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Internal Assessment Test 2 – Sept. 2021

Sub:	**Web Technologies**							**Sub Code:**	**20MCA23**
Date:	**21/9/2021**	**Duration:**	**90 min's**	**Max Marks:**	**50**	**Sem & Sec:**	**II A & B**	**Branch:**	**MCA**

Note : Answer FIVE FULL Questions, choosing ONE full question from each Module

		MARKS	OBE	
			CO	RBT
	PART I			
1.	What is jQuery? Explain the basic selectors of jQuery with suitable examples.	[10]	CO1	L2
	OR			
2.	Explain jQuery events with an example.	[10]	CO1	L2
	PART II			
3.	Explain angularJs directives with an example.	[10]	CO3	L2
	OR			
4.	Explain angularJs filters with an example.	[10]	CO3	L2
	PART III			
5.	Write in detail about bootstrap grid system with examples.	[10]	CO4	L2
	OR			
6.	How to create a bootstrap table Illustrate it with an example.	[10]	CO2	L2
	PART IV			
7.	Develop and demonstrate using jQuery to solve the following: a)Fade in and fade out all division elements. b)Animate an element, by changing its height and width.	[10]	CO4, CO3	L4
	OR			

8.	Develop a simple calculator to perform arithmetic (addition, subtraction, multiplication and division) operations on given two numbers. Use an HTML tag that allows the user to input two numbers and to display the result of arithmetic operation. Write suitable HTML and JavaScript and CSS to your simple calculator.	[10]	CO2, CO3	L4
	PART V			
9.	Develop and demonstrate using jQuery to solve the following: a)Limit character input in the text area including count. b)Based on check box, disable/enable the form submit button.	[10]	CO4, CO3	L4
	OR			
10.	Develop and demonstrate a HTML5 page which contains a. Dynamic Progressive bar. b. Display Video file using HTML5 video tag.	[10]	CO2, CO3	L4

Scheme of Evaluation

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Internal Assessment Test 2 – Sept. 2021

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1. **What is jQuery? Explain the basic selectors of jQuery with suitable examples.**

   jQuery is a lightweight, "write less, do more", JavaScript library.

   The purpose of jQuery is to make it much easier to use JavaScript on your website.

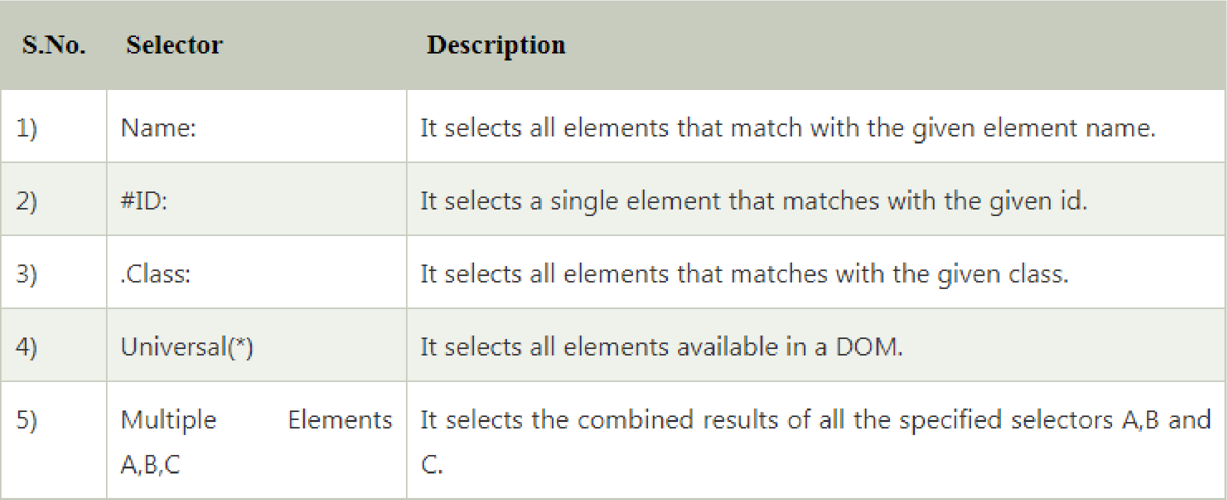
   jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.

jQuery Selectors are used to select and manipulate HTML elements. They are very important part of jQuery library.

With jQuery selectors, you can find or select HTML elements based on their id, classes, attributes, types and much more from a DOM.

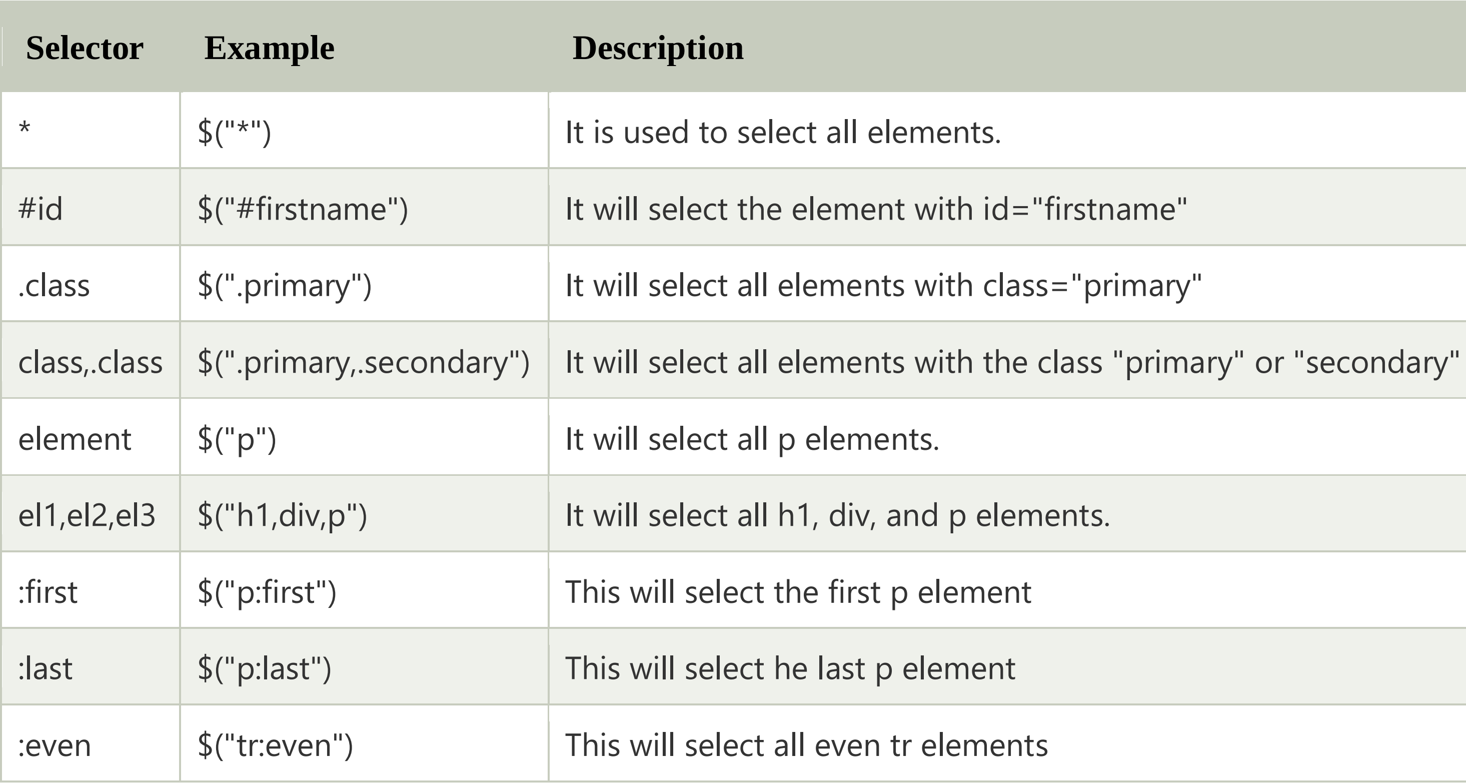
In simple words, you can say that selectors are used to select one or more HTML elements using jQuery and once the element is selected then you can perform various operation on that.

All jQuery selectors start with a dollor sign and parenthesis e.g. $(). It is known as the factory function.



S.No.	Selector	Description
1)	Name:	It selects all elements that match with the given element name.
2)	#ID:	It selects a single element that matches with the given id.
3)	.Class:	It selects all elements that matches with the given class.
4)	Universal(*)	It selects all elements available in a DOM.
5)	Multiple Elements A,B,C	It selects the combined results of all the specified selectors A,B and C.

Ex:



Selector	Example	Description
*	$("*")	It is used to select all elements.
#id	$("#firstname")	It will select the element with id="firstname"
.class	$(".primary")	It will select all elements with class="primary"
class,.class	$(".primary,.secondary")	It will select all elements with the class "primary" or "secondary"
element	$("p")	It will select all p elements.
el1,el2,el3	$("h1,div,p")	It will select all h1, div, and p elements.
:first	$("p:first")	This will select the first p element
:last	$("p:last")	This will select he last p element
:even	$("tr:even")	This will select all even tr elements

2. Explain jQuery events with an example.

jQuery events are the actions that can be detected by your web application. They are used to create dynamic web pages. An event shows the exact moment when something happens.

These are some examples of events.

- A mouse click
- An HTML form submission
- A web page loading
- A keystroke on the keyboard
- Scrolling of the web page etc.

These events can be categorized on the basis their types:

Mouse Events

- click
- dblclick
- mouseenter
- mouseleave

Keyboard Events

- keyup
- keydown
- keypress

Form Events

- submit
- change
- blur
- focus

Document/Window Events

- load
- unload
- scroll

- resize

Syntax for event methods

Most of the DOM events have an equivalent jQuery method. To assign a click events to all paragraph on a page, do this:

```
$("p").click ();
```

The next step defines what should happen when the event fires. You must pass a function to the event.

```
$("p").click(function(){
  // action goes here!!
});
```

EX:

```
<!DOCTYPE html>
<html>
<head>
<script src="http://ajax.googleapis.com/ajax/libs/jquery/1.11.2/jquery.min.js"></script
>
<script>
$(document).ready(function(){
    $("p").click(function(){
       alert("This paragraph was clicked.");
    });
});
</script>
</head>
<body>
<p>Click on the statement.</p>
</body>
</html>
```

3. **Explain angularJs directives with an example.**

AngularJS has a set of built-in directives which offers functionality to your applications.

AngularJS directives are extended HTML attributes with the prefix `ng-`.

The `ng-app` directive initializes an AngularJS application.

The `ng-init` directive initializes application data.

Ex:

```
<!DOCTYPE html>
<html>
<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<body>

<div ng-app="" ng-init="firstName='John'">

<p>Input something in the input box:</p>
<p>Name: <input type="text" ng-model="firstName"></p>
<p>You wrote: {{ firstName }}</p>

</div>

</body>
</html>
```

The `ng-model` directive binds the value of HTML controls (input, select, textarea) to application data.

The `ng-model` directive can also:

- Provide type validation for application data (number, email, required).
- Provide status for application data (invalid, dirty, touched, error).

- Provide CSS classes for HTML elements.
- Bind HTML elements to HTML forms.

```
<!DOCTYPE html>

<html>

<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>

<body>

<div ng-app="myApp" ng-controller="myCtrl">

Name: <input ng-model="name">

</div>

<script>

var app = angular.module('myApp', []);

app.controller('myCtrl', function($scope) {

    $scope.name = "John Doe";

});

</script>



<p>Use the ng-model directive to bind the value of the input field to a property made in the controller.</p>

</body>

</html>
```

4. Explain angularJs filters with an example.

AngularJS provides filters to transform data:

- `currency` Format a number to a currency format.

- `date` Format a date to a specified format.
- `filter` Select a subset of items from an array.
- `json` Format an object to a JSON string.
- `limitTo` Limits an array/string, into a specified number of elements/characters.
- `lowercase` Format a string to lower case.
- `number` Format a number to a string.
- `orderBy` Orders an array by an expression.
- `uppercase` Format a string to upper case.

Ex:

```
<!DOCTYPE html>
<html>
<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.6.9/angular.min.js"></script>
<body>

<div ng-app="myApp" ng-controller="personCtrl">

<p>The name is {{ lastName | uppercase }}</p>

</div>

<script>
angular.module('myApp', []).controller('personCtrl', function($scope) {
  $scope.firstName = "John",
  $scope.lastName = "Doe"
});
</script>

</body>
</html>
```

5. Write in detail about bootstrap grid system with examples.

Bootstrap includes a responsive, mobile first fluid grid system that appropriately scales up to 12 columns as the device or viewport size increases. It includes predefined classes for easy layout options, as well as powerful mixins for generating more semantic layouts.

Working of Bootstrap Grid System

Grid systems are used for creating page layouts through a series of rows and columns that house your content. Here's how the Bootstrap grid system works −

- Rows must be placed within a **.container** class for proper alignment and padding.
- Use rows to create horizontal groups of columns.
- Content should be placed within the columns, and only columns may be the immediate children of rows.
- Predefined grid classes like **.row and .col-xs-4** are available for quickly making grid layouts. LESS mixins can also be used for more semantic layouts.
- Columns create gutters (gaps between column content) via padding. That padding is offset in rows for the first and the last column via negative margin on **.rows**.
- Grid columns are created by specifying the number of twelve available columns you wish to span. For example, three equal columns would use three **.col-xs-4**.
- Following is basic structure of Bootstrap grid −

```
<div class = "container">

   <div class = "row">
      <div class = "col-*-*"></div>
      <div class = "col-*-*"></div>
   </div>

   <div class = "row">...</div>

</div>

<div class = "container">
   ....
</div>
```

6. How to create a bootstrap table Illustrate it with an example.

Bootstrap provides a clean layout for building tables. Some of the table elements supported by Bootstrap are −

Sr.No.	Tag & Description
1	**<table>** Wrapping element for displaying data in a tabular format
2	**<thead>**

	Container element for table header rows (<tr>) to label table columns.
3	**<tbody>** Container element for table rows (<tr>) in the body of the table.
4	**<tr>** Container element for a set of table cells (<td> or <th>) that appears on a single row.
5	**<td>** Default table cell.
6	**<th>** Special table cell for column (or row, depending on scope and placement) labels. Must be used within a <thead>
7	**<caption>** Description or summary of what the table holds.

Basic Table

If you want a nice, basic table style with just some light padding and horizontal dividers, add the base class of *.table* to any table as shown in the following example –

```
<table class = "table">
   <caption>Basic Table Layout</caption>
   
   <thead>
      <tr>
         <th>Name</th>
         <th>City</th>
      </tr>
   </thead>
   
   <tbody>
      <tr>
         <td>Tanmay</td>
         <td>Bangalore</td>
      </tr>
      <tr>
         <td>Sachin</tr>
         <td>Mumbai</td>
      </tr>
   </tbody>
</table>
```

7. Develop and demonstrate using jQuery to solve the following:

a. **Fade in and fade out all division elements.**

b. **Animate an element, by changing its height and width.**

```
<!DOCTYPE html>
<html>
        <head>
                <script type="text/javascript" src="jquery-1.2.1.js"></script>
                <script type="text/javascript">
                        $(document).ready(function(){
                          $("#btn1").click(function(){
                                $("div").fadeOut(3000);
                          });
                           $("#btn2").click(function(){
                                $("div").fadeIn(3000);
                          });
                        });
                </script>
                <title>lab14a</title>
        </head>
        <body align="center">
                <button id="btn1">Fade Out</button>
                <button id="btn2">Fade In</button>
                <br/><br/>
                <div style="background:#2E9AFE;">Div One</div><br/>
                <div style="background:#2E900E;">Div Two</div>
        </body>
</html>
```

Lab14b.html

```
<html>
  <head>
    <title>lab14b</title>
    <script type="text/javascript"
           src="jquery-1.2.1.js"></script>

    <script type="text/javascript">
      $(function(){
```

```
    $('#btn1').click(function(){
     $('#box').each(function(){
      $(this).animate(
       {
        width: $(this).width() * 2,
        height: $(this).height() * 2
       },
       'slow'
      );
     });
    });
             $( "#btn2" ).click(function() {
                    $('#box').each(function(){
                          $(this).animate(
                           {
                                 width: "100px",
                            height: "100px"
                           },
                           'slow'
                          );
                    });
             });

   });
  </script>
 </head>

 <body>
   <div>
             <button id="btn1">Animate</button>
             <button id="btn2">Reset</button>
             <div id="box"
style="background:#B40F04;height:100px;width:100px;margin:6px;"></div>
   </div>
 </body>
</html>
```

8. Develop a simple calculator to perform arithmetic (addition, subtraction, multiplication and division) operations on given two numbers. Use an HTML tag that allows the user to input two numbers and to display the result of arithmetic operation. Write suitable HTML and JavaScript and CSS to your simple calculator.

```
<!DOCTYPE html>
```

```
<html>
    <head>
        <title>Program 11</title>
        <script type="text/javascript">
            function add(){
                var n1=document.getElementById("num1").value;
                var n2=document.getElementById("num2").value;
                if((n1=="")||(n2=="")){
                    alert("Please enter both the numbers");
                    return false;
                }
                var result= parseInt(n1)+parseInt(n2);
                document.getElementById("res").value=result;
            }
            function sub(){
                var n1=document.getElementById("num1").value;
                var n2=document.getElementById("num2").value;
                if((n1=="")||(n2=="")){
                    alert("Please enter both the numbers");
                    return false;
                }
                var result= parseInt(n1)-parseInt(n2);
                document.getElementById("res").value=result;
            }
            function mul(){
                var n1=document.getElementById("num1").value;
                var n2=document.getElementById("num2").value;
                if((n1=="")||(n2=="")){
                    alert("Please enter both the numbers");
                    return false;
                }
                var result= parseInt(n1)*parseInt(n2);
                document.getElementById("res").value=result;
            }
            function div(){
                var n1=document.getElementById("num1").value;
                var n2=document.getElementById("num2").value;
                if((n1=="")||(n2=="")){
                    alert("Please enter both the numbers");
                    return false;
                }
                if(parseInt(n2)>0)
                {
                    var result= parseInt(n1)/parseInt(n2);
                    document.getElementById("res").value=result;
                }
                else
                {
                    document.getElementById("res").value="";
                    alert("Divide By Zero");
                    return false;
                }
            }
            function clearAll(){
                document.getElementById("num1").value="";
                document.getElementById("num2").value="";
                document.getElementById("res").value="";
            }

        </script>
    </head>
    <body style="text-align: center;">
        <h1> A SIMPLE CALCULATOR </h1>
        <label>Number 1 = </label><input type="text" id="num1"/><br/><br/>
        <label>Number 2 = </label><input type="text" id="num2"/><br/><br/>
        <label>Result = </label><input type="text" id="res"/><br/><br/>
        <input type="button" value="ADD" onclick="add();"/>
        <input type="button" value="SUB" onclick="sub();"/>
        <input type="button" value="MUL" onclick="mul();"/>
        <input type="button" value="DIV" onclick="div();"/>
        <input type="button" value="CLEAR" onclick="clearAll();"/>
    </body>
</html>
```

9. Develop and demonstrate using jQuery to solve the following:

a) Limit character input in the text area including count.

b) Based on check box, disable/enable the form submit button.

```
    <!DOCTYPE html>
<html>
    <head>
        <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
        <script>
            var maxlength = 15;
            $(document).ready(function(){
                $('textarea').keyup(function() {
                  var textlen = maxlength - $(this).val().length;
                  $('#rchars').text(textlen);
                });
            });

        </script>
        <title>lab13a</title>
    </head>
    <body align="center">
        <form>
            <label>Maximum 15 Characters</label> <br/><br/>
            <textarea id="textarea" maxlength="15"></textarea><br/><br/>
            <span id="rchars">15</span> Character(s) Remaining
        </form>
    </body>
</html>
```

b)

```
<!DOCTYPE html>
<html>
    <head>
        <script src="jquery-1.2.1.js"></script>
        <script>
            $(document).ready(function(){
                $('#accept').click(function() {
                    if ($('#submitbtn').is(':disabled')) {
                    $('#submitbtn').removeAttr('disabled');
                    } else {
                        $('#submitbtn').attr('disabled', 'disabled');
                    }
                });
            });
        </script>
        <meta charset="utf-8">
        <title>lab13b</title>
    </head>
    <body>
        <input id="accept" name="accept" type="checkbox" value="y"/>I accept<br>
        <input id="submitbtn" disabled="disabled" name="Submit" type="submit"
value="Submit" />
    </body>
</html>
```

10. Develop and demonstrate a HTML5 page which contains
a. Dynamic Progressive bar.
b. Display Video file using HTML5 video tag.

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <title>Lab9a</title>
            <style>
                #Progress_Status {
                width: 50%;
                background-color: #ddd;
                }

                #myprogressBar {
                width: 2%;
                height: 20px;
                background-color: #4CAF50;
                }
            </style>
    </head>
    <body>
        <p>Download Status of a File:</p>
        <div id="Progress_Status">
            <div id="myprogressBar"></div>
        </div>
        <br/>
        <button onclick="update()">Start Download</button>
        <script>
            function update() {
            var element = document.getElementById("myprogressBar");
            var width = 1;
            var identity = setInterval(scene, 5);
            function scene() {
                if (width >= 100) {
                clearInterval(identity);
                } else {
                width++;
                element.style.width = width + '%';
                }
            }
            }
        </script>
    </body>
</html>
```

b)

```
<!DOCTYPE html>

<html lang="en">

    <head>

        <meta charset="UTF-8">

        <title>Lab9b</title>

    </head>

    <body>

        <video width="500" height="450" controls>

          <source src="movie.mp4" type="video/mp4">

          Your browser does not support the video tag.

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