

**UGANDA MARTYRS UNIVERSITY
NKOZI**

UNIVERSITY EXAMINATIONS

FACULTY OF SCIENCE

**DEPARTMENT OF COMPUTER SCIENCE & INFORMATION
SYSTEMS**

**END OF SEMESTER ONE FINAL ASESMENT
SEMESTER I, 2014/15**

**THIRD YEAR EXAMINATIONS FOR BACHELOR OF SCIENCE
INFORMATION TECHNOLOGY**

Application Development with VB. Net

DATE: 12 TH DECEMBER 2014

TIME: 2: 00- 5:00 PM

DURATION: 3HRS

Instructions:

1. Carefully read through ALL the questions before attempting
 2. **ANSWER four (4) Questions ONLY.** (Each question carries equal marks)
 3. No **names** should be written anywhere on the examination book.
 4. Ensure that your **Reg number** is indicated on all pages of the examination answer booklet.
 5. Ensure your work is **clear and readable**. Untidy work shall be penalized
 6. Any type of examination Malpractice will lead to automatic disqualification
 7. Do not write anything on the questions paper.
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SECTION B (ATTEMPT ANY 4 QUESTIONS)

Question 1:

(a) Differentiate between each of the following

[4 marks]

- (i) Access key and Arguments
- (ii) Focus and a label
- (iii) Control and Data validation
- (iv) Button and Textbox
- (v) Radio button and check box
- (vi) Solution explorer and Tool Box

Question 2:

Describe the distinction between the following:

[8 marks]

- (i) A variable and a constant
- (ii) A class variable and procedural variable

(a) Describe any three guidelines to follow while naming a variable in Visual Basic.Net.

[3 marks]

(b) List and describe two components of a Declaration statement.

[2 marks]

(c) Describe the concept of TOE.

[3 marks]

(d) Describe the following.

[6 marks]

- (i) Dim isAdult As Boolean = False
- (ii) Dim fullName As String = "Golola Moses"
- (iii) Dim Const InterestRate As Decimal=0.05D

(e) Describe what the following code does.

[3 marks]

```
Public Class MainForm

    Private Sub calcButton_Click(ByVal sender As Object,
        ByVal e As System.EventArgs) Handles calcButton.Click
        ' calculates the total sales

        ' declare variables
        Dim salesAmount As Decimal
        Static totalSales As Decimal

        ' calculate and display the total sales
        Decimal.TryParse(salesTextBox.Text, salesAmount)
        totalSales = totalSales + salesAmount
        totalSalesLabel.Text = Convert.ToString(totalSales)
    End Sub

    Private Sub exitButton_Click(ByVal sender As Object,
        ByVal e As System.EventArgs) Handles exitButton.Click
        Me.Close()
    End Sub
End Class
```

Question 3:

Most applications in the real world today need to connect to some form of a database. During the semester we connected VB application to Microsoft Access Database.

- (a) With aid of a diagram describe the various components involved when VB is connecting to the database. [7 marks]
- (b) State the purpose of a DataGridView control. [3 marks]
- (c) Book title capitalization. [2 marks]
- (d) How does a logical error differ from a syntax error. [4 marks]
- (e) Describe any four functions of a BindingNavigator control. [4 marks]
- (f) Describe what is happening in the following code: [5 marks]

```
Private Sub displayButton_Click(ByVal sender As Object,  
ByVal e As System.EventArgs) Handles displayButton.Click
```

```
    Dim inFile As IO.StreamReader  
    Dim line As String  
  
    Try  
        inFile = IO.File.OpenText("names.txt")  
        Do Until inFile.Peek = -1  
            line = inFile.ReadLine  
            nameListBox.Items.Add(line)  
        Loop  
        inFile.Close()  
    Catch ex As Exception  
        MessageBox.Show(ex.Message, "JK's",  
            MessageBoxButtons.OK,  
            MessageBoxIcon.Information)  
    End Try  
End Sub
```

Question 4

- (a) Briefly describe the meaning of the following terminologies. [10 marks]
 - (i) Debug
 - (ii) Code view window
 - (iii) String.Empty
 - (iv) Flow Chart
 - (v) Properties window
- (b) With help of diagram describe any three (3) symbols used in flow charts. [3 marks]
- (c) Describe what the following code does. [3 marks]

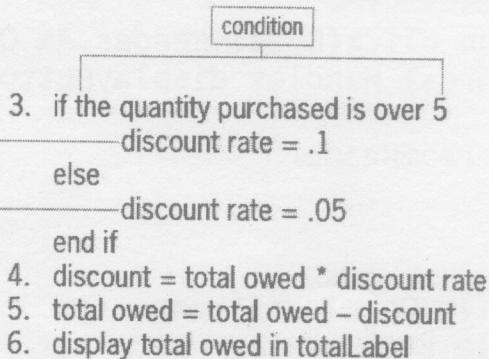
```
MessageBox.Show("Record deleted.", "Payroll",  
    MessageBoxButtons.OK, MessageBoxIcon.Information)
```

- (d) Draw a flow chart for the following scenario. [5 marks]

Mountain Biking wants an application that allows the store clerk to enter an item's price and the quantity purchased by a customer. The application should calculate the total amount the customer owes by multiplying the price by the quantity purchased and then subtracting the discount. It then should display the total amount owed. Mountain Biking gives customers a 10% discount when the quantity purchased is over five; otherwise, it gives a 5% discount.

calcButton Click event procedure

1. store user input (price and quantity purchased) in variables
2. total owed = price * quantity purchased



(e) Differentiate between promotion and demotion of variable

[4 marks]

Question 5:

(a) Describe the role of the following attributes that are commonly found in properties explorer.

[8 marks]

- (i) Text
- (ii) Name
- (iii) BackColor
- (iv) Visible

(b) Describe the following code:

[8 marks]

- (i) Double.TryParse(salesTextBox.Text, sales)
- (ii) taxLabel.Text=Convert.ToString(tax5)
- (iii) TOE
- (iv) Selection Structure

(c) Differentiate between promotion and demotion.

[4 marks]

(d) Of the two (promotion and demotion of variable) is dangerous. Explain why.

[2 marks]

(e) Describe what the following code does

[3 marks]

```

Version 1
Private Sub ageTextBox_KeyPress(ByVal sender As Object,
ByVal e As System.Windows.Forms.KeyPressEventArgs
) Handles ageTextBox.KeyPress

    If (e.KeyChar < "0" OrElse e.KeyChar > "9") AndAlso
        e.KeyChar <> ControlChars.Back Then
        e.Handled = True
    End If
End Sub
  
```