



University of Colombo, Sri Lanka

University of Colombo School of Computing



**DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY
(EXTERNAL)**

Academic Year 2022 — 1st Year Examination — Semester 2

IT2406 — Web Application Development I

Multiple Choice Question Paper
(2 Hours)

Important Instructions

- The duration of the paper is **2 Hours**.
- The medium of instructions and questions is English.
- This paper has **40 questions** on **12 pages**. Answer **all** questions.
- All questions are of the **MCQ** (Multiple Choice Questions) type.
- Each question will have **5 (five)** choices with **one or more** correct answers.
- This paper consists of 100 marks and all the 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 -1 (All the incorrect choices are marked & no correct choices are marked) to +1 (All the correct choices are marked & no incorrect choices are marked). However, **the minimum mark per question would be zero**.
- 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/invigilator 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.**
- Calculators are **not** allowed.
- *All Rights Reserved*. This question paper can NOT be used without proper permission from the University of Colombo School of Computing.

1) Which of the following HTML code is/are **correct** regarding the “src” attribute?

- (a) `<area src="../people/a.html">`
- (b) `<source src="../movie/b.avi">`
- (c) `<frame src="../left.html">`
- (d) `<iframe src="../content/video.html">`
- (e) `<embed src="../image/a.gif">`

2) Which of the following statements is/are **correct** regarding web 3.0?

- I Web 3.0 is the “executable” phrase of World Wide Web with dynamic applications, interactive services, and “machine-to-machine” interaction.
- II In Web 3.0, computers can interpret information like humans and intelligently generate and distribute useful content tailored to the needs of users.
- III Contextual search in Web 3.0 will incorporate features like tailored search, personalized search, the development of the 3D web, and deductive reasoning abilities.

- | | |
|-------------------------|--------------------|
| (a) I Only | (b) II Only |
| (c) I and II Only | (d) I and III Only |
| (e) All, I, II and III. | |

3) Which of the following HTML tags description pairs are **correct**?

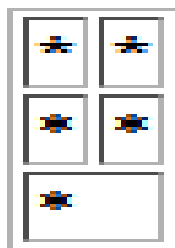
- | |
|---|
| (a) <code><mark></code> - Defines underline a text |
| (b) <code><figcaption></code> - Defines a caption for a <code><figure></code> element |
| (c) <code><aside></code> - < Defines content aside from the page content |
| (d) <code><nav></code> - Defines navigation links |
| (e) <code><section></code> - Defines a section in a document |

4) Which of the following HTML code set/s is/are correct regarding the output as shown in the picture below?

h. Coffee
i. Tea
j. Milk

- | |
|---|
| (a) <code><ul type="a" start="8"> Coffee Tea Milk </code> |
| (b) <code><li type="A" start="8"> Coffee Tea Milk </code> |
| (c) <code><ol type="a"> Coffee Tea Milk </code> |
| (d) <code><ol type="i" start="8"> Coffee Tea Milk </code> |
| (e) <code><ol type="a" start="8"> Coffee Tea Milk </code> |

5) Consider the following HTML code and its output given below



- I

```
<table border="1">
<thead><tr> <th> *</th> <th> *</th> </tr></thead>
<tbody><tr> <td> *</td> <td> *</td> </tr></tbody>
<tfoot><tr> <td colspan="2"> * </td></tr></tfoot> </table>
```
- II

```
<table border="1">
<tbody><tr> <td> *</td> <td> *</td> </tr></tbody>
<tfoot><tr> <td colspan="2"> * </td></tr></tfoot>
<thead><tr> <th> *</th> <th> *</th> </tr></thead>
</table>
```
- III

```
<table border="1">
<tfoot><tr> <td colspan="2"> * </td></tr></tfoot>
<thead><tr> <th> *</th> <th> *</th> </tr></thead>
<tbody><tr> <td> *</td> <td> *</td> </tr></tbody>
</table>
```

Which of the above I-III correctly represents the output above?

- | | |
|------------------------|---------------------|
| (a) I Only | (b) I and II Only |
| (c) I and II Only | (d) II and III Only |
| (e) All, I, II and III | |

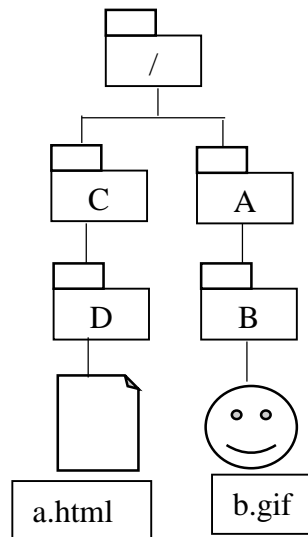
6) The following is the summary of the web 1.0, 2.0 and 3.0 with some blanks.

Crawl	Walk	Run
Web 1.0	Web 2.0	Web 3.0
Mostly Read-Only	- (A)-	Portable and Personal
- (B)-	Sharing Content	Consolidating Content
Web Forms	Web Applications	- (C) -

The correct order of tokens for filling the above blanks is

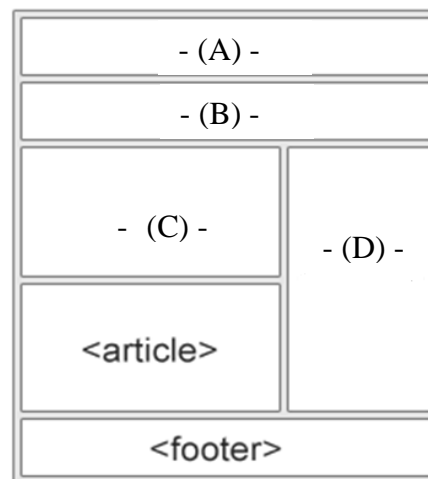
- | |
|---|
| <p>(a) Smart Applications / Owinging Content/ Wildly Read-Write</p> <p>(b) Owinging Content / Smart Applications / Wildly Read-Write</p> <p>(c) Wildly Read-Write / Smart Applications / Owinging Content/</p> <p>(d) Wildly Read-Write / Owinging Content/ Smart Applications</p> <p>(e) Smart Applications / Wildly Read-Write / Owinging Content</p> |
|---|

- 7) Consider the following folder structure diagram given below. Which of the following HTML code is **correct** to embed the “b.gif” image into the “a.html” page?



- (a) ``
(b) ``
(c) ``
(d) ``
(e) ``

- 8) HTML5 offers new semantic elements to define different parts of a web page:



The correct order of tokens for filling the above blanks is;

- (a) `<header> / <nav> / <aside> / <section>`
(b) `<nav> / <section> / <aside> / <header>`
(c) `<section> / <header> / <nav> / <aside>`
(d) `<nav> / <header> / <aside> / <section>`
(e) `<header> / <nav> / <section> / <aside>`

- 9) The Following is an HTML code with some blanks to display an image mapping.

```
<body>

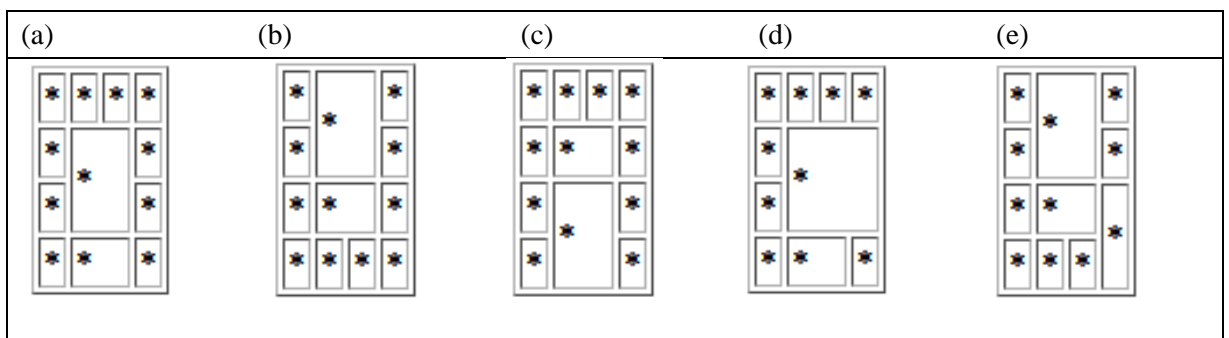
<map - (B) - ="can">
<area - (C) - =" - (D) - " coords="8,38,87,63" - (E) - ="a.html" alt=xxx>
</map>
</body>
```

The correct order of tokens for filling the above blanks is

- (a) name, usemap, href, shape, rect
- (b) usemap, name, href, rect, shape
- (c) usemap, name, shape, rect, href,
- (d) href, name, shape, usemap, rect
- (e) name, href, usemap, rect, shape

- 10) What would be the output of the following HTML code?

```
<table border="1">
<tr><td>*</td><td>*</td><td>*</td><td>*</td></tr>
<tr><td>*</td><td colspan="2" rowspan="2">*</td><td>*</td></tr>
<tr><td>*</td><td>*</td></tr>
<tr><td>*</td><td colspan="2">*</td><td>*</td></tr>
</table>
```



- 11) Which of the following HTML and CSS code/s is/are **correct** regarding the inline CSS style?

- (a) <p style: color:#11cc33 font-type: times> Kandy </p>
- (b) <p style: "colour:#11cc33"; font-type= times;"> Kandy </p>
- (c) <p style= "color:11cc33"; "font-type:times";> Kandy </p>
- (d) <p style= "colour:#11cc33";font-type: "times"> Kandy </p>
- (e) <p style= "color:#11cc33; font-type: times"> Kandy </p>

12) Which of the following embedded CSS code syntax is/are correct regarding the class selector.

- (a) `<head> <style type="text/css">.p1{color= #cc1122; font-type=times: font-size:12px} </style> </head>`
- (b) `<body> <style type="text/css">.p1{color: #cc1122; font-type:times: font-size:12px} </style> </body>`
- (c) `<head> <style type="css/text">.p1{color: #cc1122; font-type:times: font-size:12px} </style> </head>`
- (d) `<head> <link type="text/css">p1{color: #cc1122; font-type:times: font-size:12px} </link> </head>`
- (e) `<head> <style type="text/css">.p1{color: #cc1122; font-type:times; font-size:12px} </style> </head>`

13) What would be the output of the following HTML and CSS code?

```
<html><head> <style>div + p{border-style: double;}</style> </head>
<body><div><p>Kandy</p> <p>Kandy</p></div>
<p>Kandy</p><p>Kandy</p></body></html>
```

(a)	(b)	(c)	(d)	(e)
Kandy	Kandy	Kandy	<div>Kandy</div>	Kandy
Kandy	<div>Kandy</div>	Kandy	Kandy	<div>Kandy</div>
<div>Kandy</div>	Kandy	Kandy	Kandy	<div>Kandy</div>
Kandy	Kandy	<div>Kandy</div>	Kandy	<div>Kandy</div>

14) Select the CSS code output of the following Syntactically Awesome Style Sheets (SASS) code.

```
nav{
ul{margin: 0;padding: 0;list-style: none;}
li { display: inline-block; }
}
```

- (a) `nav{margin: 0;padding: 0;list-style: none;}
nav {display: inline-block;}`
- (b) `navul{margin: 0;padding: 0;list-style: none;}
li {display: inline-block;}`
- (c) `navul{margin: 0;padding: 0;list-style: none;}
navli {display: inline-block;}`
- (d) `nav ul li{margin: 0;padding: 0;list-style: none;
display: inline-block;}`
- (e) `navul-li{margin: 0;padding: 0;list-style: none;display:
inline-block;}`

15) Select the correct SASS syntax of the “@extend” selector.

- (a) .outer{ border:solid 1px #fe3; }
 .outerborder{ @extend .outer; }
- (b) .outer{ border:solid 1px #fe3; }
 @outerborder{ @extend .outer; }
- (c) @outer{ border:solid 1px #fe3; }
 .outerborder{ @extend .outer; }
- (d) @outer{ border:solid 1px #fe3; }
 @outerborder{ @extend .outer; }
- (e) .outer{ border:solid 1px #fe3; }
 .outerborder{.extend .outer; }

16) Which of the following statements is/are **correct** regarding the element selector in CSS?

- (a) <head> <style> p{border-style:double;} </style> </head>
 <body> <p>Colombo</p> </body>
- (b) <head> <style> p{border-style:double;} </style> </head>
 <body> <p>Colombo</p> </body>
- (c) <head> <style>p{border-style:double;}</style> </head>
 <body> <p class="p">Colombo</p> </body>
- (d) <head> <style>p{border-style:double;}</style> </head>
 <body> <p id="p">Colombo</p> </body>
- (e) <head> <style> .p{border-style:double;}</style> </head>
 <body> <p class="p">Colombo</p> </body>

17) Which of the following statement/s is/are **correct** regarding HTML and CSS comment out?

- (a) <head><style>classselector.pal{color:#cce;}</style> </head>
 <body> <!-- Class selector--> <p class="pal">Colombo</p></body>
- (b) <head><style>/*classselector*/.pal{color:#cce;}</style> </head>
 <body> <!-- Class selector--> <p class="pal">Colombo</p></body>
- (c) <head><style><!--classselector-->.pal{color:#cce;}</style>
 </head> <body> <!-- Class selector--> <p class="pal">Colombo</p>
 </body>
- (d) <head><style>/*classselector*/.pal{color:#cce;}</style> </head>
 <body> < /* Class selector */> <p class="pal">Colombo</p></body>
- (e) <head><style>/*classselector*/.pal{color:#cce;}</style> </head>
 <body> //Class selector <p class="pal">Colombo</p></body>

18) Select the correct HTML code that links to the external CSS file.

- (a) <link rel="stylesheet" type="css/text" href=../c/a.css>
- (b) <link rel="stylesheet" type="text/css" href=../c/a.css>
- (c)
- (d) <link rel="stylesheet" type="text/css" src=../c/a.css>
- (e)

19) The Following is an HTML and CSS code with some blanks.

```
<html> <head> <style type="text/css">
    #para1{color:#ccddee;
    }
    .pa1{color:#ff33ca;
    }
</style> </head> <body>
<div - (A) - ="para1">Colombo <- (B) - class= - (C) - >Colombo
<- (D) ->Colombo </div>
</body> </html>
```

The correct order of tokens for filling the above blanks is

- (a) class, div, /span, div
- (b) class , span, /span, id
- (c) id , div, /div, span
- (d) id , span, /span, div
- (e) class , span, /span, /span

20) What are the different types of CSS combinators?

- (a) descendant selector (space)
- (b) child selector (>)
- (c) adjacent sibling selector (+)
- (d) general sibling selector (~)
- (e) Class selector (.)

21) The Following is an Javascript code with some blanks.

```
<html>
<body onload = - (A) -;>
    <script type = "text/javascript">
        var myVar = "- (B) -";
        function - (C) - {
            var myVar = "- (D) - ";
            document.write( - (E) - );
        }
    </script> </body> </html>
```

The correct order of tokens for filling the above blanks is

- (a) myVar, checkscope() , checkscope() , global , local
- (b) checkscope() , local , checkscope() , global, myVar
- (c) checkscope() , global , checkscope() , local, myVar
- (d) checkscope() , global , myVar, local, checkscope()
- (e) myVar, global , checkscope() , local, checkscope()

22) Which of the following statements is/are **correct** regarding the Javascript statements?

- I A statement uses an assignment operator, an equal sign
- II The operator has two operands on each of its sides and the value of the right operand is assigned to the left one
- III Values of right operand must always be known, if not, and error is generated

- | | | |
|--------------------|------------------------|-------------------|
| (a) I Only | (b) II Only | (c) I and II only |
| (d) I and III Only | (e) All, I, II and III | |

23) Which of the following “event procedures / handlers” is/are **correct** regarding the JavaScript?

- I onChange : User changes value of text, textarea or select element
- II onClick : User clicks on form element or link
- III onFocus : User loads the page

- | | | |
|--------------------|------------------------|-------------------|
| (a) I Only | (b) II Only | (c) I and II only |
| (d) I and III Only | (e) All, I, II and III | |

24) What would be the output of the following JavaScript code?

```
<html> <body> <script type = "text/javascript">
  var a = 10;
  var b = 20;
  document.write("(a != b) => ");
  result = (a != b);
  document.write(result);
  document.write("(a >= b) => ");
  result = (a >= b);
  document.write(result);
  document.write("(a <= b) => ");
  result = (a <= b);
  document.write(result);
</script> </body> </html>
```

- | |
|---|
| (a) (a != b) => true(a >= b) => true(a <= b) => true |
| (b) (a != b) => false(a >= b) => false(a <= b) => true |
| (c) (a != b) => true(a >= b) => false(a <= b) => true |
| (d) (a != b) => false(a >= b) => false(a <= b) => false |
| (e) (a != b) => true(a >= b) => false(a <= b) => false |

- 25) Which of the following statements is/are **correct** regarding the break and continue statements in JavaScript?
- I A label can be used with **break** and **continue** to control the flow more precisely.
 - II Line breaks are not allowed between the '**continue**' or '**break**' statement and its label name.
 - III The **continue** statement tells the interpreter to immediately start the next iteration of the loop and skip the remaining code block.
- | | | |
|-------------------|-------------------------|--------------|
| (a) I only | (b) II Only | (c) III Only |
| (d) I and II Only | (e) All, I , II and III | |
- 26) Which of the following elements is/are **correct** regarding the XML tree?
- I Root element: Contains all other elements and the content of an XML document. In an XML document, there can be only one root element.
 - II Parent element: Contains other inherited elements. A parent element cannot contain multiple child elements.
 - III Child element: Refers to an element that is contained in a parent element. A child element cannot have multiple parent elements. It can only have a single parent.
- | | | |
|-------------------|-------------------------|--------------|
| (a) I only | (b) II Only | (c) III Only |
| (d) I and II Only | (e) All, I and III Only | |
- 27) Which of the following entity references is/are **correct** regarding XML?
- I < : Represents the less than (<) symbol.
 - II >: Represents the greater- than (>) symbol.
 - III ': Represents the apostrophe (') symbol.
- | | | |
|-------------------|------------------------|--------------|
| (a) I only | (b) II Only | (c) III Only |
| (d) I and II Only | (e) All, I, II and III | |
- 28) Which of the following elements is/are **correct** regarding structure of preceding in the XML document?
- | |
|---|
| (a) XML document, XML elements, XML attributes, XML tree, XML comments |
| (b) XML declaration, XML parser, XML attributes, XML tree, XML comments |
| (c) XML declaration, XML elements, XML Schema, XML tree, XML comments |
| (d) XML specification, XML elements, XML attributes, XML tree, XML comments |
| (e) XML declaration, XML elements, XML attributes, XML tree, XML comments |

- 29) Which of the following statements is/are **correct** regarding XML Schema?
- | |
|--|
| (a) Provides support for namespaces
(b) Supports simple and complex data types
(c) Defines elements, attributes, and entities only
(d) Does not support the namespaces
(e) Defines the structure of an element with more features, such as data types and conditions |
|--|
- 30) Which of the following statements is/are **correct** regarding how to implement restrictions on a variety of data?
- I Restrictions on values
 II Restrictions on a series of values
 III Restrictions on whitespace characters
- | | | |
|---------------------------------|---------------------------------------|--------------|
| (a) I only
(d) I and II Only | (b) II Only
(e) All, I, II and III | (c) III Only |
|---------------------------------|---------------------------------------|--------------|
- 31) Which CSS preprocessor does Bootstrap use by default?
- | | | |
|----------------------|----------------------|------------|
| (a) SASS
(d) PASS | (b) LESS
(e) None | (c) Stylus |
|----------------------|----------------------|------------|
- 32) What is the primary purpose of the Bootstrap grid system?
- | |
|---|
| (a) Styling buttons and forms
(b) Creating responsive layouts
(c) Applying animations and transitions
(d) Managing server-side operations
(e) Creating fixed grid layouts |
|---|
- 33) Which class is used to create a responsive navigation bar in Bootstrap?
- | | | |
|--|--------------------------|-------------|
| (a) .navbar-nav
(d) .navigation-bar | (b) .nav
(e) .nav-nav | (c) .navbar |
|--|--------------------------|-------------|
- 34) Which class is used to create a responsive image in Bootstrap that scales with its parent container?
- | | | |
|---|----------------------------------|---------------------|
| (a) .img-responsive
(d) .image-scaling | (b) .img-fluid
(e) .img-fixed | (c) .responsive-img |
|---|----------------------------------|---------------------|
- 35) What is the purpose of the Bootstrap "jumbotron" component?
- | | |
|--|--|
| (a) Displaying large amounts of text
(c) Applying custom CSS styles
(e) Display small images | (b) Creating stylish form layouts
(d) Embedding videos and multimedia |
|--|--|

36) Angular is a framework for building:

- (a) Displaying large amounts of text
- (b) Creating stylish form layouts
- (c) Applying custom CSS styles
- (d) Embedding videos and multimedia
- (e) Display small images

37) REST stands for:

- (a) Representational Event Sourcing Technique
- (b) Reactive Event-driven Server Technology
- (c) Representational State Transfer
- (d) Remote Execution and Storage Technology
- (e) Representational Execution and Storage Technology

38) Which HTTP methods are commonly used in RESTful API development?

- (a) GET, POST, DELETE, UPDATE
- (b) GET, POST, PUT, DELETE
- (c) GET, INSERT, UPDATE, DELETE
- (d) FETCH, SAVE, REMOVE, UPDATE
- (e) FETCH, INSERT, REMOVE, UPDATE

39) Which tool can be used to test RESTful APIs?

- (a) MongoDB
- (b) Git
- (c) Postman
- (d) Jenkins
- (e) Cucumber

40) Which class is used to create a responsive, fixed-width container in Bootstrap?

- (a) .container
- (b) .container-fluid
- (c) .container-fixed
- (d) .fixed-container
- (e) .fluid-container
