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| **National University of Computer and Emerging Sciences, Lahore Campus** | | | | |
| C:\Users\saif\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\final design.jpg | **Course:** | **Web Programming** | **Course Code:** | **CS-406** |
| **Program:** | **BS (Computer Science)** | **Semester:** | **Fall 2018** |
| **Duration:** | **60 Minutes** | **Total Marks:** | **30** |
| **Paper Date:** | **3-Oct-18** | **Weight** | **15 %** |
| **Section:** | **B** | **Page(s):** | **1 – 7** |
| **Exam:** | **Midterm** | **Reg. No.** |  |
| **Instruction/Notes:** | Put a tick mark against the correct answer for the MCQs. Each MCQ is of one 1 mark.  Provide solutions in the spaces provided after each question.  Good luck!  **SECTION B (Solution)** | | | |

1. How can you make an e-mail link:
   1. <a href=”xxx@yyy”>
   2. <mail href=”xxx@yyy”>
   3. <mail>xxx@yyy</mail>
   4. **<a href=”mailto:xxx@yyy”>**
2. Which attribute you'll use with TD tag to merge two cells horizontally?
3. merge=colspan2
4. rowspan=2
5. **colspan=2**
6. merge=row2
7. HTML documents are saved in
8. Special binary format
9. Machine language codes
10. **ASCII text**
11. None of above
12. JavaScript supports a composite data type known as object?
13. **True**
14. False
15. In JavaScript, what is the value of x: \_\_\_\_4hello04\_\_\_\_\_

var x = 2+ 2 + "Hello" + 0 + 4

1. In JavaScript if we use document.write() after an HTML document is loaded, will it delete all existing HTML?
2. **True**
3. False
4. JavaScript has a built-in function constructor?
5. **True**
6. False
7. \_\_\_\_\_\_\_ removes the child elements from the selected element “p” using jQuery.
8. (“#p”).remove();
9. **(“#p”).empty();**
10. None of these
11. Write code in jQuery to select first <li> element of every <ul> \_\_\_\_$("ul li:first child")\_\_\_\_\_\_\_\_\_
12. jQuery contains the following features:
13. HTML/DOM and CSS manipulation
14. Effects and animations
15. Ajax
16. **All of these**
17. Explain ASP.net compilation procedure (1)

C# -> C# complier -> MSIL/CIL -> CLR -> native code -> OS/hardware

1. What is the difference between value type and reference type? (1)

**Reference Type** variables are stored in the heap while **Value Type** variables are stored in the stack.

1. What is the difference between boxing and unboxing? (1)

The basic **difference between Boxing and Unboxing** is that **Boxing** is the conversion of the value type to an object type whereas, on other hands, the term **Unboxing** refers to the conversion of the object type to the value type.

It links value type to reference type.

1. What is Sql injection and how can you avoid it in ADO.net? (2)

**SQL injection**is a code injection technique, used to attack data-driven applications, in which nefarious SQL statements are inserted into an entry field for execution (e.g. to dump the database contents to the attacker).

To avoid we use parametrized query.

1. Consider a database with following table Employee (id, name, salary, deptID)

Write a query to get the average salary for all departments employing more than 10 employees (1)

SELECT AVG(salary)

FROM employees

GROUP BY department\_id

HAVING COUNT(\*) > 10;

1. What are the benefits of using n-tier architecture (1)

There are several benefits to using n-tier architecture for your software.  These are scalability, ease of management, flexibility, and security.

* **Secure:** You can secure each of the three tiers separately using different methods.
* **Easy to manage:** You can manage each tier separately, adding or modifying each tier without affecting the other tiers.
* **Scalable:** If you need to add more resources, you can do it per tier, without affecting the other tiers.
* **Flexible:** Apart from isolated scalability, you can also expand each tier in any manner that your requirements dictate.

1. In HTML forms we use an attribute called as method i.e. Request method. Explain the different types of it with the help of an example (1)

* GET requests can be cached
* GET requests remain in the browser history
* GET requests can be bookmarked
* GET requests have length restrictions
* GET requests are to retrieve data
* POST requests are never cached
* POST requests do not remain in the browser history
* POST requests cannot be bookmarked
* POST requests have no restrictions on data length
* POST requests should be used to transmit data

1. Suppose you have one image (image1.gif) and two buttons (button1 and button2) on the HTML page. By default, image1.gif is set. Use JavaScript to change the image source to image2.gif when button1 is clicked and change image source back to image1.gif when button2 is clicked (2)

<img id=”myImage” src=”image1.gif”>

<button onclick=”document.getElementById(‘myImage’).src = ‘image2.gif’ ”> Button1 </button>

<button onclick=”document.getElementById(‘myImage’).src = ‘image1.gif’ ”> Button2 </button>

1. You have two tags <p id = “intro”> Hello World </p> and <p id = “demo”> </p>. Write JavaScript code to get the text from paragraph with id = intro and then place that text onto paragraph with id = demo. (1)

<script>

var myElement = document.getElementById(“intro”);

document.getElementById(“demo”).innerHTML = myElement.innerHTML;

</script>

1. In this question you have to create new html elements using JavaScript. Assume the following code is already written:

<div id = “div1”>

<p id = “p1”> This is a paragraph </p>

</div>

* 1. Write JavaScript code to create one paragraph with text “this is new paragraph” inside div (it should be written before “This is a paragraph”).
  2. Then remove the existing paragraph with id = p1 (2).

<script>

var para = document.createElement("p");

var node = document.createTextNode("This is new paragraph");

para.appendChild(node);

var element = document.getElementById("div1");

var child = document.getElementById("p1");

element.insertBefore(para,child);

</script>

<script>

var parent = document.getElementById("div1");

var child = document.getElementById("p1");

parent.removeChild(child);

</script>

1. What is the purpose of wrapping all jQuery methods inside of the .ready() method? (1)

* This is to prevent any jQuery code from running before the document is finished loading (is ready).
* It is good practice to wait for the document to be fully loaded and ready before working with it.
* Here are some examples of actions that can fail if methods are run before the document is fully loaded:
  + Trying to hide an element that is not created yet
  + Trying to get the size of an image that is not loaded yet

1. What are the advantages jQuery has over JavaScript? (1)

The 3 main advantages of jQuery are:

* its light weight when compared to other javascript frameworks
* it has a wide range of [plugins](http://plugins.jquery.com/) available for various specific needs
* it is easier for a designer to learn jQuery as it uses familiar CSS syntax. jQuery is [Javascript for Designers](http://www.sitepoint.com/article/jquery-javascipt-designers/)
* Large development community and many plugins.
* It's on Microsoft's radar and they are adding some plugin support and debug capabilities.
* Very good documentation for a 3rd party library.
* Lightweight.
* Chaining capabilities are very powerful

1. Suppose you have:

<p>change my background color using jQuery</p>

Using jQuery change the background color of “p” to white when mouse pointer leaves the html element. Change the background color of “p” to yellow when the mouse pointer double clicks the html element (2)

$("p").on({

Dblclick : function(){  
    $(this).css(“background-color”, “white”);  
},

Mouseleave : function(){  
    $(this).css(“background-color”, “yellow”);  
}

});

1. Write jQuery code to make all elements fade to 0.5 opacity over a period of one second (1)

$(“\*”).fadeTo (1000,0.5)

1. Write jQuery code to change the following div:

<div id=”d1”> </div>

Change its height and width to 200px and opacity to 0.3 (1)

$(“#d1”).animate({

Height: ‘200px’,

Width:’200px’,

Opacity: ‘0.3’,

)};

1. What are the three powerful methods to change and manipulate HTML elements and attributes by jQuery. Write their names (1)

text()

html()

val()