



The University of Fiji



Undergraduate Programme
Department of Computer Science & Information Technology
Semester 1 Year 2016

FINAL COURSE EXAMINATION PAPER

ITC 314: WEB DESIGN & PROGRAMMING

Important Instructions to Students:

1. Read the questions, instructions carefully and answer the questions.
2. You are allowed an **extra 10 minutes reading time** (during this time, you are not allowed to write with pen) and **180 minutes (3 Hours) to complete this paper.**
3. Silent, non-programmable calculators are allowed, but not supplied.
4. Write all your answers in the answer booklet provided. If you need extra sheets, please ask from the supervisor. Write your name, course code and student identification number in the answer booklet and in the attendance sheet.
5. **This Final Course Examination Paper is worth 100 marks contributes 50% of the total course assessments.**
6. This paper contains two (2) sections A and B. All questions are compulsory to answer.
7. Write all your answers legibly. The marker has the right to award zero for answers that are not legible.
8. This is a **Closed Book Examination**. The University views plagiarism, cheating and dishonest practice as serious offences and if found, offenders are penalized.

Examination Paper Content (Format):

<u>Section</u>	<u>Question</u>	<u>Content</u>	<u>Marks</u>	<u>Suggested Time</u>
A	1-30	Multiple Choice	30	45 minutes
B	1-3	Short Answer Questions	70	135 minutes
		TOTAL	100	180 Minutes

Write the question number and the letter representing the best answer in the answer booklet.

1. What the Web Server returns to the user is called the _____.
a. request fulfilment
b. object
c. response
d. return
2. A(n) _____ is an object that has been created from an existing class.
a. instance
b. variable
c. class
d. expansion
3. A(n) _____ is a literal value or variable or a combination of literal values, variables, operators, and other expressions that can be evaluated by the C# interpreter to produce a result.
a. calculation
b. expression
c. composition
d. statement
4. The _____ is used to execute specific programming code if the evaluation of a conational expression returns a value of true.
a. flow statement
b. for statement
c. switch statement
d. if statement
5. The _____ method sends form data as a transmission separate from the URL specified by the action attribute.
a. GET
b. POST
c. PUSH
d. PULL
6. A(n) _____ is a specific circumstance that is monitored by the browser and that your program can respond to in some way.
a. handle
b. target
c. source
d. event
7. The _____ control ensures that a value is entered into a specified field.
a. RequiredValidator
b. FieldValidator
c. RequiredField
d. RequiredFieldValidator
8. To ensure that values are of specific data type, you need to use the _____ control.
a. Validator
b. Comparator
c. CompareValidator
d. RangeValidator
9. The field that is to be validated is identified by the _____ property.
a. ObjectToValidate
b. ControlToValidate
c. ValidateControl
d. ValidationControl

10. You can change the color of the validation failure message with the _____ property.
- a. ForeColor
 - b. Color
 - c. FontColor
 - d. TopColor
11. A _____ is a field that contains a unique identifier for each record in a primary table.
- a. primary key
 - b. secondary key
 - c. primary field
 - d. primitive key
12. _____ identifiers must begin with a letter, underscore (_), number sign (#), or at sign (@), and subsequent characters are restricted to letters, numbers, underscores, number signs, or at signs.
- a. Standard
 - b. Regular
 - c. Special
 - d. Proprietary
13. You use the _____ statement with the ExecuteNonQuery() method to create a new database.
- a. CREATE TABLE
 - b. CREATE INDEX
 - c. CREATE DATA
 - d. CREATE DATABASE
14. To delete records in a table, you use the DELETE and _____ keywords with the ExecuteNonQuery() function.
- a. WHEN
 - b. WITH
 - c. WHERE
 - d. SUCH
15. The syntax for the CREATE TABLE statement is as follows: _____.
- a. INSERT TABLE *table_name* (*column_name* TYPE, ...);
 - b. NEW TABLE *table_name* (*column_name* TYPE, ...);
 - c. ALTER DATABASE NEW TABLE *table_name* (*column_name* TYPE, ...);
 - d. CREATE TABLE *table_name* (*column_name* TYPE, ...);
16. The basic syntax for a SELECT statement is as follows: _____.
- a. SELECT *criteria* FROM *table_name*;
 - b. SELECT *criteria* FROM TABLE *table_name*;
 - c. SELECT CRITERIA *criteria* FROM *table_name*;
 - d. SELECT *criteria* OUT OF *table_name*;
17. You use the _____ keyword with the SELECT statement to perform an alphanumeric sort of the results returned from a query.
- a. INTO
 - b. ORDER BY
 - c. WHERE
 - d. WHEN
18. ODBC uses _____ commands to allow an ODBC-compliant application to access a database.
- a. SQLDB
 - b. OSQL
 - c. DBSQL
 - d. SQL

19. To delete the table, you use the _____ statement with the `ExecuteNonQuery()` function.
- a. DELETE TABLE
 - b. DELETE STRUCT TABLE
 - c. DROP TABLE
 - d. CLEAR TABLE
20. The first step in working with a SQL Server database in ASP.NET is to create an object of the `SqlConnection` class using the following syntax: _____.
- a. `Object $SqlConnection = new SqlConnection("connection string");`
 - b. `SqlConnection object("connection string");`
 - c. `SqlConnection object.new("connection string");`
 - d. `SqlConnection object = new SqlConnection("connection string");`
21. If you instantiate a `SqlDataReader` object named `empRecords` for the Employees database, you can refer to the `first_name` field by using a statement similar to _____.
- a. `empRecords.first_name;`
 - b. `empRecords("first_name");`
 - c. `empRecords["first_name"];`
 - d. `empRecords.access("first_name");`
22. To add multiple records to a database, you use the BULK INSERT statement and the _____ function with a local text file containing the records you want to add.
- a. `ExecuteNoReturn()`
 - b. `ExecuteVoid()`
 - c. `ExecuteNoData()`
 - d. `ExecuteNonQuery()`
23. To use delimited identifiers in SQL statements, you must contain them within _____.
- a. `""` or `\\`
 - b. `"` or `[]`
 - c. `""` or `{}`
 - d. `""` or `[]`
24. The _____ attribute is required to identify the script section as an ASP.NET program.
- a. `readat="server"`
 - b. `execute="server"`
 - c. `hostat="server"`
 - d. `runat="server"`
25. The `String` class contains a property, the _____ property, which returns the number of characters in a string.
- a. `Size`
 - b. `Length`
 - c. `Count`
 - d. `ContentLength`
26. The _____ contains statements that execute when the value returned by the switch statement expression does not match a case label.
- a. otherwise label
 - b. else label
 - c. case label
 - d. default label
27. _____ refers to the creation of reusable software objects that can be easily incorporated into another program.
- a. Object-oriented programming
 - b. Object-based programming
 - c. Functional Programming
 - d. Unit programming

28. A Visual Studio Solution file has the extension of _____.
 a. .vsf c. .suo
 b. .sln d. .vss
29. Whenever a request is made for a document with an extension of _____, the Web server sends the file to the scripting engine for processing.
 a. .aspx c. .aspn
 b. .asx d. .astx
30. _____ are flaws in a program's design that prevent the program from running as you anticipate.
 a. Syntax errors c. Logic errors
 b. Link errors d. Runtime errors

SECTION B: Short Answer Questions

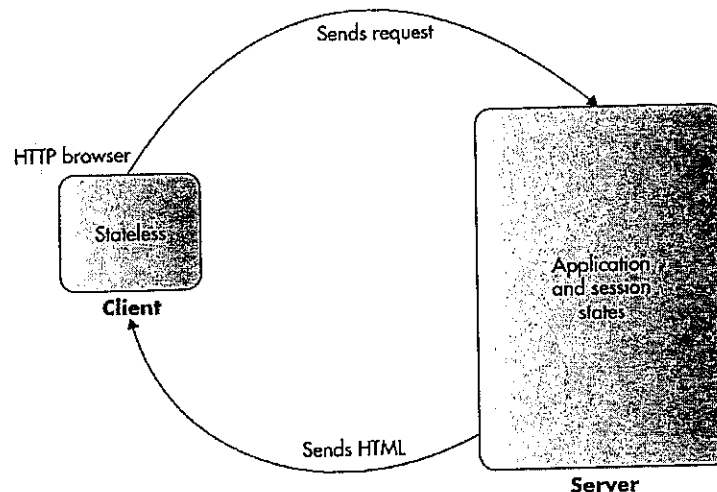
70 Marks

All questions in this section are compulsory.

Question 1: Introduction to ASP.NET

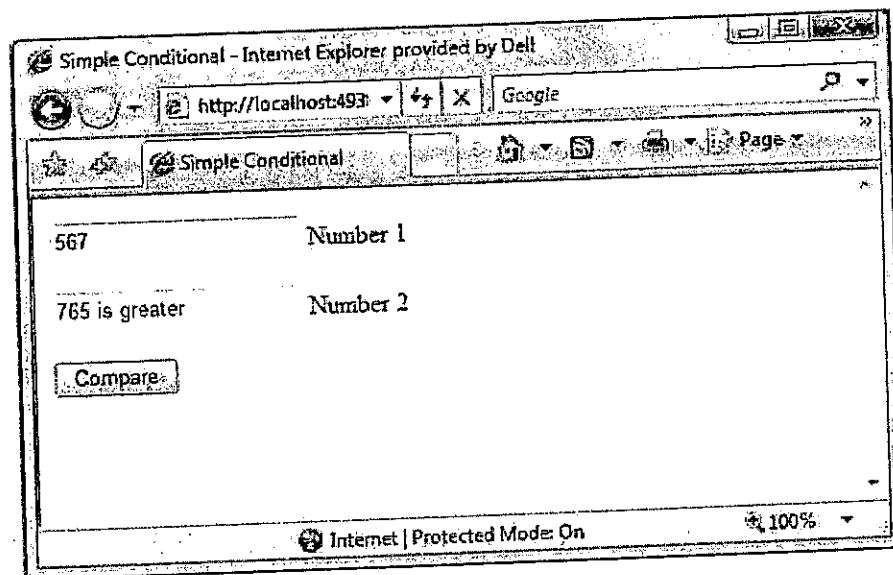
[25 Marks]

- A. It seems that the term *state* is used in different ways in programming. What is a simple explanation of the term *state*? **(1 Mark)**
- B. Referring to the image provided, explain the process of interaction between a client and server in term of it collaborating with a website. **(2 Marks)**



- C. Explain the difference between HTML and XHTML. How are the two related? **(2 Marks)**
- D. Describe the term *private* and *public* that is used in the C# program. **(1 Mark)**

- E. List down the steps of how you can create a new website in ASP.NET. Highlight on what a new user should know and note while creating a new website. (2 Marks)
- F. Describe what you understand by the term Naming Convention? There are three conventions used in C#, name them and provide an example of each. (2 Marks)
- G. Write a *for loop* to get the output in the Textbox as "5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, End of Loop". (2 Marks)
- H. Write a *foreach* loop to get the output in the Textbox as "This is ITC 314 Final Examination", note that 'This is ITC 314' and 'Final Examination' are two different elements or in this case indexes. (2 Marks)
- I. Write a *while loop* to get the output in the Textbox as "0-2-4-6-8-10-12-14-End of Loop". (2 Marks)
- J. Write a *do while loop* to get the output in the Textbox as "0:1:2:3:4:5:6:7:8:9:End of Loop". (2 Marks)
- K. Write a series of *classes* that combines "My Name is:" and "Your Actual Name" and shows it in the output Textbox as "My Name is: Your Actual Name". You are required to write both the classes. (2 Marks)
- L. Write the conditional *If* and *Else* statements that will compare the values entered in two Textboxes and show the output as shown in the figure below. (2 Marks)



- M. Making a simple C# Class consists of six basic things, list them down. (3 Marks)

Question 2: Forms and Controls

[20 Marks]

- A. Describe some of the HTML Web Controls and identify how they are related or similar to the ASP.NET Controls. (2 Marks)
- B. In ASP.NET organizing the control tasks into categories lets you work more efficiently. What are the five categories of properties you will see in the properties section when you select a control? (2.5 Marks)
- C. What is a ToolTip feature and how would you implement it in a website? (1 Mark)
- D. A hyperlink control in the ASP.NET web application has five target properties, list and describe the five target properties. (2.5 Marks)
- E. What is the purpose of the AdRotator Web Server Control in ASP.NET? (1 Mark)
- F. List and describe the six types of Validation Controls that was discussed in this course. These validations actually help users by identifying what all is incorrect in the form or webpage. (3 Marks)
- G. What is *Intellisense* and how it helps people who use Visual Studios? (1 Mark)
- H. Assume that users should enter numbers in the five textboxes and in the output textbox it should add the total by adding the values of the five textboxes. When the user enters anything else apart from the numbers an error or text message should be shown in the output textbox. Write the entire code that is required to make the program work. (3 Marks)
- I. User controls look pretty much the same as ASP.NET web forms. Like web forms, they are composed of a markup portion with HTML and control tags (the .ascx file) and can optionally use a code-behind file with event-handling logic. List down the differences between user controls and web pages. (2 Marks)
- J. As a seasoned developer, you probably realize users will make mistakes. What's particularly daunting is the range of possible mistakes that users can make. List down some of the examples of these mistakes. (2 Marks)

- A. Assume you are running a shop and you wish to keep track of all your customers' details in a SQL database. Currently you are keeping the data in an Excel file. Refer to the table below to answer the questions that follow. (10 Marks)

ID	FirstName	LastName	Age	PhoneContact	EmailAddress
1	Wayne	Rooney	31	6655443	waynerooney@gmail.com
2	Chris	Smalling	25	9988776	chrissmalling@gmail.com
3	Ryan	Giggs	45	6677990	ryangiggs@gmail.com
4	Anthony	Martial	19	8899661	anthonymartial@gmail.com
5	Luke	Shaw	20	7788661	lukeshaw@gmail.com

- I. Write the SQL query that will allow users to *CREATE* a table named "Customers" and have the fields or field names as shown in the table above.
- II. Write the SQL query that will make the field "ID" a *PRIMARY KEY* and also an *IDENTITY* which is (1, 1).
- III. Write the SQL query that will allow users to *INSERT* a new record; you can use FirstName as 'Memphis', LastName as 'Depay', Age as '21', PhoneContact as '8899999', and EmailAddress as 'memphisdepay@gmail.com'.
- IV. Write the SQL query that will allow users to *SELECT* and show the details of the Customer whose Id is 4.
- V. Write the SQL query that will allow users to use *ORDER BY* and see all the age in *DESC* order.
- VI. Write the SQL query that will allow users to *UPDATE* the details of ID 3 where his age should be 43 rather than 45.
- VII. Write the SQL query that will allow users to add a new field using the *ALTER* command, the name of the field is "MiddleName" and it should be positioned after FirstName.
- VIII. Write the SQL query that will enable the users to *DELETE* a record where the Customer ID is 2.
- IX. Write the SQL query that will allow the users to *DELETE* the entire records in the table.
- X. Write the SQL query that will allow the users to *DROP* the table called "Customers" to make it seem that it didn't even exist.

- B. Assume you have created a SQL database named "UniFiji_Reg" which basically stores the student's data. The fields in that database are 'SupID', 'FirstName', 'LastName', 'EmailAddress', and 'Age'. The below table shows some of the data that is currently in the SQL database. Refer to the table below to answer the questions that follow. **(12 Marks)**

SupID	FirstName	LastName	EmailAddress	Age
1000	Shivneel	Karan	shivneelkaran@gmail.com	21
1001	Jashnil	Kumar	jashnilkumar@gmail.com	20
1002	Jeshika	Lata	Jeshikalata@gmail.com	23
1003	Vishal	Kumar	vishalkumar@gmail.com	27

- I. Write the C# code that will retrieve the data from the SQL database and show it in the website when it is executed. Code should be in the Page_Load method.
 - II. Write the entire C# code that will allow the user to *INSERT* the data when a button is pressed. The fields to enter are FirstName, LastName, EmailAddress, and Age. Note that SupID doesn't need to be added to the parameter as we can assume that the table is set to auto increment every time a new record is entered. Code should be in the Button_Click method.
 - III. Write the entire C# code that will allow the users to *UPDATE* a record based on the field 'Age'. In the website assume that there is two textboxes one for Old Age and another for New Age. Code should be in the Button_Click method.
 - IV. Write the entire C# code that will allow the users to *DELETE* a record based on multiple constraints by clicking on a button. The code should check that the two fields match then only the record will be deleted. The two fields are 'FirstName' and 'Age'. Code should be in the Button_Click method.
- C. The rich data controls are quite a bit different from the simple list controls. For one thing, they are designed exclusively for data binding. What does the rich data controls include? **(1 Mark)**
- D. What is a *GridView* and what are the steps to implement a gridview in ASP.NET? **(2 Marks)**

THE END

