

Section A: Multiple Choice Questions (30%)

1. In CSS, you can override precedence rules by adding the ____ property to a style declaration. (2%)
A. !override
B. !main
C. !important
D. !priority

2. Given a For loop counter of for (var i = 1; i <= 5; i+=2) , the counter values are _____. (2%)
A. 1 and 3
B. 1, 3, and 5
C. 5, 3, and 1
D. 1, 2, 3, 4 and 5

3. Which of the following is not a legal JavaScript statement for accessing objects? (2%)
A. document.images[1].src="exam.gif";
B. document.myform.mytextbox.value = "myname";
C. document.getElementById["myID"].src="exam.gif";
D. document.p[1]="text for my first paragraph";

(This question will not be considered for the final score – due to mistake)

4. Among the following types of style rules, ____ has the highest priority. (2%)
A. User Defined Rules
B. External Style Rules
C. Embedded Rules
D. Inline Styles

A and D can be right under different circumstances (eg. !important, CSS1 or 2), since these things were undefined both A and D will considered correct.

5. Which one of the following statements is *false*? (2%)
A. In JavaScript, identifier names are case sensitive.
B. JavaScript code can appear in both <head> and <body> sections.
C. External JavaScript file can be linked using the <link> element.
D. JavaScript can be turned off by the users concerning of security.

6. The style rule `li, em {color: blue}` indicates the content of _____ will appear in blue color. (2%)

- A. Both `` and `` elements
- B. Any `` elements that are inside a `` element
- C. The first `` element that is inside a `` element
- D. The `<li em>` element

7. What is one advantage that HTML5 APIs offer for modern Web design? (2%)

- A. They enable users to view Flash content on mobile devices.
- B. They enable developers to create apps without coding skills
- C. They enable older browsers to display any multimedia content
- D. They enable users to view multimedia without plug-ins

8. Which protocol is ideal for transmitting large files? (2%)

- A. HTTP
- B. FTP
- C. SMTP
- D. RTP

9. Match each of the TCP/IP layers with the correct protocol. (8% -2% each)

- | | |
|----------------------|---------|
| a) Application Layer | 1) IP |
| b) Transport Layer | 2) WiFi |
| c) Network Layer | 3) TCP |
| d) Physical Layer | 4) HTTP |

a4, b3, c1, d2

10. Indicate whether each of the following statements is True or False, and explain your answer briefly (within a line). (6% - 2% each)

A. HTML allows constructs that are not permitted in XHTML.

Answer: TRUE. For example, you can omit close tags for many elements, or use characters such as “<” without escaping them.

B. GIF supports 8-bit transparency, meaning image can “fade-in” through partial transparency.

Answer: WRONG, GIF supports either fully transparent or opaque

C. Is this a "well formed" XML document?

```
<?xml version="1.0"?>
<note>
<to age="29">Tove</to>
<from>Jani</from>
</note>
```

Answer: TRUE. Checked by XML validator

Well Formed XML Documents

An XML document with correct syntax is "Well Formed".

- XML documents must have a root element
- XML elements must have a closing tag
- XML tags are case sensitive
- XML elements must be properly nested
- XML attribute values must be quoted

Section B: Longer Answer Questions (40%)

1. How many alert dialogs will the following Javascript generate, and what will be displayed in each of them? (5%)

```
var x = "10";
function f(){
    var x = "4";
    alert(this.x);
    function g(){alert(x);}
    g();
}
f();
```

Answer: there will be 2 alert dialogs. The first will display "10", (or undefined, both are correct) and the second will display "4".

2. The following web page is loaded into a web server:

```
<html>
  <head><title>JavaScript question</title></head>
  <body>
    <script type="text/javascript">
      book = new Array(1,2,3,4,5,6,7,8);
      document.write(book[1]);
      book[10]=10;
      document.write(book[10]);
    </script>
  </body>
</html>
```

Once the above web page is loaded what will be the outcome? (5%)

210 Because book[1] prints 2 and book[10] prints 10

3. Describe the situations of using External Style Sheets, Embedded (Internal) Style Sheets and Inline Styles. Use both CSS and HTML code to explain how to use each type of the styles. (10%)

An external style sheet is ideal when the style is applied to many pages. With an external style sheet, you can change the look of an entire Web site by changing just one file.

```
<head>
  <link rel="stylesheet" type="text/css" href="mystyle.css" />
</head>
```

An Embedded (Internal) style sheet should be used when a single document has a unique style. You define internal styles in the head section of an HTML page, inside the <style> tag.

```
<style type="text/css">
  body {
    font-family: Helvetica, Arial, sans-serif;
    color: #665544;
    padding: 22px;}
</style>
```

Inline style is used to provide styling to a given element in a web page. An inline style loses many of the advantages of a style sheet (by mixing content with presentation).

```
<body>
  <h1 style="color:blue;margin-left:30px;">This is a heading.</h1>
</body>
```

4. Identify and describe four properties that are used in the CSS box model (feel free to draw a figure if you want). (10%)
- Margin - Clears an area around the border. The margin does not have a background color, it is completely transparent
 - Border - A border that goes around the padding and content. The border is inherited from the color property of the box
 - Padding - Clears an area around the content. The padding is affected by the background color of the box
 - Content - The content of the box, where text and images appear

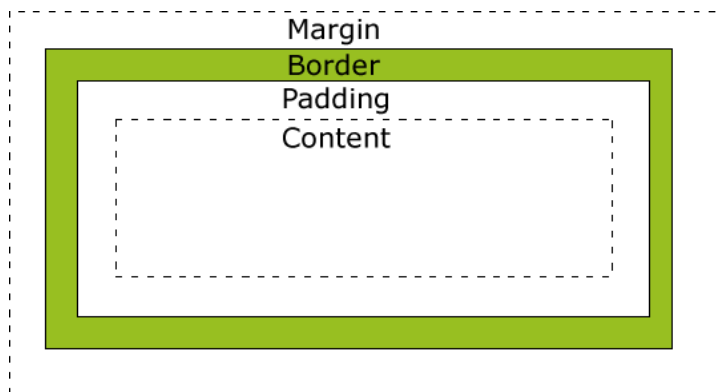


Image from w3schools.com

5. Explain the differences between POST and GET when sending HTML form data. (10%)

GET

Send data to the server by appending it to the end of the URL

Sensitive data will be displayed as part of the URL

URL has size restrictions – not suitable for large amount of data

Query can be cached for future use

POST

Send data as separate packets

The data is hidden from user but still in plain text, but possible to work with https.

Suitable for sending file and large amount of data for storage on the server-side

Not possible for caching and bookmarking

Section C: Coding (Snippets) Questions (40%)

1. Below you will see some snippets of HTML from a Web page. Fill in the body of the Javascript function *changeColor* so that the color of the text changes in response to the selection made in the menu (5%)

```

<style type="text/css">
  .a {color:red;}
  .b {color:green;}
  .c {color:blue;}
</style>
...
<div id="colorText">Select below to change the color of this text</div>
  <select onchange="changeColor(this.value)">
    <option value="a">Red</option>
    <option value="b">Green</option>
    <option value="c">Blue</option>
  </select>
  <script type="text/javascript">
    //
      function changeColor(value) {

        // Answer:
        document.getElementById("colorText").className = value

      }
    //]]&gt;
  &lt;/script&gt;
</pre>
</div>
<div data-bbox="142 562 456 582" data-label="Text">
<p>2. Consider the following HTML file:</p>
</div>
<div data-bbox="111 627 552 906" data-label="Text">
<pre>
&lt;!DOCTYPE html&gt;
&lt;html&gt;
  &lt;head&gt;
    &lt;title&gt; Test Page &lt;/title&gt;
  &lt;/head&gt;
  &lt;body&gt;
    &lt;header &gt;&lt;h1&gt; This is a test page &lt;/h1&gt;&lt;/header&gt;
    &lt;nav id="menu"&gt;
      &lt;ul&gt;
</pre>
</div>
```

```
<li><a href="home.php">Home </a> </li>
<li><a href="login.php">Login </a> </li>
<li><a href="register.php">Register </a> </li>
</ul>
</nav>
<section id="main">
  <article>
    <p>This is a line </p>
    This is another line with a
    <a href="link.html">link </a> </article>
  <article>
    <p> This is a line.</p>
    <p> This is another line.</p>
  </article>
</section>
</body>
</html>
```

Write the CSS rules needed to:

See all the results working here:

<http://www.idi.ntnu.no/~michailg/IT2805/examples/examsExample.html>

(a) Change the width of the menu to 400px. (3%)

```
#menu {
  width: 400px;
}
```

(b) Make all links in the menu bold. (3%)

```
#menu a {  
    font-weight: bold;  
}
```

(c) Change the color of the link in the first article to green. (3%)

```
#main a {color:green;} You can be even more specific here!
```

(d) Turn the list into an inline element (3%)

```
li {display: inline;}
```

(e) Delete the Home line of the list (3%)

```
li.first-child {display: none;}    “delete” expression = not displayed, hence other  
                                   “explained” interpretations are correct here.
```

3. Write a JavaScript function that calculates the number of days left till the Christmas Date (10%).

```
<html>  
<body>  
  <script type="text/javascript">  
    var dt = new Date();           // current date  
    var xmas = new Date(2014,12,25); // this xmas  
    var mS = xmas-dt;             // calc mS from now to new year  
    var days = mS/(1000*60*60*24); // convert mS to days  
    days = Math.floor(days);      // round down to nearest integer  
    document.write("days to xmas = "+days);  
  </script>  
</body>  
</html>
```

4. Convert the data in the table below to an XML document. Choose how you want to represent the data in XML. (10%)

Country	Capital	Population	Area (km ²)
---------	---------	------------	-------------------------

Country	Capital	Population	Area (km ²)
Denmark	Copenhagen	5 602 628	43 561
Finland	Helsinki	5 426 674	338 534
Iceland	Reykjavik	321 857	103 440
Norway	Oslo	5 051 275	323 787
Sweden	Stockholm	9 555 893	447 420

(Source: Wikipedia)

```
<?xml version="1.0" encoding="UTF-8"?>
<countries>
  <country name="Denmark" capital="Copenhagen" population="5602628" area="43561" />
  <country name="Finland" capital="Helsinki" population="5426674" area="338534" />
  <country name="Iceland" capital="Reykjavik" population="321857" area="103440" />
  <country name="Norway" capital="Oslo" population="5051275" area="323787" />
  <country name="Sweden" capital="Stockholm" population="9555893" area="447420" />
</countries>
```

or

```
<?xml version="1.0" encoding="UTF-8"?>
<countries>
  <country>
    <name>Denmark</name>
    <capital>Copenhagen</capital>
    <population>5602628</population>
    <area>43561</area>
  </country>
  <country>
    <name>Finland</name>
    <capital>Helsinki</capital>
    <population>5426674</population>
    <area>338534</area>
  </country>
```

```
<country>
  <name>Iceland</name>
  <capital>Reykjavik</capital>
  <population>321857</population>
  <area>103440</area>
</country>
<country>
  <name>Norway</name>
  <capital>Oslo</capital>
  <population>5051275</population>
  <area>323787</area>
</country>
<country>
  <name>Sweden</name>
  <capital>Stockholm</capital>
  <population>9555893</population>
  <area>447420</area>
</country>
</countries>
```