



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 3, Examination in Engineering, September 2013

Module Number: EE5227 Module Name: Internet Technologies
Part - II

[1 hour and 45 minutes]

[Answer all questions, each question carries 5 marks]

- Q1. a) List down the 2 core features that should be provided by a servlet container. [1 mark]
- b) Refer to the Deployment Descriptor in Listing 1 and write code to carry out following tasks.

Listing 1: Deployment Descriptor

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"
         xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
         xsi:schemaLocation="http://xmlns.jcp.org/xml/ns/javaee
         http://xmlns.jcp.org/xml/ns/javaee/web-app_3_1.xsd"
         version="3.1">
  <servlet>
    <servlet-name>MyServlet</servlet-name>
    <servlet-class>org.efac.eetech.MyServlet</servlet-class>
  </servlet>
</web-app>
```

- Declare a servlet initialization for MyServlet parameter with name "BannerTitle" and Value "Welcome".
- Declare session time out for 30 minutes.
- Declare a context Initialization variable with name "DBName" and Value "SalesDB".
- Map MyServlet to url pattern /my.do

[2 marks]

Hint: Code segment used to declare a sevlet initialization parameter

```
<init-param>
  <param-name></param-name>
  <param-value></param-value>
</init-param>
```

- c) Write the java codes for the given scenarios using the Deployment Descriptor given in Listing 1. (Only the relevant lines of java code is sufficient)
- Retrieve the value of servlet Initialization Parameter
 - Retrieve the value of Context Initialization Parameter
 - Set the session time out to 10 minutes programmatically.
 - Set Context Attribute with name of "maxCount" value of 5. Note that this value should be mathematically usable.

[2 marks]

- Q2. a) Explain how you would represent a web page schematically using new HTML5 elements.

[0.5 mark]

- b) What is the "Box Model" in CSS? Which CSS properties are a part of it?

[0.5 mark]

- c) Given the following code:

```
<script language=javascript type="text/javascript">
    for (i=0;i < 10; i++) {
        document.write(i);
    }
</script>
```

- What is the output?
- How would you modify the code so that it prints the numbers backwards?
- How would you modify the code so that it prints only the even numbers?
- How would you modify the code so that it sums all the values of i and prints the final sum?

[2 marks]

- d) Use jQuery to do following thin in HTML document on Listing 2.

Listing 2: Deployment Descriptor

```
<!doctype html>
<html lang="en">
<head>
    <meta charset="utf-8">
    <title>fadeToggle demo</title>
    <script src="http://code.jquery.com/jquery-1.10.2.js"></script>
</head>
<body>
```

```

<button>fadeToggle p1</button>
<button>fadeToggle p2</button>
<p>This paragraph has a slow, linear fade.</p>
<p>This paragraph has a fast animation.</p>
<div id="log"></div>

</body>
</html>

```

- i) Fades first paragraph in or out, completing the animation within 600 milliseconds.
- ii) Fades last paragraph in or out for 200 milliseconds, inserting a "finished" message upon completion.

[2 marks]

Q3. a) Explain MVC (Model-View-Controller) in general?

[1 mark]

b) Explain what is routing in MVC and what is default routes.

[1 mark]

c) Figure Q3.c shows the relationship among Course, Enrollment and Student classes. Define three classes in C# such that they can be used in Database context class.

[1.5 marks]

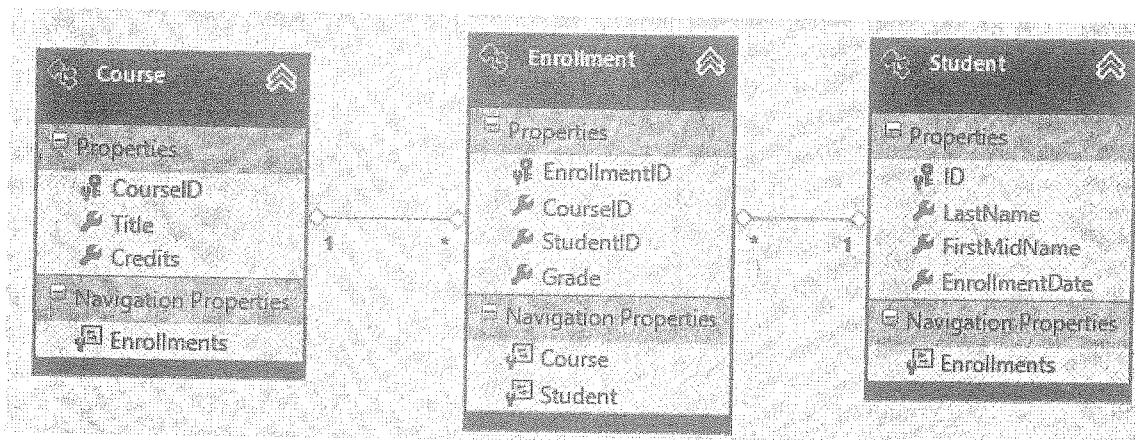


Figure Q3.c: Relationship between entities

d) You need to print details of all students when you access "Home" controller, "Student" action. Explain how you do it. (You should explain how data is passed to View and how you display those in a table using a Razor view)

[1 mark]

e) When you click the title of Last name column you need to sort data in the table.
Explain how you would do it.

[0.5 mark]