

UNIVERSITY OF RUHUNA
BACHELOR OF COMPUTER SCIENCE (GENERAL) DEGREE
LEVEL I SEMESTER I EXAMINATION - May 2023

Course Unit: **CSC113a (Internet Services and Web Development)**

Duration: **1 Hour.**

Answer **two (2)** questions only

1.

a. State whether the following statements are **true** or **false**.

- i. The **<pre>** element in HTML is used to define preformatted text with fixed-width font and line breaks.
- ii. The **hl** tag is used to define the horizontal line in HTML.
- iii. The capability of a browser software doesn't affect the downloading speed of a web page. Code lines in Cascading Style Sheets (CSS) are not case-sensitive.
- iv. The **<blockquote>** element in HTML is used to quote text from another source.

b. Fill in each blank using the most suitable word/phrase in the below given list.

Array, ****, *unordered list*, *row_span*, *rowsapn*, *alter*, ****, *colspan*, *row_span*, *columnspan*, *text description*, *rowspan*, *Ordered list*, ****, *list*, *alternative text*, *image embed element*, **<td>**, *text in smaller font*, *src*, **<th>**, ****, *scope*.

- i. Thedisplays elements in a numbered format. It is represented by tag.
- ii. Most browsers display text in the place of an image if the image is not available.
- iii. HTML provides two table attributes.....and to make a cell span to multiple rows and columns respectively.

c.

- i. Compare *relative URL* and *absolute URL* using their main difference?
- ii. Briefly explain the difference between the "span" tag and the "div" tag in HTML?
- iii. "HTML form validation can be done using HTML itself without client scripts", Do you agree with this statement? Support your answer with examples.
- iv. Explain the usage of the **<iframe>** tag in web designing. Provide a suitable example.

d. The "ABC" is a Magazine in Sri Lanka, the editors wanted to do a survey and need to create a web form to gather data. Assume you are the web developer you need to write the source code for the following Web Form (in *Figure 1*) using HTML to obtain Readers' information to perform the survey. Note: Address field should be lengthy enough to enter an address.

User Survey

Name

Address

Gender
Male ☐ Female ☐

You came to know about our Magazine from:
 Friend ☐ Newspaper ☐ TV/Radio ☐ Others ☐

Figure 1

2.

a. Fill in each blank using the most suitable word/phrase in the below given list.

Background, <head>, bg-color, text align, transparent, <style>, <script>, align, background-color, text_align, bg_color, ID selector, bg color, ID, inline-block, class selector, Inline, text-align, color element, RGB, inline-block.

- i. is the correct place to refer to an external style sheet in an HTML document.
- ii. property is used to change the background colour of an element in CSS.
- iii. attribute is used to name an element uniquely.
- iv. The styles defined in an external style sheet can be overridden by the styles defined in
- v. The property is used to control the alignment of the text in an HTML element.

b.

- i. List **three** ways of inserting Cascading Style Sheets (CSS) into a web page.
- ii. State the difference between "id" and "class" selectors of CSS.
- iii. State **two (2)** advantages of using group selectors in CSS.
- iv. Briefly describe how the client-server architecture works in a Web application.
- v. "It is important to test the webpage in different browsers" Do you agree with this statement? Explain your answer.

c. State whether each of the following program code lines is correct or not. Write the correct program code if the given code is incorrect.

- i. `<div style="background-image: url('img_boy.jpg');">`
- ii. `h2:h3{margin-left:30px;}`
- iii. `P{margin:10px 150px 100px 80px;}`
- iv. `a.first:active{color:green;}`
- v. `p:active, h1:active, a:active {
background-color: yellow;
}`

d.

Develop a web page using HTML and a (internal or external) CSS stylesheet. The web page should do the following:

- Have the title "Exam-Related Causes of Panic".
- Place the title in the browser title bar.
- Place the same text in the title as the heading at the top of the page
- Display the image at the URL: http://upload.wikimedia.org/wikipedia/en/0/07/Neuro_Panic_Disorder_Norepinephrine.png.
Display the explanatory text "Norepinephrine pathways in the brain" for the image for the visually disabled.
- List the following possibilities that can occur at the exams due to the panic :
 - Forgetting the exam time
 - Forgetting the exam location
 - Forgetting your own name.
- Set the page background color to **red** using CSS.
- Set the title at the top of the page to **italics** using CSS.

Note: Use appropriate HTML tags and CSS syntax to obtain the web page according to the above given specification.

3.

- a. Fill in each blank using the most suitable word/phrase in the below given list. If you have one or more answers for one blank use commas to separate each.

73, remove, a[0], prompt box, a[2], innerHtml, front(), 253, a['first'], 10, 25"3", confirm box, document.getElementById, push, newItem(), a[1], pop, a[-3], alert box, appendChild(), back()

- i. What would be the result of $2+5+ "3"$?
- ii. The property is used to write the HTML code using JavaScript dynamically.
- iii. Themethod in JavaScript is used to add new elements to an array.
- iv. method takes the last element off of the given array and returns it.

- v. Given the array, var a = [20, 40, 60, 80, 100],
.....is accessing the value 40.
- vi. is/are the popup box(s) available in javascript.

- b. State whether the following statements are **true** or **false** considering the given code snippets.
Note: Use the code snippet in Figure 2 to answer part i) and ii) questions and the code snippet in Figure 3 to answer part iii), iv) and v) questions.

```
function foo(x)
{
    var ct = 0;
    for (var i = 0; i < x.length; i++)
    {
        if (x[i] >= 70)
        {
            ct++;
        }
    }
    return ct;
}
```

Figure 2

- i. The function *foo* will never return a negative number.
- ii. The function *foo* will never return the value 0.

```
var a = ["Red", "Orange", "Yellow", "Green", "Purple"];
var result = "";
for (var i = 0; i < a.length; i++)
{
    var A = a[i];
    var B = A.charAt(i);
    if (B == "e")
    {
        result += A;
    }
}
```

Figure 3

- iii. The value of A is "Orange" at the second iteration of the loop.
 - iv. The value of B is 'e' at the second iteration of the loop.
 - v. The value of the result is "Green" after the program has finished the execution.
- c.
 - i. State **two** (2) advantages of using JavaScript language.
 - ii. Explain why JavaScript is called, Interpreted and Cross-platform language.
 - d. Write the output of the following code snippets.

A. `document.write( 5 === "5" );`

B.

```
function func(x){
    console.log (typeof x, arguments.length);
}

func();
func(7);
func("1", "2", "3");
```

C.

```
console.log(1 + "2" + "2");
console.log (1 + +2 + "2");
console.log (1 + -"1" + "2");
console.log (+ "1" + "1" + "2");
```

2. Develop the programs with Javascript codes according to the given descriptions.

i. Consider the following HTML page with an incomplete Javascript function.

```
<html>
<head>
<script type = "text/javascript">
function set_name () {
    /* Code goes here */
}
</script>
</head>
<body onload=" set_name( )" >
<h2>Hello, my name is <span id=" name"></span>!</h2>
</body>
</html>
```

Complete the above Javascript function to perform followings when the page loads:

- Prompt user a message "What is your name?" with a box to enter the name.
- When the user typed his/her name in, the page displays the user's name directly before the exclamation mark on the body of the web page.
- The user's name should be displayed in italics.

- ii. Write a Javascript program to output the numbers from 1 to N on the console which are not divisible by 3 and 7 **simultaneously**. Ex: If N is 25, output shouldn't be display "21" in the console, since 21 is divisible by 3 and 7.

Note: The number N should be taken as a user input. Output should display as console output.