SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Information Technology
Second Year, First Semester Examination – 2015
HNDIT2307/IT 3101 -Rapid Application Development

Instructions: No. of questions: 06

nswer 5 Questions only   No. of pages: 05

                                                              Time: Three hours

Question: 01

(i) State the common programming tasks supported by Visual Studio DotNet IDE.
[3 Marks]

(ii) Name three VB project types that can be found in common VS.NET installation.
[3 Marks]

(iii)We can pass data to both sub procedures and functions either by value or by reference. Is this statement TRUE or FALSE?   [3 Marks]

(iv)Contrast the following two VB statements

   a) Dim iNum As Integer

   b) Static fNum As Integer   [3 Marks]

(v) List eight common control that can be found in VB Toolbox   [8 Marks]
(Total 20 marks)

Question: 02

(i)   What are the typical reasons for software project failures?   [4 Marks]

(ii) What are the problems in conventional methods addressed by Rapid application development?   [4 Marks]

(iii)What are the advantages and disadvantages of rapid application development?
[4 Marks]

(iv)Briefly explain classic mistakes.   [4 Marks]

(v) Briefly explain how you can success your software project using rapid application development method.   [4 Marks]
(Total 20 marks)

Question: 03

(i) Write a statement or a set of statements to accomplish each of the following:

    a) Sum the squares of even numbers between **1** and **15** using a **Do While/Loop** repetition structure. Assume that the **Integer** variables **sum** and **count** have been declared and initialized to **0** and **2**, respectively.   [2 Marks]

    b) Print the numbers from **20** to **1** in a **MessageBox** using a **Do Until/Loop** and **Integer** counter variable **counterIndex**. The **MessageBox** should display one number at a time. Assume that the variable **counterIndex** is initialized to **20**.   [2 Marks]

(ii) **Identify** and **correct** the error(s) in each of the following (you may need to add code):

    a) This segment should read an unspecified number of values from the user and sum them together. Assume that **number** and **total** are declared as **Integers**.

```
total = 0
Do Until number = -1
Console.Write("Enter a value ")
number = Console.ReadLine()
total += number
Loop
Console.WriteLine(total)
```
    [3 Marks]

    b) The following code should print the squares from **1** to **10** in a **MessageBox**.

```
Dim number As Integer = 1
Do While number <10
MessageBox.Show(number ^ 2)
While End
```
    [3 Marks]

(iii) State whether each of the following is *true* or *false*. If *false* explain why.

    a) All objects are passed by reference in VB.net.

    b) Identifier names for classes, methods and properties used in one namespace cannot be repeated in another namespace.

    c) Inheritance encourages the reuse of proven high-quality software.

    d) A module can refer a base-class object's **Protected** members directly.

    e) Classes declared with the **NotInheritable** keyword cannot be base classes.

    [10 Marks]

    (Total 20 marks)

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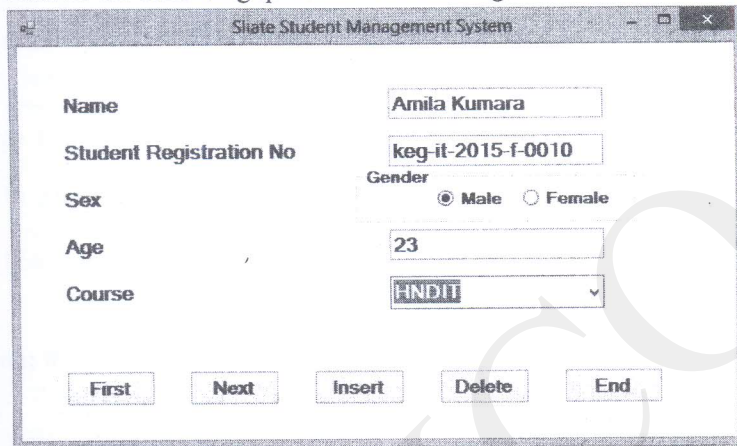*HNDIT2 Rapid Application Development- 20151st semester*

Question: 04

ADO.NET is a modal used by .NET application to communicate with database for retrieving and updating Data.

    (i) List out the features of ADO.NET.   [4 Marks]

    (i) Draw and briefly explain the ADO.NET object model.   [4 Marks]

    (ii) *"Dataset is independent of data source"*. Comment on this statement.

                                                         [4 Marks]

    (iii)Differentiate between OLEDB data provider and SQL Server data provider.

                                                         [4 Marks]

    (iv)Explain the importance of the components of **Data Provider** in retrieving data from the database.   [4 Marks]

                                                       (Total 20 marks)

Question: 05

(i) Answer the following questions considering the interface and details given below.

Server	:	SLIATE
Username	:	<<Your ATI Name>> Eg. Jaffna ATI → Jaffna
Password	:	<<Your ATI code>> Eg. Jaffna ATI → Jaf
Database	:	studentdb
Table	:	student (name, regno, sex, age, course)

a) Write the code segment for connecting this interface with the SQL Database.

                                                                    3

(Indicate any relevant libraries/ packages/etc, required to create the connection)

[3 Marks]

(i) Write the code segment to create a data adapter and dataset to   handle the data in student table. [3 Marks]
(ii) Write the code segment to preview the first record in the table. [3 Marks]
(iii) Write the code segment to preview the next record in the table. [3 Marks]
(iv) Write the code segment to insert a record. [3 Marks]
(v) Write the code segment to delete a record. [3 Marks]
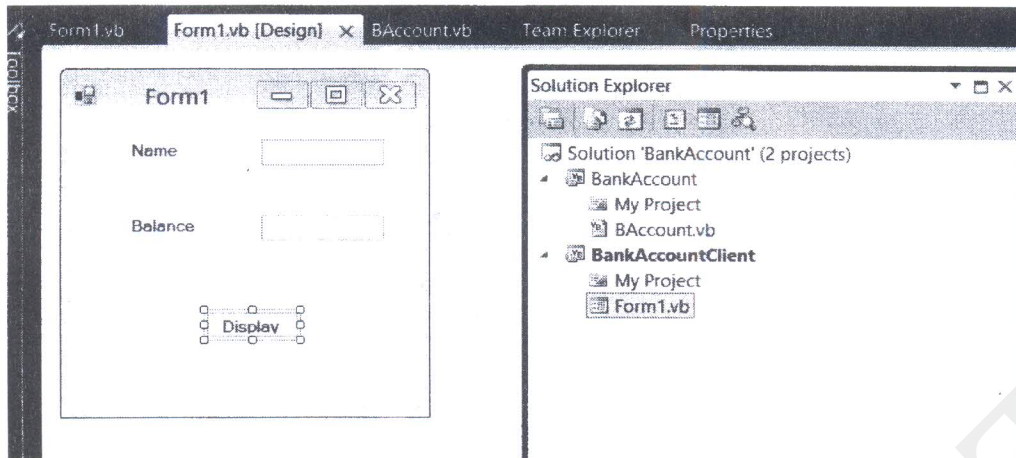(vi) Write the code segment to end the program. [2 Marks]

(Total 20 marks)

Question: 06

(i) Define the *class*, *object* and *namespace*. [3 Marks]

(ii) BAccount class has been defined in BankAccount class library as follows. Fill in the missing elements of the code.

```
Public Class BAccount
Private accountHolder As String
Public balance As Double
Public Sub Deposit(ByVal amount As Double)
        balance += _____(i)_____
End Sub
Public Property Name() As String
Get
Return _____(ii)_____
End Get
Set(ByVal value As String)
accountHolder = _____(iii)_____
End Set
End Property
End Class
```

[3 Marks]

(iii) The above class has been included in a VB solution with two projects as given bellow.

a) State the steps for creating this kind of VB solution

[4 Marks]

b) Write the code fragment in relevant event procedure to display the name of the account holder and his/her balance when clicking on "Display Button". Use suitable names for the controls.

[10 Marks]
(Total 20 marks)