UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (*EXTERNAL*)

Academic Year 2004/2005 – 2nd Year Examination – Semester 4

IT4302 – Rapid Application Development

PART 1 - Multiple Choice Question Paper

14th August, 2005
(TWO HOURS)

Important Instructions:

- The duration of the paper is **2 (Two) hours.**
- The medium of instruction and questions is English.
- The paper has **50** questions and **10** pages.
- All questions are of the MCQ (Multiple Choice Questions) type.
- All questions should be answered.
- Each question will have 5 (five) choices with one or more correct answers.
- All questions will carry equal marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from –1 (*All the incorrect choices are marked & no correct choices are marked*) to +1 (*All the correct choices are marked & no incorrect choices are marked*).
- Answers should be marked on the special answer sheet provided.
- Note that questions appear on both sides of the paper.
  If a page is not printed, please inform the supervisor immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. **Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices**.

1) Select from the following lines of code, any, which will generate an error.

(a) Dim myTest as integer : myTest = 10
'Declared as local variable
(b) Dim myForm as new Form1
'Declared in button1_click event procedure
(c) Dim myTest as integer; myTest = 10
'Declared as local variable
(d) Protected myTest as Integer
'Declared in the General Section of the Form Module
(e) Protected myTest as Integer: myTest = 10
'Declared as a local variable in button1_click event procedure

2) Select from among the following, the correct statements related to a constructor in a form module in Visual Basic.net.

(a) It is created automatically by the Form Designer.
(b) It is the *Sub New* routine.
(c) It is usually overloaded.
(d) When the constructor of a form module is commented, the form loads without specific controls, which are added to the form.
(e) It is not usually required and therefore one can comment the *Sub New* routine.

3) Visual Basic.net

(a) is a fully Object Oriented Language.
(b) is an Object Based Language.
(c) is a Structured Language.
(d) is in between Object based and Object Oriented Languages.
(e) will be a fully Object Oriented Language in the next release.

4) Character Variables

(a) are stored as ASCII characters and take a single byte of storage space.
(b) are objects.
(c) are stored as a single Unicode character and take two bytes of storage space.
(d) are declared with *Char* keyword.
(e) are unsigned short integers (UInt16) and the CChar() function will convert these integers to characters.

5) Select the true statement (s) with respect to Arrays.

(a) The first element of VB.net Array always has an index of 0.
(b) *Dim myArray*(19) as Integer has 20 elements.
(c) *Dim DynArray()* as Integer is a Dynamic Array
(d) Collections and Arrays in VB.net always have an index of 1.
(e) VB.net supports Arrays of Arrays

6) MSIL and CLR in the .net Framework respectively stand for

(a) Managed Simple Information Language and Common Load Runtime.
(b) Microsoft Interlink Language and Control Language Runtime.
(c) Microsoft Interchange Language and Control Language Runtime.
(d) Microsoft Intermediate Language and Common Language Runtime.
(e) Microsoft Internet Language and Consistent Language Runtime.

7) VB.net

(a) has only interface inheritance.
(b) users will be provided with implementation inheritance in next version of VB.net.
(c) has implementation inheritance and interface inheritance making VB.net a fully Object Oriented Language.
(d) allows Overloading of constructors.
(e) Dispose() function behaves as a destructor.

8) Which of the following is/are correct with respect to VB.net?

(a) '*Dim MyVar* ' cannot be used.
(b) '*Dim Mycan*' can be used since Option Strict is off as default.
(c) '*Dim MyVar*' cannot be declared when *Option Strict* is On.
(d) '*Dim MyVar*' Variant type is not supported in VB.net.
(e) Variant type is supported only for compatibility reasons.

9) Which of the following is/are correct in relation to the statements and *Option Strict On/Off*?

(a) *Option Strict* does not allow late binding unless a data type is declared as object.
(b) *Option Strict* On is the default statement in VB.net.
(c) *Option Strict* Off is the default statement in VB.net.
(d) When *Option Strict* is On, the Compiler does not allow implicit conversion of Data type.
(e) *Option Strict* On/Off must be declared before the *Imports* statements.

10) Select the correct statements from the following in relation to *ByVal* and *ByRef* in Visual Basic .net.

(a) *ByVal* passes arguments by value and *ByRef* passes arguments by reference.
(b) *ByVal* is the default.
(c) *Byref* is the default.
(d) The calling code cannot override a *ByVal* argument.
(e) The calling code can override a *ByVal* argument.

11) Namespace (s)

(a) organizes objects defined in an assembly.
(b) optimizes database connectivity.
(c) prevents ambiguity in a large group of objects.
(d) address a problem known as Namespace Pollution.
(e) address a problem known as Namespace Connectivity.

12) SendKeys function

(a) is a member of *System.Windows* Function Namespace.
(b) sends keystrokes and keystroke combinations to an active application.
(c) is a member of *System.Windows.Forms* Namespace.
(d) sends overriding commands to the active application.
(e) optimizes overall release of focus from active applications.

13) Identify from among the following the correct statement(s) in relation to Public and Protected keywords.

(a) A variable declared with a *Public* keyword gives public access within a module and *Protected* gives an access in class level.
(b) Neither *Public* nor *Protected* can be used inside a procedure.
(c) A variable declared with a *Public* keyword gives public access with no restriction and *Protected* gives an access in class level and in derived classes.
(d) When using both keywords, one can omit Dim keyword.
(e) When using both keywords, one must use Dim keyword.

14) Classes in Visual Basic .net

(a) by default, can serve as Base Classes.
(b) cannot serve as Base classes by default.
(c) can be served as base classes by using the *NotInheritable* Keyword.
(d) by default, can serve as Base classes and by declaring with the *MustInherit* keyword, classes are intended for use as Base Classes.
(e) by default, can serve as Base Classes and by declaring with the *NotInheritble* Keyword, classes are intended for use as Base Classes.

15) Two inheritance modifiers are

(a) *Public* and *Protected.*
(b) *MustOverride* and *NotOverridable.*
(c) MustInherit and *NotInheritable.*
(d) *Shared* and *Protected Friend.*
(e) *Shared* and *Friend.*

16) Polymorphism is handled in Visual Basic.net

(a) in three ways by using Access Modifiers .
(b) in two ways by Inheritance based Polymorphism and Interface Polymorphism.
(c) in Inheritance Based Polymorphism by using *implements* keyword.
(d) in Inheritance Based Polymorphism by using *Overiridable* and *Inherits* Keyword.
(e) in interface Based Polymorphism by using *Implements* Keyword.

17) Select the correct Access Modifiers of Visual Basic.net.

(a) *MustInherit, Overridable, Inherits*
(b) *Overload, MustInherit*
(c) *Shared, Overridable, MustInherit, Overload*
(d) *Public, Protected, Friend, Protected Friend, Private*
(e) *Overloaded, Shared, MustInherit, Overridable Shared*

18) Main procedure in Visual Basic.net

(a) can be used as an entry point for an application.
(b) can be used in a class module without *Shared* keyword.
(c) can be used in a class module with *Shared* keyword.
(d) can be used in a module without *Shared* keyword.
(e) can be used in a module with *Shared* keyword.

19) Consider the following statements.

(i) *On Error GoTo* statement is a valid statement.
(ii) Both *On Error GoTo* statement as well as Structured Exception Handling can be used in error handling.
(iii) *Try*, *Catch* and *Finally* are keywords for structured Exception Handling.

Which of these statements is/are correct?

(a) (i) only.	(b) (i) and (ii) only.	(c) (ii) only.
(d) (iii) only.	(e) All.	

20) *Hashtable* Collection

(a) is similar to an array list.
(b) and array list have to be accessed their elements by an index.
(c) items can be accessed by a key.
(d) uses a simpler logic to maintain the list of items.
(e) is accessed by writing low level code.

21) ADO.net

(a) supports disconnected environments.
(b) has its main data access libraries in *System.Data*.
(c) has *DataSets* completely separated from the database Access Engine.
(d) supports connected environments.
(e) does not have much difference from old ADOs.

22) If one has been given a database non Microsoft based, what is the most effective way of connecting to the database?

(a) Use .net native providers *System.Data.SqlClient.*	(b) Use available ordinary drivers.
(c) Use drivers which are available on the Internet.	(d) Use COM model to connect.
(e) Use .net OLEDB providers to connect.	

23) Select the correct line of code to use SqlDataAdapter

(a) *Imports System.Data*
Dim myAdapter as new SqlDataAdapter
(b) *Dim myAdapter as new System.Data.SqlDataAdapter*
(c) *Imports System.Data.SqlClient*
Dim myAdapter as new SqlDataAdapter
(d) *Exports System.Data.SqlClient*
(e) *Dim myAdpater as new System.Data.Client.SqlDataAdapter*

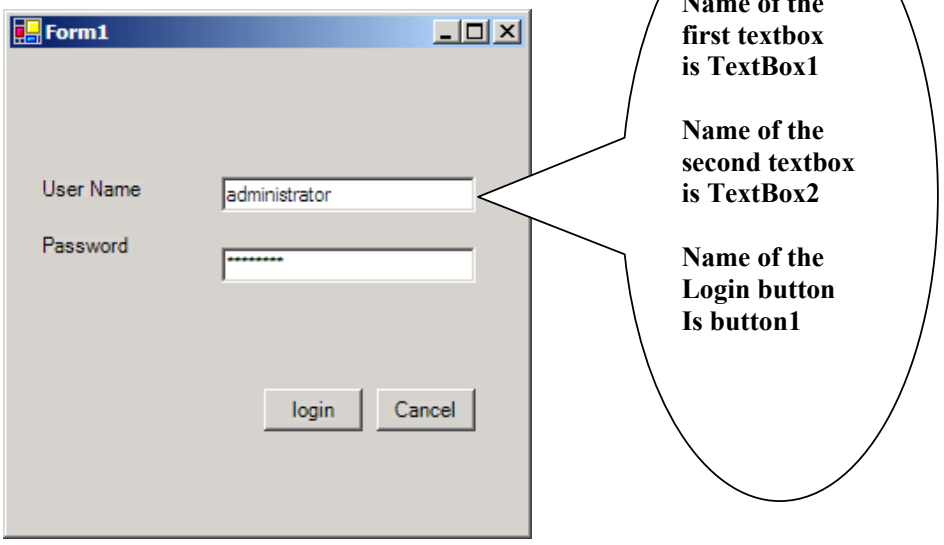
24) Which of the following is/are correct in relation to classic ADO and ADO.net Cursors?

(a) ADO.net Architecture there is no updatable Server side Cursors in comparison to classic ADO.
(b) DataReader of ADO.net maintains the state on the server, and it retrieves the data as a stream whereas ADOs select the type of cursors.
(c) Classic ADOs are designed to be always connected.
(d) Classic ADOs are designed to be always disconnected.
(e) There are no differences between the two.

Refer to the following code to answer the Questions 25-28.

```
Dim myConnection As New SqlClient.SqlConnection("data source =  localhost;" _
   & "Initial Catalog = pubs;" _
   & "User ID = ….(A)……
         & ";Password = ……(B)…….)
 Try
    myConnection.Open()
    …..(C)….. 'here code can be either one line or two and select best line(s) of Code in the
                question No 14
 Catch ex as …..(D)…..
    MsgBox("Error:" & ex.Message)

 End Try
```



25) "Imports System.Data.SqlClient" must be placed prior to writing SqlClient.SqlConnection (……) statement in the above code. Select allowed area to place the imports statement.

(a) within the button1_click sub event procedure	(b) within the public Form1 class
(c) in the Declaration section of the Form1	(d) *Imports* precedes any declarations
(e) *Imports* external to Form1	

26) User Name and password should be passed into *ConnectionString* of the *SqlConnection*. The two Textboxes in the form are named as TextBox1 for User Name and Textbox2 for the password. Select the best answer as to how one would complete the A and B respectively of the above code.

(a) & "User ID = '" & me.TextBox1.text & "';' _ & ";Password = '" & me.Text1.text)	(b) & "User ID = '" & me.TextBox1 & "';' _ & ";Password = '" & me.Text1)
(c) & "User ID = " & me.TextBox1.text _ & ";Password = " & me.Text1.text)	(d) & "User ID = " & me.TextBox1.text _ & ";Password = " & me.Text1.text & ";")
(e) & "User ID = & me.TextBox1.text _ & ";Password = me.Text1.text)	

27) After a successful login to the database, one can proceed to the menu form. The name of the menu form module is menu.vb. Complete the code for C to load the menu form.

(a) Load Menu menu.show	(b) menu.Load
(c) menu.show	(d) Dim myMenu as new menu myMenu.show
(e) Dim myMenu as menu myMenu.Open	

28) Select the best line of code for D.

(a) Catch ex as Exception	(b) Catch ex as Error
(c) Catch ex as Line1	(d) Catch ex as new Exception
(e) Catch ex as new Error	

29) Select the statement(s) which is/are true of DataAdapter objects.

(a) They represent new mechanisms in Microsoft Data Access.
(b) DataAdapter objects work implicitly with Connection object.
(c) DataAdapter objects clean up once Data is accessed.
(d) DataAdapter objects check on the status of the connection.
(e) DataAdapter objects understand how to reconcile with deltagrams which are DataSet changes made by a user.

30) Step over debugging and Step in debugging are carried out respectively by

(a) F8 and F7.	(b) F6 and F5.	(c) F10 and F11.
(d) Ctrl+Shift+b and F9.	(e) Alt+F8 and F8.	

31) Select the best statement(s) which describe(s) Unicode.

(a) It has characters from almost all major languages which are spoken today in the world.
(b) Each character is represented by 2 bytes.
(c) Unicode is an American format.
(d) Sinhala and Tamil are not included in Unicode.
(e) Each character is represented by a single Byte.

32) Windows XP, Windows 2003 and .net framework are

(a) Unicode compatible.
(b) Unicode non compatible.
(c) not Unicode compatible and until longhorn is released, Unicode compatibility is not provided.
(d) given Unicode compatibility by releasing Sinhala Language pack for Unicode by Microsoft as a beta version.
(e) partly Unicode compatible.

33) The RAD approach encompasses the following phase(s).

(a) Business modelling	(b) Analysis modelling	(c) Process modelling
(d) Application generation modelling	(e) Application modelling	

34) Which of the following statements is/are correct regarding the RAD model?

(a) It is a linear sequential software development process model.
(b) It enables us to create "a fully functional system" in a very short time.
(c) It achieves high-speed development by using a component-based approach.
(d) It is appropriate to use an RAD model for systems which cannot be properly modularized.
(e) It is not appropriate when technical risks are high.

35) The corner stone of the RAD model

(a) is a component based construction approach.
(b) has a comprehensive document process.
(c) has the ability to produce a working prototype.
(d) is not properly modularized.
(e) has the ability to use 3rd generation programming languages.

36) Which of the following statements is/are true for *Set* and *Get*?

(a) They are two types of Property procedures.
(b) They are defined property procedures in pairs.
(c) When either procedure is defined alone, *Set* is read only and *Get* is write only.
(d) When either procedure is defined alone, *Set* is write only and *Get* is read only.
(e) *Get* procedures return the value of a property and *Set* sets a value to a property.

37) One can place a file break point by

(a) double clicking on the left side gray area in front of the line where one needs the breakpoint to be.
(b) pressing Ctrl+b and selecting the function.
(c) highlighting the line.
(d) double clicking on the right side gray area in front of the line where one needs the breakpoint to be.
(e) just clicking the mouse twice.

38) *shadows* keyword in VB.net

(a) is optional.
(b) hides the locally declared element in a derived class.
(c) hides an identically named element or set of overloaded elements, in a base class.
(d) is not optional.
(e) is not an important keyword.

39) *Me* keyword in VB.net

(a) is a keyword which identifies a previously called object.
(b) is a keyword which identifies the next object.
(c) refers to the object which is active and in focus.
(d) refers to the active module.
(e) refers to all the active programs in the applications.

40) What are the Microsoft equivalent technologies for CORBA and Java Beans respectively?

(a) ODBC and EDBC
(b) DCOM/COM and ActiveX
(c) RDS and DCOM
(d) DDE and EJB
(e) RPC and DCOM

41) For deployment in Visual .net,

(a) one can select Deployment wizard in Visual .net.
(b) one can select a new project and must select setup and deployment project.
(c) visual .net compiler has to depend upon external deployment module.
(d) one can decide based upon the type of application whether to select setup or web setup project .
(e) one can select merge module to create reusable setup components.

Refer to the following lines of code for Questions 42 and 43,

```
Dim mypos As Integer
Dim mySearch As String
Dim selSearch As String
mySearch = "Visual Basic .net can handle string functions well"
' one needs to look for period of the .net
…… ---- (1)
' in order to extract '.net'
…… -----(2)
```

42) In order to search for dot in mySearch, the line labelled **(1)** should be

(a) mypos = left(mySearch, ".")
(b) mypos = mid(mySearch, ".")
(c) mypos = instr(20, mySearch, ".")
(d) mypos = instr(mySearch,".")
(e) mypos = right(mySearch, ".")

43) In order to extract *.net* from mySearch and to assign it to selSearch, the line labelled **(2)** should be

(a) selSearch = left(mySearch, mypos)
(b) selSearch = Microsoft.VisualBasic.left(mySearch, mypos)
(c) selSearch = Microsoft.VisualBasic.right(mySearch, mypos)
(d) selSearch = mid(mySearch, mypos, 4)
(e) selSearch = mid(mySearch, mypos,1)

Refer to the following lines of code for Questions 44 and 45.

```
Dim mystring As String
Dim mypos As Integer
Dim firstpart As String, secondpart As String
mystring = "Bill Gates"
' to separate Bill from Gates
…… -----(1) ' this line uses instr()
firstpart = ---------- -----(2) ' 'Bill' is assigned to

secondpart =…… -------(3)  'Gate' is assigned to
```

44) Select the best line of code for lines labelled **(1)** and **(2).**

(a) mypos = instr(5, mystring, " ")
    firstpart = left(mystring, mypos)
(b) mypose = instr(mystring, " ")
    firstpart =left(mystring,mypos)
(c) mypos = instr(mystring, " ")
    firstpart = left(mystring,len(mystring – mypos))
(d) mypos = instr(mystring, " ")
    firstpart = Microsoft.VisualBasic.Left(mystring,(Len(mystring)-pos)-1)
(e) mypos = instr(mystring, " ")
    firstpart = Microsoft.VisualBasic.Left(mystring, Len(mystring-pos)-1)

45) Select the best line of code for the line labelled **(3).**

(a) secondpart = right(mystring, mypos)
(b) secondpart = right(mystring, len(mystring) –mypos) -1)
(c) secondpart = Microsoft.VisualBasic.Right(mystring,Len(mystring)-mypos)
(d) secondpart = Microsoft.VisualBasic.Right(mystring,Len(myString - mypos)
(e) secondpart = Microsoft.VisualBasic.Right(mystring,(Len(mystring)-mypos) -1)

46) Select the best line of code for the declaration of the dynamic array.

(a) Dim myArray as integer
(b) Dim myArray(5) as integer
(c) Dim myArray() as Integer
(d) Dim myarray(3,3,3) as integer
(e) Dim myArray(4 to 5) as integer

47) One wants to allocate 5 elements to myArray () of integers which was declared as dynamic. Select the correct statement(s).

(a) Dim myArray(5) as integer
(b) ReDim myArray(5)
(c) ReDim myArray(6)
(d) ReDim myArray(4)
(e) Dim myArray (4)

48) Select the best statement which describes the *preserve* keyword.

(a) It keeps the elements fixed.
(b) It prevents the content of an array being cleared.
(c) It initializes a fixed array.
(d) It initializes a dynamic array.
(e) It prevents elements of an array being cleared.

49) *Erase* statement

(a) clears a content in a variable.
(b) recreates an array.
(c) clears an array.
(d) can appear only in procedural level.
(e) can appear in class and modular level.

50) Select the true statement(s) out of the following.

(a) Unlike previous versions of Visual Basic, Visual Basic .net supports console applications.
(b) *err* object has three methods namely: *Raise*, *Clear* and *Initialize*.
(c) *err* object has two methods namely: *Raise* and *Clear*.
(d) *err* object is an intrinsic object with global scope.
(e) Visual Basic .net does not support console applications.

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