

Mcq (1 marks each)

1. **What does the <meta charset="UTF-8"> tag do in HTML?**
 - A. Defines the character set for the HTML document
 - B. Creates a horizontal line
 - C. Embeds a video file
 - D. Defines a list item
2. **In HTML, which attribute is used to specify a link to an external style sheet?**
 - A. link
 - B. style
 - C. href
 - D. src
3. **What does the <iframe> tag in HTML stand for?**
 - A. Inline Frame
 - B. Interactive Frame
 - C. Internal Frame
 - D. Image Frame
4. **Which HTML5 attribute is used to validate input data on the client side?**
 - A. validate
 - B. required
 - C. check
 - D. validate-input
5. **What is the purpose of the <canvas> element in HTML5?**
 - A. To create 3D graphics
 - B. To draw graphics using JavaScript
 - C. To embed audio files
 - D. To create a responsive layout
6. **Which CSS property is used to control the spacing between lines of text?**
 - A. line-spacing
 - B. text-spacing
 - C. line-height
 - D. text-height
7. **What is the difference between margin and padding in CSS?**
 - A. Margin is the space outside an element, and padding is the space inside the element
 - B. Margin is the space inside an element, and padding is the space outside the element
 - C. They are used interchangeably
 - D. Margin and padding serve the same purpose in CSS
8. **Which CSS property is used to create rounded corners?**
 - A. border-radius
 - B. corner-radius
 - C. rounded-corners
 - D. box-radius
9. **In Bootstrap, what is the purpose of the container class?**
 - A. To create a fixed-width container

- B. To create a full-width container
- C. To create a responsive container
- D. To style text

10. **What is the purpose of the Bootstrap class btn-group?**

- A. Groups multiple buttons together
- B. Styles a single button
- C. Creates a button with a drop-down menu
- D. Adds a border to a button

11. **Which Bootstrap class is used to create a navigation bar?**

- A. navbar
- B. nav-bar
- C. nav-container
- D. navigation

12. **What is the purpose of the Bootstrap grid system?**

- A. To create responsive layouts with rows and columns
- B. To add images to a webpage
- C. To create a modal window
- D. To style text

13. **Which class is used to create a responsive, fixed-width container in Bootstrap?**

- A. container
- B. container-fluid
- C. container-responsive
- D. fixed-container

14. **Which class in Bootstrap is used to hide an element on specific screen sizes?**

- A. hidden-xs
- B. hide-sm
- C. visible-lg
- D. invisible-md

15. **What is the purpose of the Bootstrap class alert?**

- A. Styles a text as an alert
- B. Creates an animated alert
- C. Creates a dismissible alert box
- D. Adds an alert sound to the webpage

16. **Which class is used to create a responsive image in Bootstrap?**

- A. img-responsive
- B. responsive-img
- C. image-responsive
- D. img-fluid

17. **In Bootstrap, what does the modal component do?**

- A. Creates a movable sidebar
- B. Creates a fixed navigation bar
- C. Displays a modal dialog box
- D. Adds a modal effect to images

18. **What is the purpose of the Bootstrap class navbar-toggle?**

- A. Toggles the visibility of the navigation bar
- B. Toggles the visibility of modal windows
- C. Toggles the visibility of buttons
- D. Toggles the visibility of form elements

19. **How can you center an element horizontally in CSS?**
- A. text-align: center;
 - B. margin: auto;
 - C. float: center;
 - D. align: center;
20. **What does the CSS property display: inline-block; do?**
- A. Makes an element an inline-level block container
 - B. Makes an element a block-level container
 - C. Makes an element an inline-level box
 - D. Makes an element a flex container
21. **What is the purpose of the CSS pseudo-element ::before?**
- A. Selects the first child element
 - B. Selects the last child element
 - C. Inserts content before the content of the selected element
 - D. Inserts content after the content of the selected element
22. **What does the CSS property position: relative; do?**
- A. Positions an element relative to its normal position
 - B. Positions an element absolutely within its containing element
 - C. Removes an element from the normal flow of the document
 - D. Floats an element to the right
23. **What is the purpose of the CSS property flex-grow in a flex container?**
- A. Specifies the initial size of a flex item
 - B. Defines the ability for a flex item to grow if necessary
 - C. Sets the minimum size of a flex item
 - D. Controls the spacing between flex items
24. **In JavaScript, what does the setTimeout() function do?**
- A. Delays the execution of a function for a specified amount of time
 - B. Sets a timer for repeating a function at regular intervals
 - C. Measures the time taken by a function to execute
 - D. Defines the timeout for AJAX requests
25. **What is the purpose of the JavaScript Object.keys() method?**
- A. Returns an array of a given object's property names
 - B. Adds a new property to an object
 - C. Checks if an object has a specific property
 - D. Removes a property from an object
26. **In HTML, what does the <aside> element represent?**
- A. Additional information related to the main content
 - B. A section of a page
 - C. A block of code
 - D. A navigation menu
27. **What is the purpose of the HTML <figure> element?**
- A. Represents a standalone piece of content
 - B. Groups together a caption and embedded content, like images

- C. Defines a hyperlink
- D. Represents a navigation menu

28. Which HTML tag is used to create a hyperlink?

- A. <link>
- B. <a>
- C. <href>
- D. <hyperlink>

29. Which HTML attribute is used to define the source URL of an embedded frame?

- A. src
- B. url
- C. source
- D. link

30. What is the result of the following JavaScript expression?

- A. "5" - 2
- A. 7
- B. 3
- C. "52"
- D. Error

31. What does the following JavaScript code do?

```
function greet(name = "Guest") { return "Hello, " + name + "!"; }  
  
console.log(greet());
```

- A. Prints "Hello, Guest!"
- B. Throws an error
- C. Prints "Hello, undefined!"
- D. Prints "Hello, World!"

32. What will be the output of the following JavaScript code snippet?

```
let x = 10;  
  
function foo() { console.log(x); }  
(function () { let x = 20; foo(); })();
```

- A. 20
- B. 10
- C. undefined
- D. Throws an error

33. What does the following JavaScript code snippet do?

```
let numbers = [1, 2, 3, 4, 5];  
let doubled = numbers.map(num => num * 2);  
console.log(doubled);
```

- A. Doubles each element in the **numbers** array and prints the result
- B. Filters out even numbers from the **numbers** array
- C. Concatenates the **numbers** array with itself
- D. Throws an error

34. What is the purpose of the **typeof** operator in JavaScript?

- A. Returns the data type of a variable or expression
- B. Compares two values for equality

- C. Declares a variable
- D. Converts a value to a string

35. What does the **charAt()** function in JavaScript do?

- A. Returns the index of a character in a string
- B. Returns the character at a specified index in a string
- C. Counts the number of occurrences of a character in a string
- D. Concatenates two strings

36. Which method is used to find the index of the first occurrence of a substring in a string?

- A. **substring()**
- B. **indexOf()**
- C. **search()**
- D. **charAt()**

37. In JavaScript, what is the primary purpose of an object?

- A. To store a list of numbers
- B. To represent a collection of key-value pairs
- C. To create a sequence of elements
- D. To perform mathematical operations

38. How do you access the value of a property named "age" in the following JavaScript object?

```
let person = { name: "John", age: 30, city: "New York" };
```

- A. **person[age]**
- B. **person.age**
- C. **person["age"]**
- D. **person.get("age")**

39. Which array method is used to add one or more elements to the end of an array?

- A. **push()**
- B. **add()**
- C. **append()**
- D. **concat()**

40. Which array method is used to check if at least one element in the array passes a test implemented by the provided function?

- A. **some()**
- B. **every()**
- C. **filter()**
- D. **find()**
- E.

41. What is the result of the following expression: `+"42"`?

- A. "42"
- B. 42
- C. NaN
- D. TypeError

42. What does the following code snippet output?

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

- A. "21"

- B. 21
- C. 22
- D. NaN

43. What is the value of x after the following code executes?

```
let x = 1;  
x = x++;
```

- A. 1
- B. 2
- C. 3
- D. undefined

44. What is the output of the following code snippet?

```
console.log("hello" instanceof String);
```

- A. true
- B. false
- C. TypeError
- D. undefined

45. What does the following code snippet do?

```
let y = "5" - 2;
```

- A. Throws an error
- B. Concatenates the string and the number
- C. Subtracts 2 from the string, resulting in a number
- D. Converts the string to NaN

Programming questions

1. Write a function that takes a string as input and returns the reversed string. (3 marks)
2. Write a function to calculate the factorial of a given positive integer. (3 marks)
3. Write a function to generate the Fibonacci sequence up to a specified number of terms. (3 marks)
4. Write a function that takes an array of numbers and returns the sum of all the elements. (3 marks)
5. Write a function to check if a given string is a palindrome. (3 marks)
6. Write a function to find the maximum element in an array of numbers. (3 marks)

7. Write a function that removes duplicates from an array and returns a new array without duplicates. (3 marks)
8. Write a function that checks if two given strings are anagrams. (3 marks)
9. Create an object representing a book with properties like title, author, and publish year. Write a function to display information about the book. (3 marks)
10. Implement a sorting algorithm in JavaScript and use it to sort an array of numbers. (5 marks)
11. Write a HTML code to implement Student Registration with any 10 fields (5 marks)
12. Write program on below concepts: (5 marks)
 - Document.getElementById()
 - Document.querySelector()
 - Document.querySelectorAll()
 - Document.getElementsByTagName()
13. Explain any 5 window functions (5 marks)
14. Write a program using switch case, to perform arithmetic operations based on user input (5 marks)