbers in l and even is the sum of squares of all the even numbers in l. Here are some examples to show how your function should work.
>>> sumsquare([1,3,5])
[35, 0]
>>> sumsquare([2,4,6])
[0, 56]
>>> sumsquare([-1,-2,3,7])
[59, 4] | 2 + 3 | NA | NA | NA |
| 3 | Explain any five built-in Exceptions in Python with Example. What is the output of the following program?

try:

    try:

        raise TypeError

    except ValueError:

        print("inner Exception handled ")

    print("next command")

except TypeError:

    print("outer Exception handled")

else:

    print("no Exceptions") | 5 | NA | NA | NA |