



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)
Academic Year 2005/2006 – 2nd Year Examination – Semester 4

IT4302: Rapid Application Development
PART 1 – Multiple Choice Question Paper

6th August, 2006
(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 **12 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 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 the option(s) which is/are **incorrect**.

- (a) A variable name must begin with a letter.
- (b) A variable name cannot contain a period.
- (c) A variable name must not exceed 255 characters.
- (d) A variable name cannot contain the '&' character.
- (e) A variable name must be unique within the same scope.

2) Which of the following statements declares a variable correctly?

- (a) Dim NumVar as Integer
- (b) Dim NumVar = New Integer
- (c) Dim \$StrVar as String
- (d) Dim x As Date = Now
- (e) Dim x As Int16 = New Integer

3) Which of these function calls will return TRUE?

- (a) IsNumeric("-12.30")
- (b) IsDate("12-jan-2007 12:12:23")
- (c) IsDBNull(Nothing)
- (d) IsDBNull(DBNull.Value)
- (e) IsDBNull(True)

4) What is the Object Data Type in VB.Net?

- (a) An Object Data Type is a collection of data and code.
- (b) An Object Data Type can contain Boolean,String or Long.
- (c) An Object Data Type cannot contain System.Windows.Forms.Form variables.
- (d) The Object Data Type class is contained in the System.Windows namespace.
- (e) An Object Data Type cannot refer to another object.

5) Identify the correct declaration(s) for an array in VB.Net to hold the names of at least 16 employees.

- (a) Dim Names() as string
- (b) Dim Names(1 To 16) as string
- (c) Dim Names(15) as Object
- (d) Dim Names()=15
- (e) Dim Names as String(16)

Refer to the following lines of code for Questions 6, 7 and 8.

Note: consider that myName is declared only in myMod

```
Module myMod
    Public myName as string="Roshan"
    Public Function GetMyName(value as string) as String
        Dim myVar as string="Manel"
        Return value
    End Function
End Module
```

6) The myName variable declared in myMod

- (a) can be accessed from any Form in the project where myMod is declared.
- (b) cannot be accessed from any Form in the project where myMod is declared.
- (c) can be accessed from any Form in the project where myMod is declared only by using myMod.myName.
- (d) cannot be accessed from any class in the project where myMod is declared.
- (e) can only be accessed from a private function in a Form where myMod is declared.

7) What is the output you expect by GetMyName(myName) function call?

- | | | |
|--------------|--------------|-------------|
| (a) "value" | (b) "String" | (c) "Manel" |
| (d) "Roshan" | (e) "myName" | |

8) If the value of myName is "John", what would be the output of GetMyName("Michael")?

- | | | |
|---------------|--------------|-------------|
| (a) "value" | (b) "John" | (c) "Manel" |
| (d) "Michael" | (e) "Roshan" | |

9) A variable declared with the *Dim* statement in a Module has the same scope as

- | |
|--|
| (a) a variable declared with the <i>Public</i> keyword. |
| (b) a variable declared with the <i>Shared</i> keyword. |
| (c) a variable declared with the <i>Private</i> keyword. |
| (d) a variable declared with the <i>MustInherit</i> keyword. |
| (e) a variable declared with the <i>Protected</i> keyword. |

10) The *Byte* Data type

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|--|
| (a) can store numbers which take up 1 Byte of storage with 2 decimal points. |
| (b) can Store ASCII Character values in numeric form. |
| (c) can store Binary data. |
| (d) can hold an integer in the range of 0 to 255. |
| (e) can store large Floating Point numbers. |

11) CLS and ADO in the .Net Framework respectively stand for

- | |
|---|
| (a) Computer Language System and Application Data Objects. |
| (b) Code Level System and Accessible Data Order. |
| (c) Common Language Specification and ActiveX Data Objects. |
| (d) Common Language System and ActiveX Data Objects. |
| (e) Common Language Specification and Active Directory Objects. |

12) Assemblies

- | |
|---|
| (a) are collections of one or more classes. |
| (b) cannot be used to build VB.Net applications. |
| (c) are only found in the 'System' namespace. |
| (d) can be used in the .Net framework even if they are not registered in the system registry. |
| (e) must be added to the Global Assembly Cache in order to be used by any application. |

13) The Just-in-time (JIT) compiler

- | |
|--|
| (a) is responsible for compiling code as one types in the code editor. |
| (b) converts code to the Microsoft Intermediate Language (MSIL). |
| (c) gets its name because it compiles at the last moment. |
| (d) is CPU independent. |
| (e) converts MSIL into machine code. |

14) A member within a Enum...End Enum declaration

- (a) can be of any data type.
- (b) can be a string.
- (c) can be an Integer.
- (d) can be of type *double* but will be implicitly converted into an *integer*.
- (e) can be a variable.

15) Which of the following statements is/are correct in respect of Properties and Property procedures?

- (a) A Property must be implemented with both **Get** and **Set** Property procedures.
- (b) A Property..End Property Declaration must be Public.
- (c) When implementing a **ReadOnly** property, the **Get** property procedure is not needed.
- (d) When one assigns a value to a property, the **Set** property procedure is executed.
- (e) One can implement properties in classes but not in windows forms.

16) In a Visual Basic .net application, one requires to set startup.vb as the initial object which opens when the application is run. Select correct answer(s) for setting up startup.vb as the initial object.

- (a) Select tools of the main menu, go to options of project and select startup object as startup.vb .
- (b) Go to Project, select project properties and select initial load as the startup.vb .
- (c) Go to Project, select project properties and select startup object as the startup.vb .
- (d) Go to Project, select project properties, select startup object as Sub Main(), create a class with Sub Main() and add the following code.
Shared Sub Main()
Application.EnableVisualStyles()
Application.Run(New startup)
- (e) Go to Project, select project properties, select startup object as startup.vb, create a class with Sub Main() and add the following code.
Shared Sub Main()
Application.EnableVisualStyles()
Application.Run(New form1)

17) Select the correct statement(s) about .resx file in Visual basic .net.

- (a) Visual Basic .net stores information on bitmaps, icons and local specific strings in .resx files.
- (b) .resx files are actually XML files in which binary resources are base 64 encoded.
- (c) Resource File generator (Resgen) converts .txt and .resx (XML based) files to Common Language binary .resources files.
- (d) .resx files store information on Data exchange between classes.
- (e) Visual Basic .net applications have static .resx files.

18) Select the correct statement(s) about Sub Finalize() method in Visual Basic .net .

- (a) Sub Finalize() method is the constructor of a class.
- (b) When an object is no longer needed, the CLR calls the Sub Finalize ().
- (c) It is a method for that object before freeing the memory.
- (d) Sub Finalize() method of base classes runs before the derived classes.
- (e) Sub Finalize() method of derived classes is run prior to the base classes.

Consider the following code for Question (19) and (20)

```
Dim myString as String
myString = "My string"      ----(1)
Dim myString as string = " My " ----(2)
-----
Dim x as Integer            ----(4)
```

19) In (1) and (2), myString has been declared as string. Select the correct statement(s) about myString not related to variable in (1) and (2).

- (a) MessageBox.show (myString) will give pop up with a message "My string".
- (b) myString = myString & myString in (3) equals "My String" in myString.
- (c) myString = myString & myString in (3) equals "My My" in myString variable.
- (d) myString & = "string" in (3) equals "My string".
- (e) MessageBox.show (myString) in (3) will pop up with a message " My string".

20) Select the correct statement(s) about the x variable in (4).

- (a) Dim x as Integer
x = x +1 'equals to 1
- (b) Dim x as Integer
x= x+1 'equals to 2
- (c) Dim x as Integer
x + = 2 'equals to 2
- (d) Dim x as Integer
x+ = 1
MessageBox.show '(x) will pop up with message 1
- (e) Dim x as Integer
x+ = 1
MessageBox.show '(CType(x,String)) will pop with message 1

21) Select the correct statement(s) about property procedures in Visual Basic .net.

- (a) Property procedures are also known as Property Assessors.
- (b) Property procedures are a series of Visual Basic statements which manipulate a custom property on module, class or structure.
- (c) There are two property procedures Let and Get.
- (d) There are two property Procedure Set and Get.
- (e) Set is read-only and Get, write- only.

22) Which of the following statements related to Structures in Visual Basic .net is/are true?

- (a) They are similar to arrays.
- (b) They can be declared inside a procedure.
- (c) One can define one structure inside another.
- (d) One must declare every data member of a structure.
- (e) Structures support many of the same features as classes in Visual Basic .net.

23) Select the correct statement(s) regarding Shared keyword.

- (a) Declared with a **Shared** Keyword, the Shared elements are associated with a specific instance of class or a structure.
- (b) Declared with a **Shared** Keyword, the Shared elements are not associated with a specific instance of a class or structure.
- (c) The **Shared** keyword indicates that one or more declared programming elements are shared.
- (d) **Shared** keyword is similar to Public keyword.
- (e) **Shared** Keyword is similar to Private Keyword.

24) Select the differences between Structures and Classes in Visual Basic .net .

- (a) Structures are reference types and classes are value types.
- (b) Structures are value types and classes are reference types.
- (c) Structures use stack allocation and Classes use heap allocation.
- (d) Structure members can be declared as protected whereas class members cannot be declared as protected.
- (e) All structure members are public by default whereas class members are private by default.

25) *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.

26) *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.

27) One has been provided with two databases which reside in Oracle and MS SQL Server 2000 respectively. He requires connecting to both databases using ADO.net. Select the correct statement(s) from the following regarding connections to Oracle and MS SQL server 2000.

- (a) SqlConnection object can be used to connect both databases.
- (b) OracleConnection can be used to connect Oracle whereas SqlConnection can be used to connect MS SQL Server 2000.
- (c) OleDbConnection objects can be used to connect to any data store which is accessible via OLE DB.
- (d) SqlConnection objects bypass OLE DB.
- (e) ODBC drivers can be used with OleDbConnection objects.

28) A student has been given a console application. Consider the following three statements which are related to building of console applications in Visual Basic .net.

- (i) Without any additional configuration, go to build option of the menu of the Visual Basic .net compiler and build the application.
- (ii) Sub Main () has to be created either in a module or in a class.
- (iii) In the Project Property of the application, he has to select Console application and startup object as Sub Main and build the application.

Identify the correct statement(s).

- (a) (i)
- (b) (i) & (ii)
- (c) (i) & (iii)
- (d) (ii) & (iii)
- (e) only (iii)

29) Select the correct statement(s) regarding Exception handling in Visual Basic .net.

- (a) There are three types of Exception handling in Visual Basic .net.
- (b) There are two types of Exception handling in Visual Basic .net which are known as Structured and Unstructured Exception handling.
- (c) Try Catch and Finally are Unstructured Exception handlings whereas “On Error” is a Structured Exception handling.
- (d) Try Catch and Finally are Structured Exception handlings whereas “On Error” is an Unstructured Exception handling.
- (e) In Structured Exception handling, blocks of code are encapsulated, with each block having one or more associated handlers whereas in unstructured Exception handling “On error” statement is placed at the beginning of a block of code.

30) **Throw** statement in Visual Basic .net throws Exception

- (a) which can be used only with structured Exception Handling.
- (b) which can be used with both Structured and Unstructured Exception Handling.
- (c) which can be used only with Unstructured Exception Handling.
- (d) which are to be interpreted only by special error statements.
- (e) which are used only with global error statements.

31) Which of the following phase(s) is/are part(s) of the RAD approach?

- | | | |
|-----------------------|--------------------------|----------------------|
| (a) Business modeling | (b) Analysis modeling | (c) Process modeling |
| (d) Source modeling | (e) Application modeling | |

32) 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 a RAD model for systems which cannot be properly modularized. |
| (e) It is not appropriate when technical risks are high. |

Refer to the following scenario and code when answering Questions 33-35.

One has selected a SqlDataAdapter object in ADO.net for inserting a row of data. The following statement and lines of codes must be used for questions 33, 34, and 35. There are two textboxes, Textbox1 and Textbox2 respectively where frmForm1. strSql is the SQL query string and myConn is the connection object. Data base which is accessed in the MS SQL server is BitExam and the table which is used is Names. Two attributes of the Names table are IndexNo and Lastname. IndexNo is directly mapped to Textbox1 and Lastname to Textbox2. Two Data types for IndexNo and Lastname are varchar (50) and varchar(50).

```
Dim da as SqlDataAdapter = new SqlDataAdapter ----- (1)
Dim cmd as SqlCommand ----- (2)
cmd = new SqlCommand (strSql,myConn) ----- (3)
----- (4)
----- (5)
----- (6)
----- (7)
```

33) In lines 4 and 5, parameters should be added to cmd object and they must be equaled to two TextBoxes. Select correct syntax for Parameters of cmd.

- | |
|--|
| (a) cmd.“@IndexNo”,SqlDbType.VarChar,50,”IndexNo”
cmd.“@Lastname”,SqlDbType.VarChar,50, “Lastname” |
| (b) cmd (“@IndexNo”,SqlDbType.VarChar, 50, “IndexNo”). Value = me.TextBox1.text
cmd (“@IndexNo”,SqlDbType.VarChar, 50, “IndexNo”). Value = me.TextBox1.text |
| (c) cmd.Parameters.Add (“@IndexNo”, SqlDbType.VarChar, 50,”IndexNo”). _
Value = me.TextBox1.text
cmd.Parameters.Add (“@IndexNo”, SqlDbType.VarChar, 50,”IndexNo”) _
=me.TextBox2.text |
| (d) cmd.Parameters.Add (“@IndexNo”, SqlDbType.VarChar, 50,”IndexNo”)
cmd.Parameters.Add (“@IndexNo”, SqlDbType.VarChar, 50,”IndexNo”) |
| (e) cmd.Parameters.Add (“IndexNo”, SqlDbType.VarChar, 50,”@IndexNo”). _
Value = me.Textbox1.Text
cmd.Parameters.Add (“Lastname”, SqlDbType.VarChar, 50,”@Lastname”). _
Value = me.Textbox2.Text |

34) Select the correct lines of code for Line numbers 6 and 7 related to the above SqlDataAdapter declared in (1).

- | | |
|---|---|
| (a) da = cmd
cmd.Excute () | (b) da.InsertCommand =cmd
cmd.ExecuteXMLReader |
| (c) da.InsertCommand =cmd
cmd.ExecuteNonQuery | (d) da.InsertCommand = cmd
cmd.ExcuteReader() |
| (e) da.InsertCommand = cmd
cmd.ExcuteScaler () | |

35) Given that the above strSql query string is Insert Query, select from among the following the correct value for strSql.

- | |
|--|
| (a) strSql = "Update Names set IndexNo = Textbox1.text, Lastname = TextBox2.text" |
| (b) strSql = "Update Names set @IndexNo = Textbox1.text, Lastname = Textbox2.text" |
| (c) strSql = "Insert into Names (IndexNo,Lastname) Values (me.Textbox1.text,"_ &"me.Textbox2.text")" |
| (d) strSql = "Insert into Names (IndexNo,Lastname) Values (@IndexNo,@Lastname)" |
| (e) strSql = "Insert into Names (me.Textbox1.text, me.TextBox2.text)" |

Refer the following code to answer question numbers 36 and 37.

```
Dim Myarray (10,10,10) as Integer      ----- (1)
ReDim Preserve Myarray ( 10,10,20)    -----(2)
Dim myNewArray () as Integer          -----(3)
ReDim myNewarray (15)                 -----(4)
ReDim myNewarray (17)                 -----(5)
```

36) Select the correct statement(s) regarding (1) and (2).

- | |
|---|
| (a) Myarray is a four dimensional Array. |
| (b) Myarray is a three dimensional Array. |
| (c) In Line (2), Myarray creates a new array copying all the elements from the existing array and adds 20 new rows at the end of every layer. |
| (d) In Line (2), Myarray creates a new array copying all the elements from the existing array and adds 10 new rows at the end of every layer, while the new rows are initialized to default value of the element type of Array. |
| (e) In Line (2), Myarray creates a new array copying all the elements from the existing array and adds 10 new rows at the end of every layer, while it does not initialize to default value of the element type of array. |

37) Select the correct statement(s) regarding (3), (4) and (5).

- | |
|---|
| (a) myNewArray is a dynamic Array. |
| (b) In Line (4), ReDim statement reallocates storage space for 16 elements and in Line (5), myNewArray is resized without saving the original content of array. |
| (c) In Line (4), ReDim statement reallocates storage space for 15 elements and in Line (5), myNewArray is resized without saving the original content of array. |
| (d) In Line (4), ReDim statement reallocates storage space for 16 elements and in Line (5), myNewArray is resized saving the original content of array. |
| (e) Line (5) can be rewritten as 'ReDim Preserve myNewArray (17)' to save the original content of array when the array is resized. |

38) RAD Model is preferred when the project

- (a) can be broken down into smaller chunks.
- (b) can have smaller development teams preferably of 2 to 6 developers for each chunk.
- (c) can have larger development teams of more than 50.
- (d) does not provide proper user requirements.
- (e) is not very specific.

Refer to the following lines of code for Question Numbers 39 and 40.

strSql variable has been given and myConn is the Database connection to MS SQL server 2000.

```
Dim da as SqlDataAdapter = new SqlDataAdapter ----- (1)
Dim cmd as SqlCommand ----- (2)
Dim ds as new DataSet ----- (3)
Dim strSql = "Select * from Names" ----- (4)
' Names is table Names(NicNo, LastName)
' where NicNo is the Primary Key
----- (5)
----- (6)
```

39) Select correct syntax for creating DataSet called "IndexNo".

- (a) da.SelectCommand = cmd
da.ExecuteReader ()
- (b) da.SelectCommand = cmd
da.Fill (ds,"IndexNo")
- (c) da.InsertCommand =cmd
da.ExecuteNonQuery
- (d) da.UpdateCommand = cmd
da.ExecuteNonQuery()
- (e) da.Execute
da.Fill(ds,"IndexNo")

40) Select correct syntax for creating DataView and accessing the first row of LastName if one requires to view the data.

- (a) Dim dt as new DataTable
dt = ds.table("IndexNo")
Dim MyString as String
MyString = dt.rows(0)
- (b) Dim dt as new DataView
dt =ds.Table("IndexNo").rows(0) (Column)
- (c) Dim dt as new DataView
Dim myRow as String
dt.table = ds.tables("IndexNo")
myRow = dt(0)(1)
- (d) Dim dt as new DataView
Dim myRow as String
dt.table = ds.tables("IndexNo")
myRow = CType((dt(0)(1)),String)
- (e) Dim dv as new DataView
Dim dt as new DataTable
dt = dv

41) Select the Correct statement(s) regarding DataSets.

- (a) DataSet consist of a collection of Datatable objects.
- (b) In a DataSet, Datatable objects can relate to each other with DataRelation objects.
- (c) One can enforce data Integrity by using UniqueConstraint and ForeignKeyConstraint.
- (d) When Accessing two tables named “MyTable” and “mytable”, they are case sensitive and are used as two tables.
- (e) DataSets are tables which are mapped automatically to tables in the Database

42) Select the correct statement(s) regarding DataReader objects.

- (a) DataReader objects can be created by using ExecuteReader() with SqlCommand object .
- (b) A DataReader object is a fast mechanism for retrieving forward only and read –only streams of data.
- (c) A DataReader object must be closed as soon as it has been used, for otherwise, you will tie up your connection objects so that no other operation will execute against it.
- (d) DataReader objects consume considerable memory cache.
- (e) DataReader objects are very slow for retrieval of data when compared with SqlDataAdapter.

43) Select the correct statement(s) which describes 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 stands for Unique Code
- (d) Although Tamil is included, Sinhala is not part of Unicode.
- (e) Each character is represented by a single Byte.

44) Select the correct statement(s) which describes function keys F10 and F11 in Debugging with a breakpoint.

- (a) F10 key places break points and F11 steps through procedures.
- (b) F11 places breakpoints and F10 steps through the code.
- (c) F11 key steps through the code but will step into any procedures which are called, whereas F10 key steps over the procedure calls, running them all and returning to the original spot.
- (d) F10 key steps through the code but will step into any procedures which are called, where as F11 key steps over the procedure calls, running them all and returning to the original spot.
- (e) F10 traces the stack, whereas F11 removes the breakpoint.

45) Select the correct statement(s) regarding MDI applications.

- (a) MDI stands for Multimedia Development Implementation.
- (b) MDI stands for Multiple Document Interface.
- (c) MDI applications must have at least two forms: the parent form and child form.
- (d) Child Form must be contained within the parent form.
- (e) There can be more than one Parent Form.

46) Select the correct statement(s) regarding Hash table Collection and ArrayList Collections.

- (a) Hash table Collections are very similar to ArrayList Collection.
- (b) An element in a Hash table Collection is by a key whereas an Element in an ArrayList is through an index.
- (c) Each item in Hash table has key and value.
- (d) An element in an ArrayList is by a key whereas an Element in a Hash table is through an index.
- (e) In a Hash table, count property returns the number of items in the collection, but the hash collection does not expose a capacity property.

47) For deployment in Visual .net,

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

Refer the following code to answer question numbers 48 and 49.

```
Dim myString As String = "Hello World!"  
Dim subString As String  
subString = ----- (1)
```

48) Select the correct syntax for returning "World".

- (a) subString = Left(myString,6)
- (b) subString = Right(myString,6)
- (c) subString = Microsoft.VisualBasic.Right(myString, 6)
- (d) subString = Microsoft.VisualBasic.Right(myString, (instr(myString,"")-1))
- (e) substring = Microsft.VisualBasic.Left(myString,(instr(myString,"")))

49) Select the correct Syntax for returning "Hello" or "Hello ".

- (a) subString = Left(myString, 5)
- (b) subString = Microsoft.VisualBasic.Left(myString,5)
- (c) subString = Right(myString,5)
- (d) subString = Microsoft.VisualBasic.Left(myString,(instr(myString,"")-1))
- (e) subString = Microsoft.VisualBasic.Left(myString,(instr(myString,"")))

50) 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.
