



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2014/2015 – 1st Year Examination – Semester 1

IT1305 – Web Application Development I
Multiple Choice Question Paper

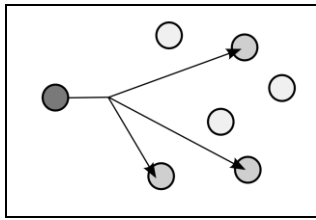
15th March 2015
(TWO HOUR)

Important Instructions:

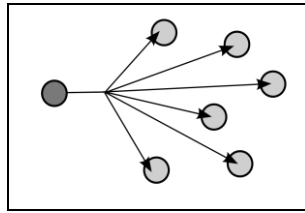
- The duration of the paper is **2 (two) hours**.
- The medium of instruction and questions is English.
- The paper has **50 questions** and **14 pages**.
- All questions are of the MCQ (Multiple Choice Questions) type.
- All questions should be answered.
- Each question will have 5 (five) choices with **one or more** correct answers.
- All questions will carry equal marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from 0 (*All the incorrect choices are marked & no correct choices are marked*) to +1 (*All the correct choices are marked & no incorrect choices are marked*).
- Answers should be marked on the special answer sheet provided.
- Note that questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. **Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices.**

- 1) Which of the following statements is/are true with respect to the World Wide Web?
- | |
|---|
| (a) It is an information system of interlinked hypertext documents.
(b) Special software is required to access web pages.
(c) It is accessed via the Internet.
(d) The Internet is a subsystem of the World Wide Web.
(e) Web pages can only contain text, images and videos. |
|---|
- 2) Which of the following statements is/are true with respect to the IP addresses?
- | |
|---|
| (a) Internet Protocol Version 4 (IPv4) represents an IP address as a 64-bit number.
(b) Internet Protocol Version 6 (IPv6) represents an IP address as a 128-bit number.
(c) Internet Protocol Version 6 (IPv6) only supports public addresses.
(d) 192.168.1.1 is a typical IPv4 private address.
(e) 2001:DB8:0:1234:0:567:8:1 is a typical example of an IPv6 address. |
|---|
- 3) Which of the following is/are (a) tool(s) that facilitate telecommuting?
- | | | |
|---|---------------------------------------|-----------------|
| (a) Groupware
(d) Conference calling | (b) Facebook
(e) Videoconferencing | (c) Google Maps |
|---|---------------------------------------|-----------------|
- 4) Which of the following is/are (an) application layer protocol(s) in the Internet protocol suite?
- | | | |
|--------------------|-------------------|----------|
| (a) TCP
(d) UDP | (b) FTP
(e) IP | (c) HTTP |
|--------------------|-------------------|----------|
- 5) Which of the following protocol(s) is/are primarily used for e-mail services?
- | | | |
|-------------------------|---------------------|----------|
| (a) HTTPS
(d) Telnet | (b) IMAP
(e) POP | (c) SMTP |
|-------------------------|---------------------|----------|
- 6) Which of the following websites is/are primarily (an) e-commerce website(s)?
- | | | |
|------------------------------------|---------------------------------|------------------|
| (a) Amazon.com
(d) LinkedIn.com | (b) Alibaba.com
(e) Ebay.com | (c) Facebook.com |
|------------------------------------|---------------------------------|------------------|
- 7) Which of the following statements is/are **true** with respect to domains?
- | |
|---|
| (a) co.uk, com.lk, ac.lk are examples for top-level domains.
(b) The country code top-level domains were primarily based on the two-character territory codes of ISO-3166 country abbreviations.
(c) "edu" is considered a top-level domain in institute.edu.lk.
(d) A hostname is a domain name that has at least one associated IP address.
(e) "www" in www.ucsc.cmb.ac.lk is a subdomain of ucsc.cmb.ac.lk. |
|---|

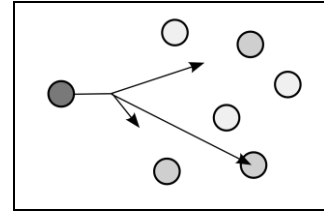
- 8) Which of the following lists is in correct order, representing the routing schemes in the three diagram given below?



i



ii



iii

- | | |
|--|--|
| (a) i multicast, ii Broadcast, iii unicast | (b) i anycast, ii multicast, iii geocast |
| (c) i anycast, ii multicast, iii unicast | (d) i geocast, ii anycast, iii unicast |
| (e) i multicast, ii.broadcast, iii anycast | |

- 9) Which of the following statements is/are **true** with respect to HTML elements and attributes?

- | |
|---|
| <p>(a) All HTML elements in an HTML page must have an opening and closing tag.</p> <p>(b) Attribute values may be enclosed within single or double quotes.</p> <p>(c) Elements are not case sensitive.</p> <p>(d) Attributes are case sensitive.</p> <p>(e) One can create his/her own set of HTML elements and attributes in addition to those already predefined in HTML.</p> |
|---|

- 10) Which of the following is/are (a) block element(s) in HTML5?

- | | | |
|-------------|------------|-----------|
| (a) <div> | (b) | (c) |
| (d) <table> | (e) <td> | |

- 11) Which of the following conventions should be observed when creating an XHTML document?

- | |
|---|
| <p>(a) Include all tags in uppercase.</p> <p>(b) Include the doctype element in documents.</p> <p>(c) Ensure that all tags are closed.</p> <p>(d) Ensure that all attributes are lowercase.</p> <p>(e) Include XHTML tag as a head element attribute.</p> |
|---|

- 12) Which of the following statements is/are true with respect to Document Object Model?

- | |
|--|
| <p>(a) The Core DOM includes objects of both XML and HTML documents.</p> <p>(b) In <P>Hello Word</P> there is only one node which is P.</p> <p>(c) In <P>Hello World </P>, B is a child node of P.</p> <p>(d) Each DOM level contains some required and some optional modules.</p> <p>(e) Every DOM node has a nodeName, nodeTag and nodeValue.</p> |
|--|

13) Which of the following is/are (an) attribute(s) of the HTML element in HTML5?

- | | | |
|--------------|-------------|----------|
| (a) contents | (b) charset | (c) name |
| (d) class | (e) lang | |

A. Use the following HTML code to answer question numbers 14 – 20. The file name of this document is example.html and is located in the *pages* folder.

```
<!doctype html>
<html>
<head>
<title>Exam Sample Document</title>
</head>
<body>
  <noscript>
    Javascript is not supported!
  </noscript>

  <p>
    <hr/>
    <em><strong>&gt;I love &nbsp; HLML, CSS & JavaScript.&lt;</strong></em></br>
    <i><b>&gt;I love &nbsp; HLML, CSS & JavaScript.&lt;</b></i>
    <hr/>
  </p>
  <form action="../../login_action.php" method="post">
    <label>Username</label><input type="text" name="txtuname" value="Username" size="20">
    <label>Password</label><input type="password" name="txtpassword">
    <input type="submit" value="submit"><input type="reset" value="clear">
  </form>

  <p>
    <a href="http://www.ucsc.lk/index.html#news">UCSC News</a>
  </p>

</body>
</html>
```

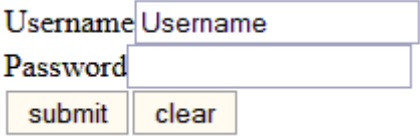
14) Which of the following statements is/are **true** with respect to the above HTML document?


- | |
|--|
| (a) When Javascript is not supported by the browser, “Javascript is not supported” will be displayed. |
| (b) When Javascript is disabled in the browser, “Javascript is not supported” will be displayed. |
| (c) When Javascripts are not included in the webpage, “Javascript is not supported” will be displayed. |
| (d) When the latest version of Javascript is not installed on the client browser, “Javascript is not supported” will be displayed. |
| (e) When there is an error in a Javascript on the webpage, “Javascript is not supported” will be displayed. |

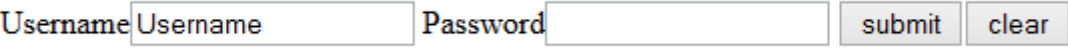
15) Which of the following statements is/are **true** with respect to the above HTML document?

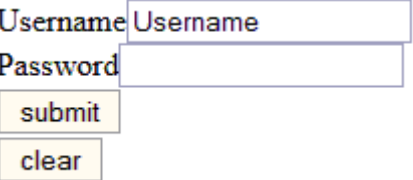
- (a) The ` ` will display a new line between words “love” and “HTML”.
- (b) The `&` will display the output “HTML, CSS & JavaScript”.
- (c) The `<hr/>` tag will display a border around the emphasized text.
- (d) The `>` will display a `<` symbol.
- (e) The `` tag will display bold text.


16) Which of the following figures correctly display the form in the above HTML document?

(a) 

(b) 

(c) 

(d) 

(e) 

17) Which of the following statements is/are **true** with respect to the form in the above HTML document?

- (a) The `login_action.php` file is located in the same folder as the `example.html` file.
- (b) When the submit button is clicked, the data is sent as a part of the URL.
- (c) If the `<label>` tags are removed, the form will still consist of the text “username” and “password” before the text fields.
- (d) The maximum number of characters that can be entered in the Username field is 20.
- (e) If `type=“email”` was used instead of `type=“text”`, the field will be automatically validated to check for a correct email address.

- 18) Which of the following statements is/are **true** with respect to the link “UCSC news” in the HTML document?
- (a) When clicked, it will open the linked document in a new window or tab.

(b) When clicked, it will open the linked document in the same frame as it was clicked on.

(c) When clicked, it will open the linked document in the parent frame.

(d) When clicked, it will open the linked document in the full body of the window.

(e) When clicked, it will open the linked document in a frame with no assigned name.
- 19) Which of the following statements is/are **true** with respect to the link “UCSC news” in the HTML document?
- (a) When clicked, it will open the index.html page.

(b) When clicked, it will open the index.html page and go to a fragment with the identifier ‘news’.

(c) When clicked, it will open news.html page of the UCSC website.

(d) When clicked, it will open the index.html page and go to the ‘top’ of the page.

(e) When clicked, it will open a page and show an Error.
- 20) Which of the following statements is/are true with respect to the above HTML document?
- (a) will make the text bold.

(b) <i> and will both display the text in italic.

(c) will display the text in bold.

(d) and will both display the text in bold and with the same thickness.

(e) and will support the screen-readers by differentiating text appearance for visually impaired web users.
- 21) Which of the following details can be added to an email link?
- (a) Sender email address

(b) Carbon Copy email addresses

(c) Body of the email

(d) Subject of the email

(e) Blind Carbon Copy email addresses
- 22) Which of the following elements, attributes and attribute values is/are required to create an email link?
- | | | |
|----------|------------|------------|
| (a) a | (b) mail | (c) object |
| (d) href | (e) mailto | |

23) Consider the following lists.

UCSC

University of Colombo School of Computing

BIT

Bachelor of Information Technology

Which of the following code(s) will display the above lists on a web browser?

(a)

```
<ol>
  <li>UCSC
  <li>University of Colombo School of Computing
  <li>BIT
  <li>Bachelor of Information Technology
</ol>
```

(b)

```
<ul>
  <li>UCSC
  <li>University of Colombo School of Computing
  <li>BIT
  <li>Bachelor of Information Technology
</ul>
```

(c)

```
<ul>
  <li>UCSC
  &tab;<li>University of Colombo School of Computing
  <li>BIT
  &tab;<li>Bachelor of Information Technology
</ul>
```

(d)

```
<dl>
  <dt>UCSC
  <dd>University of Colombo School of Computing
  <dt>BIT
  <dd>Bachelor of Information Technology
</dl>
```

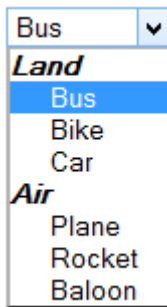
(e)

```
<ul>
  <li>UCSC
  <li>University of Colombo School of Computing
  <li>BIT
  <li>Bachelor of Information Technology
</ul>
```

24) Which of the following attributes is/are available for the IMG tag?

- | | | |
|------------|----------|-----------|
| (a) src | (b) lang | (c) width |
| (d) usemap | (e) alt | |

25) Consider the following drop-down box.



Which of the following elements is/are required to create the above drop-down box?

- | | | |
|--------------|------------|--------------|
| (a) SELECT | (b) GROUP | (c) FIELDSET |
| (d) OPTGROUP | (e) OPTION | |

26) Which of the following elements is/are (an) element(s) within the TABLE element?

- | | | |
|-------------|-----------|---------|
| (a) TH | (b) THEAD | (c) COL |
| (d) CAPTION | (e) TITLE | |

27) Which of the following HTML code segments can be used to embed a video in an HTML page?

- | |
|--|
| (a) <media src="UCSC.avi" width= "640" height= "480"> |
| (b) <object data= "UCSC.avi" type= "video/avi" width= "640" height= "480"> |
| (c) <embed src="UCSC.avi" width= "640" height= "480"> |
| (d) <media data= "UCSC.avi" type= "video/avi" width= "640" height= "480"> |
| (e) <video src="UCSC.avi" width= "640" height= "480" controls> |

28) Which of the following is/are (a) universal selector(s) in CSS?

- | | | |
|-------|-------|--------|
| (a) # | (b) . | (c) \$ |
| (d) * | (e) ! | |

29) Consider the following example of the font attribute of the header 1 element.

```
<h1 class= "topheader">Some text</h1>
```

Which of the following CSS code segments can be used to define the font attributes of elements with the CLASS name “topheader” that is used as in the above example?

- | |
|--|
| (a) h.topheader {font-family: Georgia, serif; color:#FF0000;} |
| (b) .topheader {font-family: Georgia, serif; color:#FF0000;} |
| (c) h1.topheader {font-family: Georgia, serif; color:#FF0000;} |
| (d) *.topheader {font-family: Georgia, serif; color:#FF0000;} |
| (e) #.topheader {font-family: Georgia, serif; color:#FF0000;} |

30) Which of the following code segments can be used to link an external CSS stylesheet to a webpage?

- (a) `<@import url("./example.css") type= "text/css" rel= "stylesheet">`
- (b) `<style type= "text/css">@import url("./example.css");</style>`
- (c) `<link rel= "stylesheet" type= "text/css" src= "sample.css" />`
- (d) `<import url("./example.css") type= "text/css">`
- (e) `<link rel= "stylesheet" type= "text/css" href= "sample.css" />`

31) Which of the following values can be used as (a) value(s) for the attribute background-repeat to tile an image both vertically and horizontally?

- (a) repeat
- (b) repeat-xy
- (c) repeat-yx
- (d) repeat-all
- (e) repeat-z

32) Which of the following statements is/are **true** with respect RGBA value format in CSS?

- (a) The style `h1{color: rgba(255,0,0,1.0);}` will display header1 text in red.
- (b) The style `h1{color: rgba(0,0,0,0.0);}` will display the header1 text in black.
- (c) The style `h1{color: rgba(0,0,0,0.2);}` will display the header1 text in black.
- (d) The style `h1{color: rgba(0,255,0,0.5);}` will display header1 text in a light shade of green.
- (e) The style `h1{color: rgba(255,255,255,1.0);}` will display the header1 text in black.

33) Which of the following can be used to increase the font size of an element by 20% relative to the font size of its parent element?

- (a) `font-stretch:20%;`
- (b) `font-size-set: 0.2;`
- (c) `font-size: 20%;`
- (d) `font-size-adjust:0.2;`
- (e) `font-size:larger;`

34) Consider the following declaration of a Gradient background of an element in CSS.

Background: `-moz-linear-gradient(X,#AAA J,#BBB K);`

Consider the following Which of the following statements is/are **true** with respect to the Gradient background of an element in CSS?

- (a) X and K specifies the start and end positions of the gradient.
- (b) J specifies the percentage from where the fade begins.
- (c) The "-moz-" prefix is used to display linear gradients in Chrome web browsers.
- (d) The linear gradient works similarly on all web browsers.
- (e) #AAA and #BBB specify the primary and secondary colours used in the gradient.

35) Which of the following codes can be used to define the background colour “blue” in CSS?

- | | |
|--|--------------------------------|
| (a) background-color: rgb(0,0,255); | (b) background-color: blue; |
| (c) background-color: #0:0:255; | (d) background-color: #0000FF; |
| (e) background-color: rgba(00,00,FF,01); | |

36) Which of the following statements is/are **true** with respect to CSS?

- | |
|---|
| (a) The Class selector defined for a particular element can be used for all other elements. |
| (b) TABLE b{color: #FF0000;} will apply to all B element which are nested within the TABLE element. |
| (c) An ID selector can be defined as \$myPara {color: #FF0000;}. |
| (d) The Type selector can be used to specify a list of elements on which a given CSS rule is to be applied. |
| (e) P>b{color: #FF0000;} will apply to all B element which are the immediate children of P element. |

37) Which of the following is/are (a) valid identifier(s) in JavaScript?

- | | | |
|----------|-----------|----------|
| (a) var | (b) \$var | (c) -var |
| (d) 1var | (e) Xvar | |

38) Consider the following JavaScript Code.

```
var myVar1 = 10;
var myVar2 = 25;
var myVar3 = 50;
var myVar4 = 100;
var myVar5 = 200;

v1 = myVar2%myVar1;
v2 = myVar1++;
myVar3 += myVar2;
v3 = --myVar2;
v4 = "" + myVar5 + myVar4 + "";
```

Which of the following statements is/are **true** with respect to the JavaScript code given above?

- | |
|---|
| (a) The value of the variable v1 is 2.5. |
| (b) The value of the variable v2 is 11. |
| (c) The value of the variable myVar3 is 75. |
| (d) The value of the variable v3 is 24. |
| (e) The value of the variable v4 is 300. |

39) Which of the following statements is/are **true** with respect to JavaScript built-in global functions?

- (a) The alert() function will display a message box with a given message and an OK button.
- (b) The prompt() function will display a message box with a given message, a text box and an OK button.
- (c) The confirm() function will display a message box with a given message and a CANCEL button.
- (d) The Number() will convert alphanumeric strings into a number.
- (e) The parseInt() function parses a given string and returns the last integer value found in the string.

40) Which of the following are String literals?

- | | | |
|-------------|----------|---------------|
| (a) "1234" | (b) true | (c) 'Colombo' |
| (d) "Kandy" | (e) "\n" | |

B. Answer question numbers 41 – 45 based on the following HTML document.

```
<html>
<head>
<script type="text/javascript">
var w = 0;
var b = 0;
var h = 0;

function the_cal (width,breadth,height)
{
    if (height != 0)
    {
        volume = width * breadth * height;
        document.write("The volume is " + volume + ".");
    }
    else
    {
        area = width * breadth;
        document.write("The area is " + area + ".");
    }
}

function get_val ()
{
    w = prompt("Enter the width:");
    b = prompt("Enter the breadth:");
    h = prompt("Enter the height:");
    the_cal(w,b,h);
}

</script>
</head>
<body onload = "get_val()">

</body>
</html>
```

- 41) Which of the following statements is/are **true** with respect to the declaration of the variable w,b and h in the JavaScript code above?
- | | |
|---|--|
| (a) The variables are declared as Global variables. | (b) If the variables were not declared before using them, then this JavaScript will not function correctly. |
| (c) If the parameters of the function the_cal() were declared as w, b and h instead of width, breadth and height the JavaScript would still function correctly. | (d) As the variables are initialized with the integer value 0, float values will not be accepted if entered in the prompt. |
| (e) If the variables were declared inside the get_val() function this JavaScript will still function correctly. | |
- 42) Which of the following functions can be used to determine whether the values entered at the prompts for the variables width, breadth and height are numerical values?
- | | |
|------------------|----------------|
| (a) NaN() | (b) parseInt() |
| (c) Number() | (d) Eval() |
| (e) parseFloat() | |
- 43) Which of the following would be displayed on the browser, if no values were entered for any of the prompts?
- | | |
|------------------------|-------------------------|
| (a) "The Volume is 0" | (b) "The Volume is NaN" |
| (c) "The Area is 0" | (d) "The Area is NaN" |
| (e) "JavaScript Error" | |
- 44) Which of the following would occur, if a non-numerical value was entered for the variables width, breadth and/or height prompt?
- | |
|--|
| (a) An Error message will be displayed. |
| (b) "The volume is NaN" or the "The area is NaN" will be displayed. |
| (c) The browser will stop responding. |
| (d) The prompts will be displayed again. |
| (e) The calculation will be done by using only the entered numerical values. |
- 45) In which of the following section(s), other than the header section, could this script be inserted to function correctly?
- In the body section of the HTML document
 - In an external JavaScript file linked in the header section of the HTML document
 - In an external JavaScript file linked in the body section of the HTML document
- | | | |
|------------------|----------------|-----------------|
| (a) Only i. | (b) i. and ii. | (c) i. and iii. |
| (d) ii. and iii. | (e) Only ii. | |

46) Which of the following is/are (a) Reserved word(s) in JavaScript?

- | | | |
|-----------|-------------|-----------|
| (a) false | (b) execute | (c) break |
| (d) class | (e) not | |

C. Answer question numbers 47 – 50 based on the following HTML document.

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
    background-color: black;
    color: red;
}

</style>
</head>
<body>
<h1 id="myH1" style="color:white">My Header</h1>

<button onclick="myFunction1()">Button 1</button>

<p id="demo1"></p>

<button onclick="myFunction2()">Button 2</button>

<p id="demo2"></p>

<button onclick="myFunction3()">Button 3</button>

<script type="text/JavaScript">
function myFunction1() {
    var x = document.getElementsByTagName("STYLE")[0];
    document.getElementById("demo1").innerHTML = x.innerHTML
}

function myFunction2() {
    var y = document.getElementById("myH1").style.color;
    document.getElementById("demo2").innerHTML = y;
}

function myFunction3() {
    document.getElementById("myH1").style.color = "green";
}
</script>

</body>
</html>
```

47) Which of the following will occur when Button 1 is clicked?

- (a) Paragraph with the id demo1 will be populated with red coloured text “H1 {color: white;}”.
- (b) Paragraph with the id demo1 will be populated with red coloured text “body {background-color: black; color: red;}”.
- (c) Paragraph with the id demo1 will be populated with white coloured text “#myH1 {color: white;}”.
- (d) Paragraph with the id demo1 will be populated with red coloured text “body {background-color: black; color: red;} #myH1 {color: white;}”.
- (e) Paragraph with the id demo1 will be not be populated.

48) Which of the following will occur when Button 2 is clicked?

- (a) Paragraph with the id demo2 will be populated with red coloured text “white”.
- (b) Paragraph with the id demo2 will be populated with red coloured text “green”.
- (c) Paragraph with the id demo2 will be populated with red coloured text “#myH1 {color: white;}”.
- (d) Paragraph with the id demo2 will be populated with white coloured text “H1 {color: white;}”.
- (e) Paragraph with the id demo2 will be not be populated.

49) Which of the following will occur when Button 3 is clicked?

- (a) The text of the header with the id myH1 will change to green colour.
- (b) The text of the header with the id myH1 will change to red colour.
- (c) The text of the header with the id myH1 will change to black.
- (d) The text of the header with the id myH1 will disappear.
- (e) No changes will happen to the text of the header with the id myH1.

50) Which of the following will occur when Button 2 is clicked after clicking Button 3?

- (a) Paragraph with the id demo2 will be populated with red coloured text “white”.
- (b) Paragraph with the id demo2 will be populated with red coloured text “green”.
- (c) Paragraph with the id demo2 will be populated with red coloured text “#myH1 {color: white;}”.
- (d) Paragraph with the id demo2 will be populated with white coloured text “H1 {color: white;}”.
- (e) Paragraph with the id demo2 will be not be populated.
