



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester Examination in Engineering, August 2015

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

[1 hour and 45 minutes]

[Answer all questions, each question carries 10 marks]

- Q1. a) i) Briefly explain how HTTP protocol work.
ii) Briefly explain two methods used in HTTP protocol.
iii) Give two examples for HTTP status code.
iv) Briefly explain the usage of HTTP header. [4 marks]
- b) Explain the usage of following HTML elements.
i) <section>
ii) <nav>
iii) <header>
iv) <footer> [2 marks]
- c) Explain the "Box Model" in CSS with an appropriate diagram. [1 mark]
- d) i) Using HTML create a table to show student id, first name, last name and date of birth. Table should show data of five students.
ii) Draw a border around each cell using CSS.
iii) Add padding of 5 pixels from top and bottom.
iv) Make alternating row's background color gray. [2 mark]
- e) Create an unordered list in HTML and by using CSS, remove the bullets, display items horizontally with padding of 5 pixels around of each element. [1 mark]
- Q2. a) Explain two ways of adding JavaScript to a HTML web page? [1 mark]
- b) Create a JavaScript object array to represent books in a bookstore. A single book object should contain properties for name of the book, book type, price, a description, book rating and whether the books available for purchasing. [1 marks]

c) Explain four different pure JavaScript methods available for getting an element from Document object model?

[2 marks]

d) Explain what following function who how you can use that in your code.

```
function addClass(selector, className){
    var elm = document.querySelector(selector);
    if (elm){
        elm.classList.add(className);
    }
}
```

[2 marks]

e) Given the following code:

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

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

[2 marks]

f) Use jQuery to do the following in HTML document on Listing 1.

Listing 1: 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 naming convention and directory structure used while creating ASP.NET MVC controllers and views.

[1 mark]

b) Figure Q3.b shows the relationship among Course, Enrollment and Student classes.

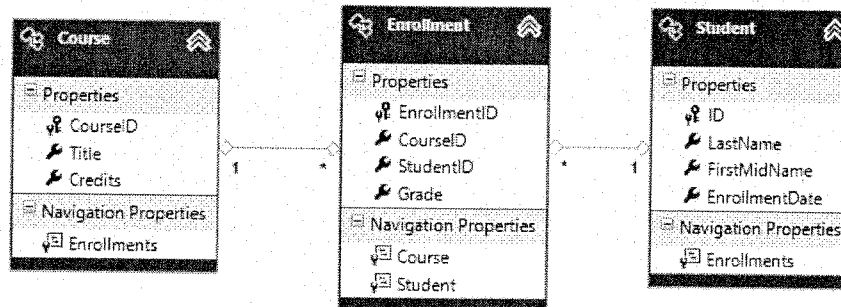


Figure Q3.b: Relationship between entities

- i) Briefly explain what is .NET Entity Framework [1 mark]
 - ii) Compare Entity Framework Code first and Database first approach. [1 mark]
 - iii) Define three classes in C# such that they can be used in Database context class. [3 marks]
 - iv) Write Database context Class to be used with .NET Entity Framework. [1 mark]
- c) You want to create a new controller called StudentsController to display all student details. Explain how you would do this. [1 marks]

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

[2 mark]