

School of Computer Science Engineering and Information Systems

Winter Semester 2023-2024

Continuous Assessment Test – I

Programme Name & Branch: B.Tech IT

Course Name & code : Structured and Object Oriented Programming BCSE 102L

Class Number (s) : VL2023240503283, VL2023240503282, VL2023240503270

Faculty Name (s) : Dr. Suganya P, Dr. Chandra Mouliswaran S, Dr. Rampriya R S

Exam Duration : 90 Min. Maximum Marks: 50

Answer all the Questions:

1) Calculate the electricity bill according to the following rates

a) For first 100 units : 30p per unit

b) For next 200 units : 50p per unit

c) Above 300 units : 70p per unit

If the total bill amount is more than Rs.250.00 then additional charges of 20% of total bill amount is accounted and added in the Final Bill amount.

All users are charged a minimum of Rs.200.

Write a C program to read the names of users and number of units consumed to account and print out the charges for 'n' users as follows:

S.No	User Name	Units consumed	Bill Amount
1	XXX	250	305
2	YYY	400	400

2) Compute the sum of the following series for the given 'n' value.

$$1 + 1/(2*2) + 1/(3*3) + 1/(4*4) + \dots + 1/(n*n)$$

3) Develop a C code to find the unique words in the given string and print them along with their occurrences. Assume, the case of letters in words are not sensitive.

Sample Input: How are you? Are you feeling better dear?

Output: How:1, are:2, you:2, better:1, feeling:1, dear:1

4) a) Explain the different storage classes in C. (4 Marks)

b) Discuss any three string handling functions with proper syntax and examples. (6 Marks)

5)) Assume that the value of a = 5, b = 6, c = 8, d = 2, and e = 1. Using these values, evaluate and find the result of the following expression and show the evaluation in stepwise.

$$a + b \ \&\& \ b / c \% d * e \ || \ 5 <= 0 \ != \ a + b - d \quad (3 \text{ Marks})$$

b) What is an array? How do arrays and pointers relate to each other? Differentiate array of pointers and pointer to array with examples. (7 Marks)