National University of Computer and Emerging Sciences, Chiniot-Faisalabad Campus

Course Name:	Web Programming	**Course Code:**	CS4032
Degree Program:	BS(CS)	**Semester:**	Spring-2024
Exam Duration:	60 Minutes	**Total Marks:**	40
Paper Date:	Wednesday, March 6, 2024	**No of Page(s):**	5
Sections:	ALL		
Exam Term & Type:	1st Sessional I Closed Book	**Required Answer Book: No**	
Course Instructor	Dr. Iqra Muhammad, Ms. Sumaira Mustafa, Mr. Hannan Farooq		

Student Name:_____ **Roll No.**_____ **Section:**_____   **Invigilator's Signature**

Q.Part#	Q.1	Q.2	Q.3	Total Obtained	Total Marks	Examiner Signature and Date
Marks	20	10	20		40	

Instruction/Notes: Attempt all questions. Programmable calculators are not allowed.

Vetted By	Vetter Signature:
Declaration by course instructor	The question paper has an 100% dissimilarity as compared to the question papers of the same subject from the last two years.

Question 1: MCQs [Marks 20]- 20 Mins[Rubric: Each MCQ will carry 1 mark]

Please fill the table mentioned below.

1. What is the purpose of the HTML <meta> tag with the "viewport" attribute?
   a) To define the character set of the document
   b) To specify the keywords for search engines
   c) To set the size and scale of the viewport for responsive web design
   d) To define the title of the document

2. What is the correct HTML to create a hyperlink that will open in a new tab?
   a) <a href="url" target="_blank">
   b) <a href="url" new>
   c) <a href="url" target="new">
   d) <a href="url" open>

3. Which HTML tag is used to create a hyperlink that refers to another section within the same document?
   a) <link>
   b) <href>
   c) <anchor>
   d) <a>

4. Which HTML tag is used to define a section of text that has been deleted from a document?
   a) <strike>
   b) <del>
   c) <remove>
   d) <deleted>

5. What is the correct HTML for creating a checkbox input field?
   a) <input type="check">
   b) <checkbox>
   c) <input type="checkbox">

6. Which CSS property is used to change the text color of an element?
   a) text-color
   b) font-color
   c) color
   d) text-style

7. Which CSS property is used to control the spacing between lines of text?
   a) **line-height**
   b) text-spacing
   c) line-spacing
   d) text-line

8. Which CSS property is used to control the size of an element's border?
   a) border-size
   b) **border-width**
   c) size
   d) border

9. Which CSS property is used to control the space between the content and the border of an element?
   a) **padding**
   b) margin
   c) space
   d) border-spacing

10. What is the correct CSS syntax to create a fixed background image that doesn't scroll with the rest of the page?
    a) **background-attachment: fixed;**
    b) background-scroll: none;
    c) fixed-background: true;
    d) background: fixed;

11. In Bootstrap, which class is used to create a container for the grid layout?
    a) **.container**
    b) .grid-container
    c) .row
    d) .grid-row

12. Which class is used to create a column that spans 4 columns on extra-small devices and 6 columns on medium devices in Bootstrap?
    a) **.col-xs-4 .col-md-6**
    b) .col-4 .col-md-6
    c) .col-xs-4 .col-sm-6
    d) .col-4 .col-sm-6

13. In Bootstrap, which breakpoint size would typically apply to tablets?
    a) md
    b) **sm**
    c) lg
    d) xl

14. Which Bootstrap class is used to create a fixed-width container that centers its content horizontally?
    a) **.container-center**
    b) .container-fluid
    c) .container-fixed
    d) .container

15. What is the purpose of the gutter value in Bootstrap's grid system?
    a) To control the space between rows in the grid.
    b) **To control the space between columns in the grid.**
    c) To set the overall width of the grid container.
    d) To define the maximum width of grid items.

16. Which method is used to add an element to the end of an array in JavaScript?
    a) **push()**
    b) add()
    c) insert()

d) append()

17. What does the "typeof" operator do in JavaScript?
    a) It checks if a variable is undefined.
    b) It returns the data type of a variable.
    c) It converts a variable to a string.
    d) It checks if a variable is null.

18. Which of the following is NOT a valid way to declare a JavaScript variable?
    a) let x = 5;
    b) var y = 10;
    c) const z = 15;
    d) variable w = 20;

19. Which of the following is a correct way to declare a JavaScript array?
    a) let colors = {"red", "green", "blue"};
    b) let colors = ["red", "green", "blue"];
    c) let colors = (red, green, blue);
    d) let colors = "red", "green", "blue";

20. What is the purpose of the querySelectorAll() method in the DOM?
    a) It selects the first element that matches a specified CSS selector.
    b) It selects all elements that match a specified CSS selector and returns them as a NodeList.
    c) It selects elements based on their class names and returns them as an array.
    d) It selects elements based on their IDs and returns them as a NodeList.

Q. 1	Q. 2	Q. 3	Q. 4	Q. 5	Q. 6	Q. 7	Q. 8	Q. 9	Q. 10
c	a	d	b	c	c	a	b	a	a
Q. 11	Q. 12	Q. 13	Q. 14	Q. 15	Q. 16	Q. 17	Q. 18	Q. 19	Q. 20
a	a	b	a	b	a	b	d	b	b

Question 2: MCQs [Marks 5+5 = 10 Marks] – 15 Mins

You are tasked with creating a webpage for a photography portfolio. The page should display a grid of images, each with a caption below it. Additionally, each image should have a hover effect where the opacity changes to indicate interactivity. Your task is to fill in the missing HTML and CSS code to achieve this layout and styling.

Part A: HTML Code: [Rubric: div class="image-container": 2.5 Marks, div class="image-container": 2.5 Marks At least 2 images.**]**

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Photography Portfolio</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <div class="gallery">
    <div class="image-container">
      <img src="image1.jpg" alt="Image 1">
      <div class="caption">Caption for Image 1</div>
    </div>
    <div class="image-container">
      <img src="image2.jpg" alt="Image 2">
      <div class="caption">Caption for Image 2</div>
    </div>
    <!-- Add more image-container divs with images and captions here -->
  </div>
```

```
</body>
</html>
```

Part B: CSS [Rubric: Each selector carries 1 mark**]**

```css
.gallery {
    display: grid;
    grid-template-columns: repeat(auto-fill, minmax(200px, 1fr));
    gap: 20px;
}

.image-container {
    position: relative;
}

.gallery img {
    width: 100%;
    height: auto;
    display: block;
}

.gallery img:hover {
    opacity: 0.8;
}

.caption {
    position: absolute;
    bottom: 0;
    left: 0;
    width: 100%;
    background-color: rgba(0, 0, 0, 0.7);
    color: white;
    padding: 10px;
    text-align: center;
}
```

Question 3: MCQs [20 Marks] – 25 Mins

You are developing a to-do list application using JavaScript. The application allows users to add new tasks to a list dynamically. Each task displayed in the list is represented by a list item element containing the task text and a delete button. Users can add a task by entering text into an input field and clicking a button. Upon adding a task, it appears in the list along with a delete button. Users can then delete tasks individually by clicking on the delete button next to each task.

Description:

The addTask() function facilitates the addition of tasks to the to-do list. Here's an overview of how it works:

1. It retrieves the task text entered by the user from the input field with the ID "taskInput". 3 Marks
2. If the input field is not empty, it creates a new list item (<li>) element to represent the task. 3 Marks
3. Inside the list item, it creates a span element (<span>) to display the task text. 3 Marks
4. It creates a delete button (<button>) for each task to allow users to remove tasks individually. 3 Marks
5. An event listener is added to the delete button so that when clicked, it removes the corresponding list item from the task list. 3 Marks
6. The new list item, along with the task text and delete button, is appended to the task list. 3 Marks
7. The input field is cleared after adding the task. 1 Mark

8. If the input field is empty, an alert is displayed prompting the user to enter a task. 1 Mark

```javascript
function addTask() {
  // Get the task text from the input field
  var taskText = document.getElementById("taskInput").value;

  // Check if the input field is not empty
  if (taskText !== "") {
    // Create a new list item element
    var listItem = document.createElement("li");

    // Create a new span element to hold the task text
    var taskSpan = document.createElement("span");
    taskSpan.textContent = taskText;

    // Create a new button element for deleting the task
    var deleteButton = document.createElement("button");
    deleteButton.textContent = "Delete";
    deleteButton.addEventListener("click", function() {
      // Remove the list item when delete button is clicked
      listItem.remove();
    });

    // Append task text and delete button to the list item
    listItem.appendChild(taskSpan);
    listItem.appendChild(deleteButton);

    // Append the new list item to the task list
    var taskList = document.getElementById("taskList");
    taskList.appendChild(listItem);

    // Clear the input field after adding the task
    document.getElementById("taskInput").value = "";
  } else {
    // If input field is empty, display an alert
    alert("Please enter a task!");
  }
}
```