

### Practical 7 (Writeup)

**Title:** Create student data with their MSE question paper & syllabus copies using jQuery.

**Aim:** Implementation of jQuery.

**Theory:**

- jQuery

jQuery is a popular and widely used JavaScript library designed to simplify HTML document manipulation, event handling, and animation on websites. It provides a convenient and concise way to interact with HTML elements, traverse the DOM (Document Object Model), make AJAX requests, and handle various events.

- jQuery Actions

1. **Selecting Elements:** jQuery provides powerful selectors to select HTML elements based on their attributes, classes, IDs, or hierarchy within the DOM.
2. **Manipulating Elements:** Once you've selected elements, you can modify their content, attributes, CSS styles, or even add/remove classes using jQuery methods.
3. **Event Handling:** jQuery simplifies event handling by providing methods to bind event listeners to elements. You can respond to events like clicks, keypresses, form submissions, and more.
4. **Animations and Effects:** jQuery includes built-in functions to create animations and apply effects to elements, such as fading, sliding, or toggling visibility.
5. **DOM Traversal:** jQuery allows you to navigate and manipulate the DOM tree by traversing between parent, child, and sibling elements.
6. **AJAX Requests:** With jQuery's AJAX functionality, you can easily make asynchronous requests to the server without reloading the entire page. This enables you to fetch data from a server, send data, and update parts of the page dynamically.
7. **Manipulating CSS:** jQuery provides methods to modify CSS properties of elements, allowing you to change styles dynamically.
8. **Handling Form Input:** jQuery simplifies form handling by providing methods to get and set form values, validate inputs, and submit forms using AJAX.
9. **Creating Dynamic Content:** You can use jQuery to dynamically create and insert HTML content into the page, which is useful for building interactive and data-driven web applications.
10. **Plugin Integration:** jQuery has a vast ecosystem of plugins that extend its functionality. These plugins cover a wide range of tasks, from advanced UI components to charting libraries and form validation.

- ready() function

The `ready` function in jQuery is a method that allows you to execute code when the DOM (Document Object Model) has finished loading and is ready to be manipulated. It is often used to ensure that your JavaScript code runs after the HTML document has been fully loaded.

The syntax for the `ready` function is as follows:

```
$(document).ready(function() {  
    // Your code here  
});
```

Alternatively:

```
$(function() {  
    // Your code here  
});
```

The `ready` function accepts a callback function as its parameter. The callback function is executed once the DOM is ready. You can place your code inside this function, and it will be executed at the appropriate time.

Example of using the `ready` function:

```
$(document).ready(function() {  
    // Code to be executed when the DOM is ready  
    // For example, manipulating elements, binding event handlers, etc.  
    $("button").click(function() {  
        alert("Button clicked!");  
    });  
});
```

- Validation Plugin

The jQuery Validation Plugin is a popular and widely used plugin that provides an easy and flexible way to add client-side form validation to your web applications. It simplifies the process of validating form inputs and provides various built-in validation rules and options.

To use the jQuery Validation Plugin, you need to include the jQuery library and the plugin file in your HTML document. You can download the plugin from the jQuery Validation website (<https://jqueryvalidation.org/>) or include it from a CDN (Content Delivery Network) like so:

```
<script src="https://cdn.jsdelivr.net/jquery.validation/1.16.0/jquery.validate.min.js"></script>
```

Once you've included the plugin, you can start adding validation rules to your form fields. Here's an example:

```
<form id="myForm">  
    <label for="name">Name:</label>  
    <input type="text" id="name" name="name" required>  
    <label for="email">Email:</label>
```

```
<input type="email" id="email" name="email" required>

<input type="submit" value="Submit">

</form>

<script>

    $(document).ready(function() {

        $("#myForm").validate();

    });

</script>
```

- jQuery Accordion

The jQuery Accordion is a user interface component that allows you to create collapsible sections or panels on a webpage. It provides a way to organize and present content in a compact and space-efficient manner, where only one section is expanded at a time, and others are collapsed.

To implement the jQuery Accordion, you'll need to include the jQuery library and the jQuery UI library in your HTML document. You can obtain the libraries by downloading them or including them from a CDN (Content Delivery Network).

- jQuery UI Tooltip

The jQuery UI Tooltip is a component that allows you to create informative tooltips or hovercards that provide additional information or context when the user hovers over an element on a webpage. It enhances the user experience by offering tooltips that can contain text, images, or other HTML content.

To use the jQuery UI Tooltip, you need to include the jQuery library, the jQuery UI library, and the jQuery UI CSS file in your HTML document.

**Conclusion:** jQuery is a JavaScript library that simplifies HTML manipulation and event handling. The jQuery Validation Plugin provides client-side form validation. The jQuery Accordion creates collapsible sections. The jQuery UI Tooltip creates informative tooltips for elements.

*\*Code and output not available in this file.*