

# UNIVERSITI TUN HUSSEIN ONN MALAYSIA

# FINAL EXAMINATION **SEMESTER II SESSION 2013/2014**

COURSE NAME

: DOT NET PROGRAMMING

COURSE CODE

: DAT 20903

**PROGRAMME** 

: 2 DAT

EXAMINATION DATE : JUNE 2014

**DURATION** 

: 2 ½ HOURS

INSTRUCTIONS

: A) ANSWER ALL QUESTIONS

B) ANSWER THREE (3)

**OUESTIONS** 

THIS QUESTION PAPER CONSISTS OF TWELVE (12) PAGES

**CONFIDENTIAL** 

### **SECTION A**

Q1	.NET p	rovides	various type	es of applicat	tions. Building	applicati	ion us	sing Visual
	Studio	.NET	Integrated	Developer	Environment	(IDE)	can	accelerate
	applica	tions or	systems dev	elopment on	the .NET Fran	nework.		

(a)	Write the extension	n for a v	windows	application	built	using	Visual	Basic.NET.
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(1 mark)

(b) Write the extension for the web application code-behind built using Visual Basic language.

(1 mark)

(c) Explain how the user can open the code template for handling an event for a control using Visual Basic.NET's Code Designer when building the windows application.

(2 marks)

(d) Explain **THREE** (3) types of Server Controls in ASP.NET.

(3 marks)

(e) Show the syntax for creating a web server control.

(3 marks)

- Q2 .NET Framework is a common environment for building, deploying, and running Web Services and Web Applications.
  - (a) Give the component in .NET Framework that manages the languages compatibility by compiling to a second platform-neutral language.

(1 mark)

(b) Give **TWO** (2) main components of the .NET framework.

(2 marks)

(c) Produce an ASP code that will display the server's current date and time.

(2 marks)

(d) Explain the purpose of Page Directive in an ASI	P.NET	file.
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(3 marks)

(e) Explains the purpose of Page.IsPostBack property which is being applied in ASP.NET web forms.

(2 marks)

(20 marks)

#### **SECTION B**

Q11 (a) List TWO (2) other examples of .NET applications besides windows application.

(2 marks)

(b) Describe the Event Driven Programming concept in .NET.

(2 marks)

(c) Distinguish between a ContentPlaceHolder control and a Content control associated with Master Page in ASP.NET.

(3 marks)

(d) Write the syntax for ContentPlaceHolder control.

(3 marks)

(e) Write the syntax for Content control.

(3 marks)

(f) The administrator of Pura Kencana Clinic wants to create a Visual Basic.NET (VB.NET) application that checks on patient's Body Mass Index (BMI). The BMI application must allow the employees to enter the patient's height and current weight. Then, it will calculate the BMI according to the information provided and display the resulted BMI and Status. The interface of the application is shown in Figure Q11.

Write a program in the code segment provided that will display BMI and Status after the user click on button 'Calculate' as shown in Figure Q11. The output should be based on the following information:

- User enter Weight in TextBox1 and Height in TextBox2
- Formula for BMI = Weight / Height (m) x Height (m)
- Data type for Weight, Height and BMI is Double
- Application displays resulted BMI in TextBox3 and Status in TextBox4
- Status depends on:

**Underweight:** BMI <= 18

**Ideal:** BMI >= 18.01 and BMI <= 23

Overweight: BMI  $\geq$  23.01 and BMI  $\leq$  29.9

**Obesity:** BMI  $\geq 30$ 

(7 marks)

#### DAT 20903

		Private Sub Button1_Click() Handles Button1.Click
		End Sub
Q12	(a)	Describe the term ASP.NET.
		(2 marks)
	(b)	Explain on how the ASP.NET works or interact with client's browser and the server.
		(4 marks)
	(c)	Describe the term Method.
		(2 marks)
	(d)	Write a code example for a Method in Visual Basic.
		(3 marks)
	(e)	Explain the purpose of namespace System. Web. UI in ASP. NET web form.
		(3 marks)
	(f)	The administrator of Pura Kencana Clinic is being instructed to expand the

(f) The administrator of Pura Kencana Clinic is being instructed to expand the usage of the BMI Calculator application that was being developed as windows application to a web based concept. Users are required to register, then Log In to use the calculator. The Log In page before entering the BMI Calculator will look like Figure Q12.

Produce a program in Visual Basic language for the Log In page. The users are required to enter their Username and Password. After clicking button 'Log In', they will be directed to page user.aspx provided that they have entered the correct Username and Password. Otherwise, direct them to page bmi.aspx. Refer the following additional information:

- The Connection String is already declared in the web.config file
- Type of database used is Microsoft SQL Server
- The database table that stored the registered user's log in data is in table Login
- User enter the Username in TextBox1 and Password in TextBox2
- The name of button 'Log In' is Button1
- Use the objects that have been instantiated as provided in the code segment
- Use properties CommandText to assign the SQL query
- Write the code starting from comment 'Start coding statement

(6 marks)

```
Partial Public Class bmi
Inherits System.Web.UI.Page

Protected Sub Button1_Click(....) Handles Button1.Click

Dim SQLCon As New SqlConnection
(ConfigurationManager.ConnectionStrings
("DOT_NETConnectionString1").ConnectionString)
Dim SQLCmd As New SqlCommand
Dim rd As SqlDataReader

'Start coding statement

'End of coding statement

End Sub
End Class
```

Q13 (a) List THREE (3) common form controls.

(3 marks)

(b) Explain the purpose of importing the namespace System.Data.SQLClient in ASP.NET web form.

(3 marks)

- (c) Two quizzes have been done by students DAT 20903 Sem 2 Session 2013/2014, but only one quiz will be chosen as the final mark. The lecturer of the subject would like to build an ASP.NET application with Visual Basic language that will help her manage 150 students data. She would like to build a page that displays as follows:
  - i. All student's data with marks for Quiz 1 and Quiz 2 that will be retrieved from table Quiz in database DOTNET.
  - ii. A drop down list that displays a selection so that she will be able to choose whichever criteria that she decides (A).
  - iii. A drop down list for Bonus Mark (B). The Bonus Mark is intended to reward all the student based on their hardwork during lab sessions.

Once the value for Bonus Mark has been set, the value will be added to the chosen quiz. It will be applied to all students. For example in Figure Q13, after selecting 'Choose = The highest' and 'Bonus Mark=1' then clicking button 'Process', the Final Mark column shows the best quiz selected from each student and then added with 1. The processed information (Final Mark) has to be updated in table Quiz in the database as well so that after clicking button 'Process', the page will and display the updated list of students information.

Produce a program in Visual Basic language that enables the user to choose one of the quiz criteria (A) as well as how much bonus mark will be given (B). After selection, click button 'Process', and the Final Mark based on the selection will be updated in field Mark, table Quiz. The fields in the table are Name, Quiz1, Quiz2, Mark and ID. Refer Figure Q13 and the following information:

- The Connection String is already declared in the web.config file
- Type of database used is Microsoft SQL Server
- User choose A from DropDownList1 and B from DropDownList2
- The name of button 'Process' is Button1
- If 'Quiz 1' is chosen in A then mark from Quiz 1 will be selected, if 'Quiz 2' then mark from Quiz 2 will be selected but if criteria selected is 'The highest' then comparison between Quiz 1 and 2 should be conducted to select the best/highest mark from each student
- Bonus Mark from 1 to 5 in **B** will be added to the chosen criteria of quiz in **A**
- Use the objects that have been instantiated as provided in the code segment
- Use properties CommandText to assign the SQL query
- Write the code in Method Public Sub ProcessRecords() starting from comment 'Start coding statement

(14 marks)

```
Partial Public Class ProcessResult
    Inherits System. Web. UI. Page
Dim SQLCon As New SqlConnection
(ConfigurationManager.ConnectionStrings
 ("DOT NETConnectionString1").ConnectionString)
Dim SQLCmd As New SqlCommand
Protected Sub Button1_Click(...) Handles Button1.Click
  SQLCmd.Connection = SQLCon
  SQLCon.Open()
  ProcessRecords()
  SQLCon.Close()
  Response.Redirect("ProcessResult.aspx", False)
End Sub
Public Sub ProcessRecords ( )
Dim dt As New DataTable
Dim ds As New DataSet
Dim da As New SqlDataAdapter("Select * from QUIZ", SQLCon)
Dim myrow As DataRow
ds. Tables. Add (dt)
da. Fill (dt)
'Start coding statement
'End coding statement
End Sub
 End Class
```

Q14 (a) Explain the purpose of 'runat="server" 'attribute in an ASP.NET form.

(2 marks)

(b) Define the TWO (2) models for Web Forms pages.

(2 marks)

	(c)	Write FOUR (4) Objects in ADO.NET data provider for SQL Server Database.
		(4 marks)
	(d)	Explain the usage of a Data Set.
		(3 marks)
	(e)	Give TWO (2) advantages using Data Set.
		(3 marks)
	(f)	Figure Q14 shows a registration form that a user has to fill in before log in to a web application. Users are required to fill in field Name and IC in the form. When submitting the form and those fields are empty, then a statement "Please Key In" will be displayed. For field IC, aside from validating that the field has been filled, the form will also validate the number of characters entered which is supposed to be 12 characters. Therefore, a method in Visual Basic language has to be constructed to perform this task. If field IC does not consist of 12 characters, then a statement "Please make sure your IC is correct" will be displayed.
		Write the RequiredFieldValidator control and CustomValidator control along with the validation Method for field IC.
		(6 marks)
Q15	(a)	Describe the purpose of Exception Handling.
		(2 marks)
	(b)	Write the syntax for Exception Handling in Visual Basic.NET.
		(4 marks)
	(c)	Explain the purpose of a Module in a windows form.
		(2 marks)
	(d)	Define the term Instantiation.
		(2 marks)

(e)	Define the term Initialization.	
		(2 marks)
(f)	Write a code that declares, initializes and instantiates a SQLConnect in Visual Basic language.	ion object
		(3 marks)
	Figure Q15 shows a code that will produce a Message Box that "Hello1 = Hello1", but an exception occured during debugging triggered by the line in the red box shown in the figure.	t displays in which
(g)	Explain on the problem occured in Figure Q15.	
		(3 marks)
(h)	Modify the code in Figure Q15 in order to solve the problem.	
		(2 marks)

(60 marks)

- END OF QUESTION -

## **FINAL EXAMINATION**

SEMESTER/SESSION: SEM II/2013/2014 COURSE NAME: DOT NET PROGRAMMING PROGRAMME: 2 DAT COURSE CODE: DAT 20903



**FIGURE Q11** 

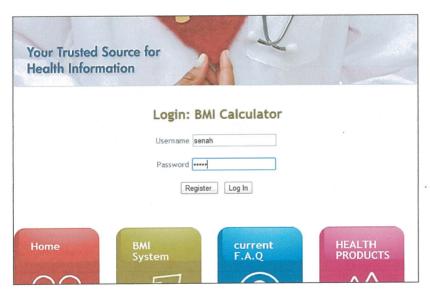
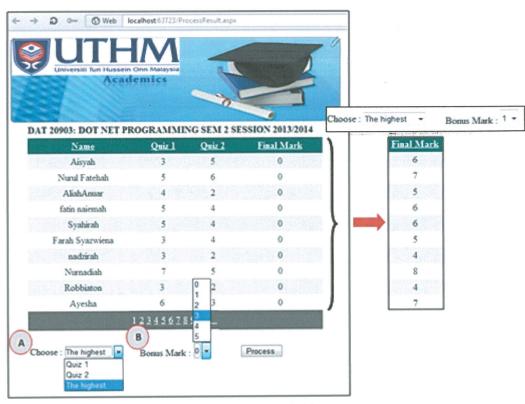


FIGURE Q12

### FINAL EXAMINATION

SEMESTER/SESSION: SEM II/2013/2014 COURSE NAME: DOT NET PROGRAMMING PROGRAMME: 2 DAT COURSE CODE: DAT 20903



## **FIGURE Q13**



## FIGURE Q14

```
Dim s, s1, t As String
Dim i As Integer

s1 = "Hello"
i = 1

s = s1 & i
t = s1 + i 'Exception here

If s = t Then
    MessageBox.Show(s + "=" & t)
End If
```

## FIGURE Q15