TECHNICAL UNIVERSITY OF MOMBASA

INSTITUTE OF COMPUTING AND INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN INFORMATION TECHNOLOGY

BACHELOR SCIENCE IN STATISTICS & COMPUTER /SEP2015/J-FT

EIT 4203/BIT 2118: WINDOWS DESKTOP APPLICATION PROGRAMMING/

APPLICATION PROGRAMMING 1 : Type unit name.

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2018

TIME: 2HOURS

DATE: Sep 2018

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attemptquestion ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

a. Simplify the code below: (3 marks)

```
If (a < b) Then
   If (b < c) Then
         txtOutput.Text = b &"is between "& a &"and"& c
   End If
End If
```

b. Write a console program to print odd numbers between100 and 40 on the screen. (5 marks)

c. Describe any three string manipulation methods in VB.Net and what they do. (3 marks)

d. Differentiate between the following: (6 marks)

   i. Object and object reference

   ii. abstraction and encapsulation

   iii. Data table and data set

e. Describe three keyboard events and their importance. (6 marks)

f. Describe five common VB.NET controls and what they can be used for. (5 marks)
g. List any two access modifiers and their meaning in VB .net (2 marks)

Question TWO

a. What will be the output of the following program when the button is clicked? (5 marks)

```
Private Sub btnDisplay_Click(...) HandelsbtnDisplay.Click
        Dim word1, word2, newWord As String
        word1 = "memory"
        word2 = "feather"
        newWord = word1.Substring(2,2) & word2.Substring(3,4)
        If newWord.Length> 3 Then
                txtBox.Text = newWord
        Else
                txtBox.Text = "Sorry, not found."
        End If
End Sub
```

b. Write a function to return the character which follows the input character according to the ASCII table. For example, if the user specifies „A", the function has to return „B". No error checking necessary. Write a statement which illustrates how to use this function. Please write comments in the code to explain what is going on. (10 marks)

c. Answer the following questions about the value of Z, if (5 marks)
Z = (X AND Y) OR (X AND (NOT Y))

i. If X = TRUE and Y = FALSE then Z =
ii. If X = TRUE and Y = TRUE then Z =
iii. If X = FALSE and Y = FALSE then Z =
iv. If X = FALSE and Y = TRUE then Z =
v. Is X = Z?

Question THREE

a. Highlight the differences between Dataset and Recordset? (8 marks)
b. How do we check for a particular record whether it is present or not in dataset? (4 marks)
c. What does the following code display? (6 marks)

```
Private Sub btnDisplay_Click(…) Handles btnDisplay.Click
Dim amt1 As Integer = 1, amt2 As Integer = 2
lstOutput.Items.Add(amt1 & " " & amt2)
Swap(amt1, amt2)
lstOutput.Items.Add(amt1 & " " & amt2)
End Sub
Sub Swap(ByRef num1 As Integer, ByVal num2 As Integer)
Dim temp As Integer
temp = num1
num1 = num2
```

```
num2 = temp
lstOutput.Items.Add(num1 & " " & num2)
num2 = 3
End Sub
```

Question FOUR

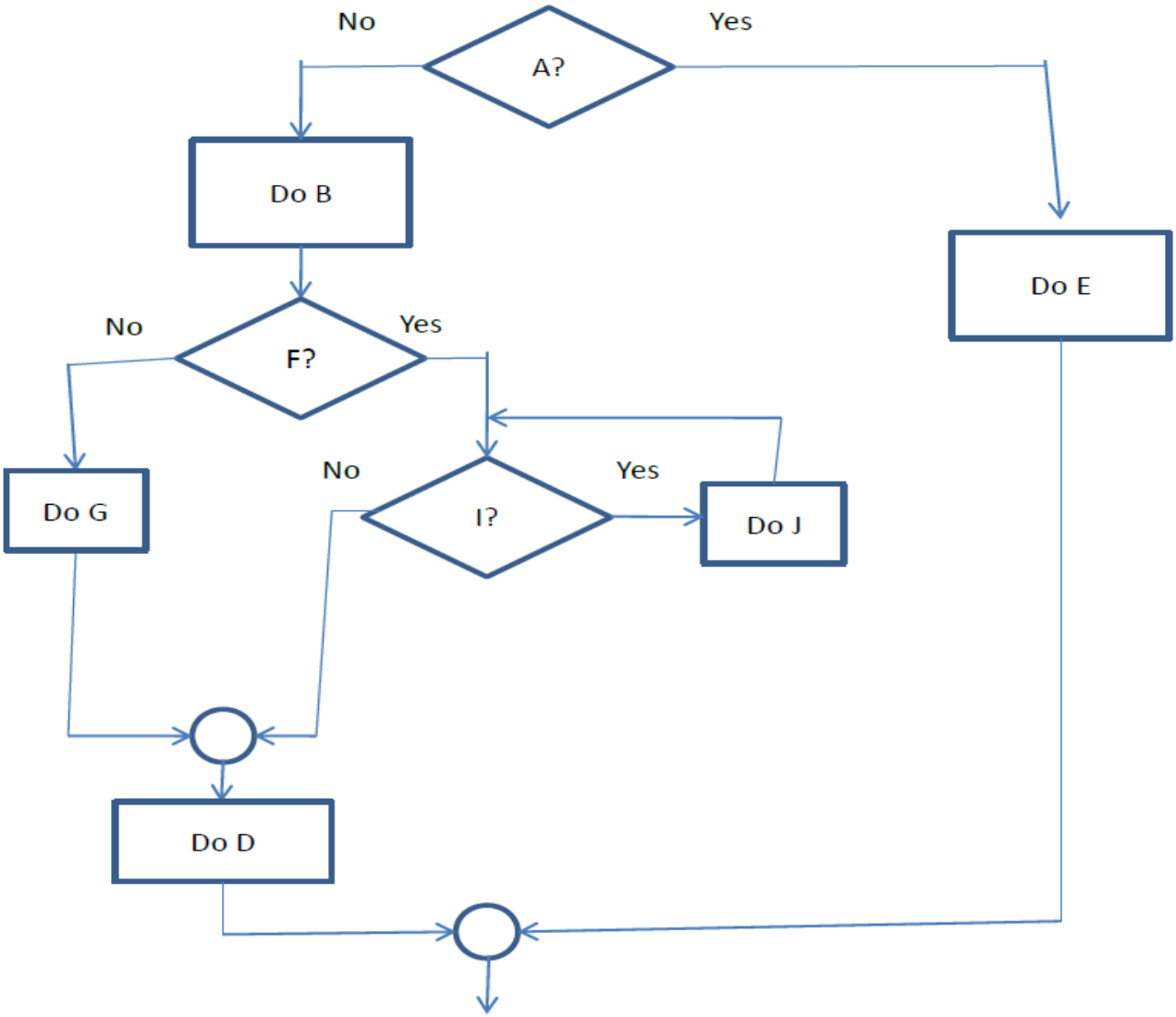
a. Write a function that receives an array of integers and returns the highest of those values. (8 marks)
b. Briefly explain with examples Decision making Statements in VB.Net (12 marks)

Question FIVE

a. The price of a plane ticket is 1000 by default, but discounts are applied to it based on different criteria.The following rules determine the discount, and hence the final price:
   - Students get 20% discount.
   - People who purchase in 30 days in advance get 25% discount.

Discount can aggregate, for example a student purchasing 40 days in advance gets a 40% discount. You have to ask the user for input on whether they are a student. Draw a flowchart of your algorithm that solvesthe following problem and calculates the final price. (10 marks)

b. Translate the following flowchart to pseudo code. (10 marks)


No
A?
Yes
Do B
Do E
No
F?
Yes
Do G
No
I?
Yes
Do J
Do D