**COM 310 CAT 17/11/2021**

**NB: ATTEMPT ALL QUESTIONS**

**QUESTION ONE**

Computer database of the company has the following information:

* Consumer Name
* Address
* Unit consumed
* Bill date
* Payment date

If the consumer pays his bill within 15 days from the bill date, 10% discount is given. If he

makes the payment after 15 days from the bill date, 5% surcharge is levied. Draw a Flow

Chart and write a corresponding program to calculate the net amount of the bill for each consumer and print it. [5 marks]

NB: consumer name, address, unit consumed, bill date, and payment date are read from the keyboard.

1. Using examples, explain the different types of errors available in C Language. [2 marks]
2. With the help of a flowchart, write a program to search for an element in an array. [3marks]

**QUESTION TWO**

1. With the help of syntax, show how the following are declared: [4marks]
2. Variables
3. Pointers
4. Arrays
5. Functions
6. Using a programming example, explain the concept of modular programming. [2 marks]
7. Functions communicate by passing and receiving data. Distinguish by use of syntax pass by value and pass by reference. Explain every concept used in the syntax. [2 marks]
8. Using a programming example, explain the various tokens available in C Language. [2marks]

**QUESTION THREE**

1. Control structures form an integral part in programming. Discuss the benefits that a programmer realizes from control structures. [2 marks]
2. Decision and looping control structures are used in programming to achieve a particular goal. Explain the relevant points in problem solving where these two control structures are used. [2 marks]
3. With the help of a flowchart and syntax, distinguish between *break* and *continue* control structures [3 marks]
4. Testing is an integral part in program design. Discuss how testing helps achieve the required and correct program in program development [ 4 marks]