Gujarat Technological University
G. H. Patel College of Engineering & Technology
BE Semester-VI Mid-Semester Examination A. Y. 2017-18
2160708 – Web Technology
<u>Solution</u>

Date : 21/03/2018Max-Marks: 20
Time : 2:00 PM to 3:00 PM

Note:	
1. Attempt all questions.	
2. Make suitable assumptions wherever necessary.	
3. Figures to the right indicate full marks.	

Q.1	1. List out different design issues for designing an effective website.	**2**
Ans.	Ans. 1. Browser 2. Bandwidth and Cache 3. Display resolution 4. Look and Feel of the Website 5. Page Layout and linking 6. User centric design 7. Sitemap	
	Marking Strategy: • 2 marks for five or more than 5. • Otherwise based on number of listed issues.	
	2. How does the web server and browser communicate using HTTP protocol? Explain it.	**2**
	Ans. Web browsers like Internet Explorer, Firefox, Chrome, and Safari rank among the most popular network applications in the world. They're used for basic information browsing but also for various other needs including online shopping and casual gaming. Web servers are what supply the content for web browsers; what the browser requests, the server delivers through Internet network connections. **Client-Server Network Design and the Web** Web browsers and web servers function together as a <u>client-server</u> system.In computer networking, client-server is a standard method	

for designing applications where data is kept in central locations (server computers) and efficiently shared with any number of other computers (the clients) on request. All web browsers function as clients that request information from websites (servers).

Numerous web browser clients can request data from the same website. Requests can happen at all different times or simultaneously. Client-server systems conceptually call for all requests to the same site to be handled by one server. In practice, however, because the volume of requests to web servers can sometimes grow very large, web servers are often built as a distributed pool of multiple server computers.

For very large websites popular in different countries around the world, this web server pool is geographically distributed to help improve the response time to browsers. If the server is closer to the requesting device, it would follow that the time it takes to deliver the content is faster than if the server were further away.
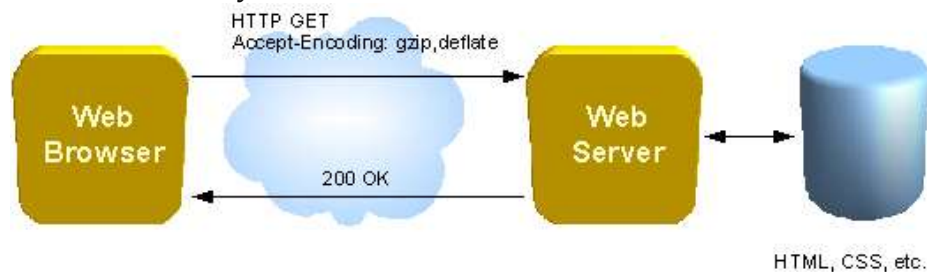
Network Protocols for Web Browsers and Servers

Web browsers and servers communicate via TCP/IP. Hypertext Transfer Protocol (HTTP) is the standard application protocol on top of TCP/IP supporting web browser requests and server responses.

Web browsers also rely on DNS to work with URLs. These protocol standards enable different brands of web browsers to communicate with different brands of web servers without requiring special logic for each combination.

Like most internet traffic, web browser and server connections normally run through a series of intermediate network routers.

A basic web browsing session works like this:

- The user specifies a URL in their browser (either from a bookmark or by typing it in)
- The browser initiates a TCP connection to the web server or server pool (using port 80 by default) via its IP address as published in DNS. As part of this process, the browser also makes DNS lookup requests to convert the URL to an IP address
- After the server completes acknowledgment of its side of the TCP connection, the browser sends HTTP requests to the server to retrieve the content
- After the server replies with content for the page, the browser retrieves it from the HTTP packets and displays it accordingly. Content can include embedded URLs for advertising banners or other third-party content, that in turn triggers the browser to issue new TCP connection requests to those locations. The browser may

also save temporary information about its connections to local files on the client computer called cookies	
Marking Strategy: • Explanation of process 2 marks. • Otherwise based on the correct write-up.	
3. What is CSS? Explain any two types of CSS with example.	**2**

Ans.

- **CSS** stands for **C**ascading **S**tyle **S**heets
- CSS describes **how HTML elements are to be displayed on screen, paper, or in other media**
- CSS **saves a lot of work**. It can control the layout of multiple web pages all at once
- External stylesheets are stored in **CSS files**

There are three ways of inserting a style sheet:

- External style sheet
- Internal style sheet
- Inline style

External Style Sheet

With an external style sheet, you can change the look of an entire website by changing just one file!Each page must include a reference to the external style sheet file inside the <link> element. The <link> element goes inside the <head> section:

<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>

Here is how the "mystyle.css" looks:

body {
    background-color: lightblue;
}

h1 {
    color: navy;
    margin-left: 20px;
}

Internal Style Sheet

An internal style sheet may be used if one single page has a unique style.

Internal styles are defined within the <style> element, inside the <head> section of an HTML page:

```
<head>
<style>
body {
    background-color: linen;
}

h1 {
    color: maroon;
    margin-left: 40px;
}
</style>
</head>
```

Inline Styles

An inline style may be used to apply a unique style for a single element.To use inline styles, add the style attribute to the relevant element. The style attribute can contain any CSS property.

The example below shows how to change the color and the left margin of a <h1> element:

```
<h1 style="color:blue;margin-left:30px;">This is a heading</h1>
```

Marking Strategy:
- 1 mark for definition and list
- 1 mark for details with example.

Q.2 (A)	What is HTML form? Discuss form attributes and design simple form for doing registration on GIS.	3
Ans.	The HTML <form> element defines a form that is used to collect user input: <form> . *formelements* . </form> An HTML form contains **form elements**.Form elements are different types of input elements, like text fields, checkboxes, radio buttons, submit buttons, and more.	

The form Attribute

The form attribute specifies one or more formsan <input> element belongs to.

The formaction Attribute

The formaction attribute specifies the URL of a file that will process the input control when the form is submitted.The formaction attribute overrides the action attribute of the <form> element. The formaction attribute is used with type="submit" and type="image".

The formenctype Attribute

The formenctype attribute specifies how the form data should be encoded when submitted (only for forms with method="post").

The formenctype attribute overrides the enctype attribute of the <form> element.The formenctype attribute is used with type="submit" and type="image".

The formmethod Attribute

The formmethod attribute defines the HTTP method for sending form-data to the action URL.The formmethod attribute overrides the method attribute of the <form> element.The formmethod attribute can be used with type="submit" and type="image".

The formnovalidate Attribute

The formnovalidate attribute overrides the novalidate attribute of the <form> element.The formnovalidate attribute can be used with type="submit".

The formtarget Attribute

The formtarget attribute specifies a name or a keyword that indicates where to display the response that is received after submitting the form.The formtarget attribute overrides the target attribute of the <form> element.The formtarget attribute can be used with type="submit" and type="image".

Example

```
<form method="get" action="register.php" enctype="multipart/form-data">
<input type="text" name="uname" />
<input type="password" name="pwd" />
<input type="file" name="image">
```

| | ```
<input type="text" name="email" />
<input type="text" name="contact" />
<input type="radio" name="gender" value="male" />
<input type="radio" name="gender" value="female"/>
<input type="text" name="semester" />
<input type="text" name="year" />
<textarea rows="25" cols="25" name="address"></textarea>
<input type="number" name="pincode" />
<input type="submit" name="Register" />
<input type="reset" name="clear" />
</form>
``` | |
	Marking Strategy: • 1 mark for HTML form definition • 2 mark for attributes and example as directed.	
Q.2 (B)	Explain following CSS properties with example: (Any Four) 1. background-repeat 2. margin 3. text-decoration 4. float 5. display	**4**

Ans.	**Background-repeat:**
	
	By default, the background-image property repeats an image both horizontally and vertically.Some images should be repeated only horizontally or vertically. If the image above is repeated only horizontally (background-repeat: repeat-x;), the background will look better:
	
	body {
	  background-image: url("gradient_bg.png");
	  background-repeat: repeat-x;
	}
	
	Margins
	
	The CSS margin properties are used to create space around elements, outside of any defined borders.
	
	With CSS, you have full control over the margins. There are properties for setting the margin for each side of an element (top, right, bottom, and left).
	
	Margin - Individual Sides
	
	CSS has properties for specifying the margin for each side of an element:
	
	• margin-top
	• margin-right	

- margin-bottom
- margin-left

All the margin properties can have the following values:

- auto - the browser calculates the margin
- *length* - specifies a margin in px, pt, cm, etc.
- *%* - specifies a margin in % of the width of the containing element
- inherit - specifies that the margin should be inherited from the parent element

Text Decoration

The text-decoration property is used to set or remove decorations from text.

The value text-decoration: none; is often used to remove underlines from links:

```
h1 {
   text-decoration: overline;
}

h2 {
   text-decoration: line-through;
}

h3 {
   text-decoration: underline;
}
```

float

The CSS float property specifies how an element should float.

The CSS clear property specifies what elements can float beside the cleared element and on which side.

The float property is used for positioning and layout on web pages.

The float property can have one of the following values:

- left - The element floats to the left of its container
- right- The element floats to the right of its container
- none - The element does not float (will be displayed just where it occurs in the text). This is default
- inherit - The element inherits the float value of its parent

In its simplest use, the float property can be used to wrap text around images.

```
img {
   float: right;
}
```

The display Property

The display property specifies if/how an element is displayed.

Every HTML element has a default display value depending on what type of element it is. The default display value for most elements is block or inline and none.

```
<div style="display:block">Hello</div>
```

Marking Strategy: • 1 mark for each with use and example. • No marks without example.	
OR	

Q.2 (B)	Write HTML and PHP code to display first n Fibonacci numbers. (i.e. HTML allows to enter input through textbox and when submit button is clicked then it displays numbers)	**4**

Ans.	**HTML File:**
	`<!DOCTYPE html>`
	`<html>`
	`<head></head>`
	`<body>`
	`<form action="fibo.php" method="post">`
	`Enter Number: <input type="text" name="number"></br>`
	`<input type="submit" value="click">`
	`</form>`
	`</body></html>`
	
	PHP File:fibo.php
	`<html>`
	`<head></head>`
	`<body>`
	`<?php`
	
	`$n = $_POST['number'];`
	`$first = 0;`
	`  $second = 1;`	

```
  echo "Fibonacci Series \n";

echo $first.' '.$second.' ';

  for($i = 2; $i< $n; $i++)
{
    $third = $first + $second;
echo $third.' ';
    $first = $second;
    $second = $third;
}
?>

</body></html>
```

Marking Strategy:
- 1 mark for HTML code
- 3 marks for PHP code
- Otherwise depend on the correct part written in both.

Q.3 (A)	What is PHP sessions? Explain it with example.	3
Ans.	A session is a way to store information (in variables) to be used across multiple pages. When you work with an application, you open it, do some changes, and then you close it. This is much like a Session. The computer knows who you are. It knows when you start the application and when you end. But on the internet there is one problem: the web server does not know who you are or what you do, because the HTTP address doesn't maintain state. Hence, this problem is solved by using session management. ```<?php` `// Start the session` `session_start();` `?>` `<!DOCTYPE html>` `<html>` `<body>`  `<?php` `// Set session variables` `$_SESSION["favcolor"] = "green";` `$_SESSION["favanimal"] = "cat";```	

```
echo "Session variables are set.";
?>

</body>
</html>
```

	Marking Strategy: • 1.5 marks for what is session. • 1.5 marks for example how to create and maintain session data.	
Q.3 (B)	Design login page in HTML. Write PHP script to validate user_id and password. If it is validated then redirect user on home page. (Assume that table named login is already created under database named student in MySQL.)	4
Ans.	**HTML File: login.htm** ...	

HTML File: login.htm
```
<!DOCTYPE html>
<html >
<head></head>
<body>
<form action="login.php" method="post">
Enter Userid:<input type="text" name="userid"></br>
Password: <input type="password" name="password"></br>
<input type="submit" value="Submit">
</form>
</body></html>
```

PHP File: login.php
```
<?php
        $username = trim($_POST['userid']);
        $password = trim($_POST['password']);


        $conn = mysql_pconnect("localhost", "root", "");
        mysql_select_db("student");
        //username and password are filed of the table named login
        $query = "SELECT * from login where username=\"$username\" and
        password=\"$password\"";
        $result = mysql_query($query);
        $rows=mysql_num_rows($result);

        if($rows == 0)
         {
```

	header("Location:login.htm);
	          exit();
	    }
	    else
	    {
	header("Location:home.php");
	exit();
	    }
	?>	

	Marking Strategy: • 1.5 marks for HTML code • 2.5 marks for PHP code	
	OR	
Q.3 (A)	What is PHP cookies? Explain it with example.	**3**

Ans.	A cookie is often used to identify a user.
	A cookie is a small file that the server embeds on the user's computer. Each time the same computer requests a page with a browser, it will send the cookie too. With PHP, you can both create and retrieve cookie values.
	
	`<?php`
	`$cookie_name = "user";`
	`$cookie_value = "John Doe";`
	`setcookie($cookie_name, $cookie_value, time() + (86400 * 30), "/"); // 86400 = 1 day`
	`?>`	

	Marking Strategy: • 1.5 marks for what is cookies. • 1.5 mark for creating cookies.	
Q.3 (B)	What is box model in CSS? Draw it and explain in detail with example.	**4**
Ans.	All HTML elements can be considered as boxes. In CSS, the term "box model" is used when talking about design and layout.	

Explanation of the different parts:

- **Content** - The content of the box, where text and images appear
- **Padding** - Clears an area around the content. The padding is transparent
- **Border** - A border that goes around the padding and content
- **Margin** - Clears an area outside the border. The margin is transparent

Example:
width:250px;
padding:10px;
border:5px solid gray;
margin:10px;

Marking Strategy:
- 1 mark for what is box model.
- 1.5 mark for drawing it.
- 1.5 mark for explanation and example.