BSCCS2003: Graded Questions with Solutions
Week 2

1. Consider the following code: [MCQ : 2 points]
<p id = “abc” class = “First Second” > This is a paragraph </p>
Which of the following statements is true with respect to the above code?

- ◯ The Paragraph has one class “First Second”.
- √ The Paragraph has two different classes, “First” and “Second”.
- ◯ A Paragraph cannot have id and class together.
- ◯ A Paragraph cannot have any space within the class attribute.

Solution: Each HTML tag has “class” attribute and every tag or element can have multiple classes at the same time. Multiple class values can be added to a class attribute by separating them with a space character.

2. How will a browser handle the following code? [MSQ : 1 point]

```
<audio controls autoplay>
    <source src = "iitm.mp3" type = "audio/mp3">
    "sorry audio cannot be played"
</audio>
```

- √ If the browser supports audio tag and mp3 format, then it will start playing the audio as soon as the page is loaded.
- ◯ It will display the message ‘sorry audio cannot be played’, if the browser does not support mp3 format but supports the audio tag.
- √ It will display the message ‘sorry audio cannot be played’, if the browser does not support audio tag.
- ◯ None of the above

Solution: Autoplay is a boolean attribute. It can be used with audio and video. If present, audio/video will start playing as soon as the page loads.

3. Suppose you have a document which contains only lower case alphabets. How many bits are required to encode a character such that the size of the document is minimum?
Note:
i) You can create your own encoding method.
ii) Document contains all lower case alphabets.
iii) Code for each alphabet should be of the same length.

[MCQ : 3 points]

◯ 3

◯ 4

√ 5

◯ 6

Solution: There are 26 different characters in the document. Using n bits, we can encode 2^n different characters and $2^4 < 26 < 2^5$. So, we need at least 5 bits to represent 26 different characters.

4. Consider the following code:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <title>Document</title>
    <style>
      body {
        color: red;
        color: green;
        color: yellow;
      }
    </style>
  </head>
  <body>
    IIT Madras
  </body>
</html>
```

What will be the color of text "IIT Madras"? [MCQ : 1 point]

◯ Red

◯ Green

√ Yellow

◯ Black

Solution: If a value is assigned more than once, the browser will choose the last assigned value of that property. So, in this case, it will choose 'yellow' as value of the property color.

5. How will a browser render the following code?

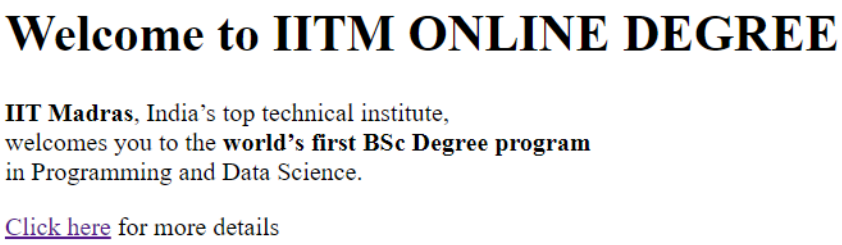
```
<div>
  Welcome to<span style="visibility: hidden">Modern</span>Application
  Development<span style="display: none">Course</span> Test.
</div>
```

[MCQ : 2 points]

- √ Welcome to Application Development Test.
- ◯ Welcome to Application Development Test.
- ◯ Welcome to Modern Application Development Course Test.
- ◯ Welcome to Application Development Test.

Solution: When "display: None" is applied to some element, it removes the element from the DOM. So, the browser will not display any white space in place of the element. But "visibility: hidden" does not remove the element from DOM but will make it invisible, so there will be white space in place of the target element.

6. Which of the following code segments will display the result given below? [MSQ : 3 points]



◯
```
<!DOCTYPE html>
<html>
<body>

<h1> Welcome to IITM ONLINE DEGREE </h1>

<p><b>IIT Madras</b>, India's top technical institute, <br>
welcomes you to the <b> world's first BSc Degree program
 </b> <br> in Programming and Data Science. </p>
```

```
<a url="https://onlinedegree.iitm.ac.in/">Click here for
more details</a>
</body>
</html>
```

√
```
<!DOCTYPE html>
<html>
<body>

<h1> Welcome to IITM ONLINE DEGREE </h1>

<p><b>IIT Madras</b>, India's top technical institute, <br>
welcomes you to the <b> world's first BSc Degree program
 </b> <br> in Programming and Data Science. </p>
<a href="https://onlinedegree.iitm.ac.in/">Click here</a>
for more details
</body>
</html>
```

◯
```
<!DOCTYPE html>
<html>
<body>

<h1> Welcome to IITM ONLINE DEGREE </h1>

<p><b>IIT Madras</b>, India's top technical institute, <br>
welcomes you to the <strong> world's first BSc Degree program
 </strong> <br> in Programming and Data Science. </p>
<a src="https://onlinedegree.iitm.ac.in/">Click here</a>
for more details
</body>
</html>
```

√
```
<!DOCTYPE html>
<html>
<body>

<h1> Welcome to IITM ONLINE DEGREE </h1>

<p><b>IIT Madras</b>, India's top technical institute, <br>
welcomes you to the <strong> world's first BSc Degree program
 </strong> <br> in Programming and Data Science. </p>
<a href="https://onlinedegree.iitm.ac.in/">Click here</a>
```

```
for more details
</body>
</html>
```

Solution: The correct syntax for hyperlink is

```
<a href="https://onlinedegree.iitm.ac.in/">Click here</a>
```

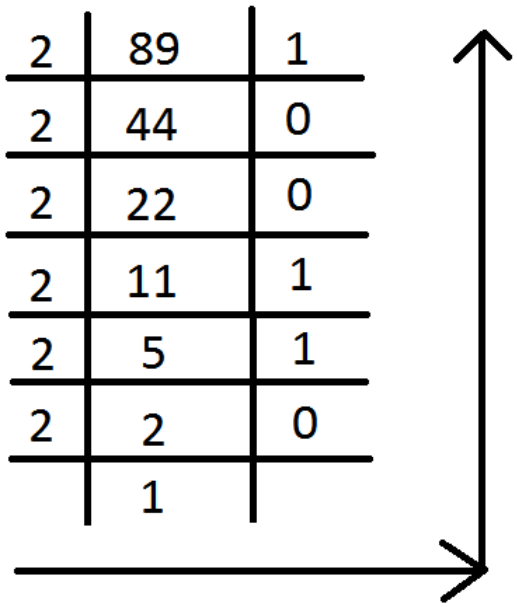
So, options 1 and 3 are incorrect.

The text written under <b> tag and tag will be displayed as bold. So, options 2 and 4 will display the same result.

7. Calculate the 8-bit binary representation of decimal number 89.
Note : No white spaces are allowed in the answer. [NAT : 2 points]

√ 01011001

Solution: Decimal value = 89
Conversion from decimal to binary:



As per the above image, the binary representation will be 1011001. But since it has only 7 bits, we will add one zero in the beginning of the sequence (from the left) to make it an 8-bit sequence.
Hence, the 8-bit representation of decimal number “89” is: 01011001.