

UNIVERSITY EXAMINATIONS

1ST SEMESTER 2022/2023 ACADEMIC YEAR

SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE (ICT)

BICT 213: EVENT-DRIVEN PROGRAMMING

STREAM: R

TIME: 2 HRS

DAY: TUESDAY [8.30AM – 10.30AM]

DATE: 20/12/2022

THIS QUESTION PAPER CONSISTS OF SEVEN (7) PAGES

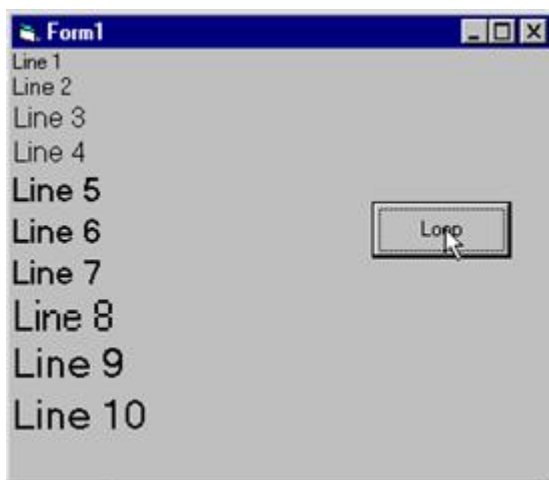
PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS: -

- Answer **ALL** questions in section **A** and any **TWO** questions in section **B**
- All questions in section **B** carry equal marks

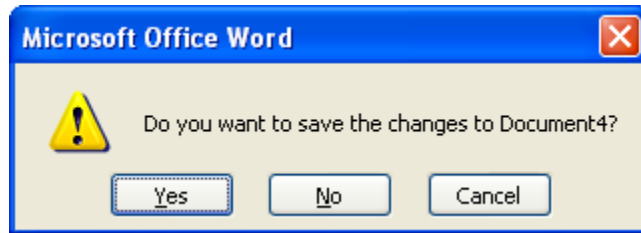
SECTION A (30 Marks)**QUESTION ONE (30 marks)**

- (a) Why is visual basic called an **Event Driven Programming Language**? **(2 Marks)**
- (b) Describe two type of errors in visual basic. **(4 Marks)**
- (c) Define the following terms as used in visual basic? **(6 Marks)**
- Module
 - Properties
 - Events
- (d) Visual basic gives two intrinsic controls that can be used to display a list of items for the user to choose. These are the Combo boxes and the list boxes. Give the fundamental difference between a combo box and a list box **(2 Marks)**
- (e) What is a message box? **(2 Marks)**
- (f) Visual Basic implements iteration process using either, the Do Loop, For Each...Next, For...Next, While...Wend structures. Which of the above control structures would be suitable to loop through all the controls on a form. **(1 Mark)**
- (g)
- (h) What is a constant, how is one declared? **(3 Marks)**
- (i) Using a loop write VB code that would produce the following output **(4 Marks)**



(j) Write a code that creates the following dialog box

(3 Marks)



(k) Dry run the code below and give its output: (3 Marks)

```
Public Class Form1
    Private Sub Button1_Click(ByVal sender As System.Object,
        ByVal e As System.EventArgs) Handles Button1.Click
        Dim check As Boolean
        check = True
        MsgBox("The value assigned for check is : " & check)

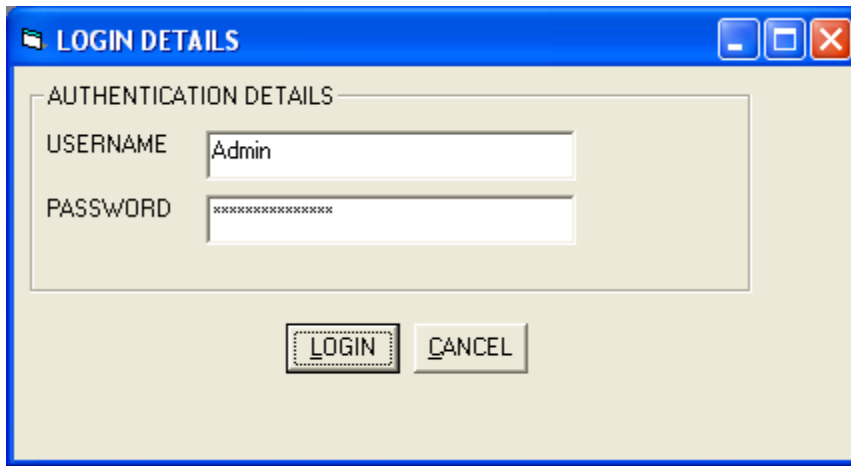
        Dim count As Integer
        count = 100
        MsgBox("The value holding count is : " & count)

        Dim str As String
        str = "String test "
        MsgBox("The value holding str is : " & str)
    End Sub
End Class
```

SECTION B: Each question is worth 20 Marks. Answer any TWO questions in this section

QUESTION TWO (20 marks)

(a) Study the GUI shown below and write the code that implements the functionalities of both cmdLogin and cmdCancel buttons. (8 Marks)



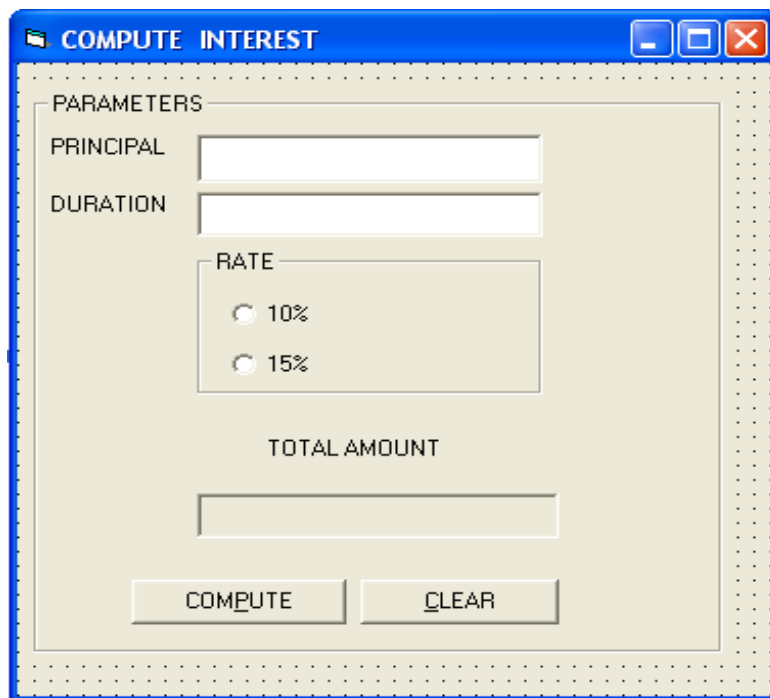
(b) Using examples, explain the following. Use VB code in your examples **(6 Marks)**

- i. Event Procedure
- i. Program Statement
- ii. Method

(c) Discuss about array declaration and initialization in Visual Basic. **(6 Marks)**

QUESTION THREE (20 marks)

a) Study the GUI shown below and come up with the code that implements the compute button. On click of compute button, the program should compute the total amount based on the three parameters and display the total on a label named lblAmount. **(8 Marks)**



(b) Discuss the relevance of the following Ms Visual Studio IDE windows. **(8 Marks)**

- i) Project window
- ii) Properties window.
- iii) Form designer window
- iv) Toolbox

(c) What are data types in programming? **(1 Mark)**

ii) Give THREE examples of data types in Vb.NET, giving a brief description for each.

(3 marks)

QUESTION FOUR (20 marks)

(a) The post office has the following charges for parcels based upon different weights.

Weight (gram)	Cost
0 – 50	\$1.40
51 – 100	\$2.70
101 – 250	\$4.00
251 – 500	\$7.50

Parcels which are heavier than 500 gms are calculated by $\text{weight} \times 0.02$. Design a project that allows a user to enter the weight in a text box and calculate the postage. Use if statements and variables in your code. **(8 Marks)**

(b) Declare and initialize an array of five strings. **(4 Marks)**

(c) Using an example, Explain the Anatomy of a FOR...NEXT Loop **(5 Marks)**

(d) When you write programs it is commonplace to include error handlers. Why might you want to use an error handler? **(3 Marks)**

QUESTION FIVE (20 marks)

(a) The idea of a project is to determine how much you save by making monthly deposits into a savings account. The mathematical formula used is:

$$F = D [(1 + I) M - 1] / I$$

Where

F - Final amount

D - Monthly deposit amount

I - Monthly interest rate

M - Number of months

4 label boxes, 4 text boxes, and 2 command buttons are used on the form. It should look something like this:

Using variables provide code to implement this project. Use comments to explain your code

(10 Marks)

- (b) Figure x. represent an interface of a system found at a motor bazaar. A potential client describes his/ her car by choosing a make and a model; the system then displays the choice made on the textbox upon clicking the process button. (NB: a car cannot be both a double cabin and saloon)

Device the code that implements the interface shown in figure x.

(10 Marks)

Form1

Select your make

☐ Toyota

☐ Subaru

Select your Model

☐ Double Cabin

☐ Saloon

Describe your car

Process Exit

Figure x