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EDUCATION TO INNOVATION

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Assignment :- 3

Q-1 What is client-side scripting? Explain the role of JavaScript in client-side scripting.

Ans =)

→ Client-side scripting is code that runs in the user's web browser instead of the server, making web pages interactive and dynamic.

Role of JavaScript :-

→ Adds interactivity

→ Validates form inputs before submission.

→ Modifies webpage content dynamically using the DOM.

→ Handles user actions like clicks and key presses.

→ Fetches data without reloading the page.

→ Stores data locally.

→ Creates animations and effects.

Q-2 Write a Javascript code snippet to validate an Email address entered by a user in an HTML form.

Ans⇒)

```html
<html>
<head>
    <title> Email validation </title>
    <script>
        function validateEmail() {
            let email = document.getElementById("Email").value;
            let msg = document.getElementById("err-msg");
            let emailPattern = /^[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]{2,3}$/;
            if (emailPattern.test(email)) {
                errormsg.style.color = "green";
                msg.textContent = " valid Email address!";
                return true;
            }
            else {
                msg.style.color = "red";
                msg.textContent = " Invalid Email format!";
                return false;
            }
        }
    </script>
</head>
<body>
    <form onsubmit="return validateEmail()">
    <label for="email"> Enter your Email : </label>
    <input type="text" id="Email" required>
```

```
<button type="Submit"> Submit </button>
<P id=" err-msg"> </P>
</form>
</body>
</html>
```

Q-3 Define jquery. What are the advantages of using jquery in web development?

Ans =)

→ jQuery is a fast and lightweight Javascript library that simplifies tasks like HTML manipulation, event handling, animations, and AJAX. It helps developers write less code while achieving more functionality.

Advantages

→ Easy to use
→ Cross-Browser Compatibility
→ Effortless DOM manipulation
→ Built-in Animations
→ Simplified Event handling
→ AJAX Support
→ Extensive Plugin Support
→ lightweight & fast.

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Q-4 Write a jquery code snippet to select all the paragraphs (<P>) in a webpage and change their text color to blue.

ans=)

```html
<html>
<head>
    <title> Change color </title>
    <script src="https://code.jquery.com/jquery-3.6.0.min.js"> </script>
    <script>
        $(document).ready(function() {
            $(P).css("color", "blue");
        });
    </script>
</head>
<body>
    <P> first Paragraph.</P>
    <P> Second Paragraph.</P>
</body>
</html>
```

Q-5 what are jquery selectors? Provide examples of at least three different types of jquery selectors and explain their uses.

ans=)

→ jquery selectors are used to find and manipulate HTML elements based on their tag name, class, ID, attributes, and more. They allow developers to apply styles, events, or changes to specific elements easily.

① Element Selector :-

→ Select all elements of a specific type.

Example :- $("p").css("color", "red");

② ID Selector ($("#id")) :-

→ Select a single element with a specific ID.

Example :- $("#myDiv").hide();

③ Class Selector ($(".class")) :-

→ Selects all elements with a specific class.

→ Example :-
$(".highlight").css("background-color", "red");

Q - 6 How do you handle errors in PHP when working with MySQL queries? Write a PHP code snippet to handle errors.

Ans =>

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→ To handle errors in PHP while working with MYSQL, we use mysqli_error() or try - catch to detect and manage errors gracefully.

Code

```php
<?php
$conn = new mysqli("localhost", "root", "", "test_db");
if ($conn -> connect_error) {
    die("connection failed: ", $conn -> connect_error);
}
$sql = "SELECT * FROM users";
$result = $conn -> query($sql);
if (!$result) {
    die("Query failed: ", $conn -> error);
}
else {
    while ($row = $result -> fetch_assoc()) {
        echo "User:", $row ["username"]. "<br>";
    }
}
$conn -> close();
?>
```

Q-7 | Create an HTML form with fields for username and password, and write the PHP code to insert this data into a MySQL database.

Ans =)

HTML form

```html
<html>
<head>
    <title> User registration </title>
</head>
<body>
    <h2> Register </h2>
    <form action="insert.php" method="POST">
        <label for="username">Username : </label>
        <input type="text" id="username" required><br><br>
        <label for="Password"> Password :</label>
        <input type="Password" id="Password" required><br>
        <button type="submit"> Register </button>
    </form>
</body>
</html>
```

insert.html

```php
<?php
$conn = new mysqli("localhost", "root", "", "test_db");
if ($conn->connect_error) {
    die("Connection failed:" . $conn->connect_error);
}
if ($_SERVER["REQUEST_METHOD"] == "POST") {
    $user = $_POST['username'];
    $pass = Password_hash($_POST['Password'], PASSWORD_BCRYPT);
    $sql = "INSERT INTO users (username, Password) VALUE(?,?)"
```

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```
$stmt = $conn -) prepare($sql);
$stmt -) bind_param("ss", $user, $pass);
if($stmt -) execute()){
    echo "user registered successfully!";
} else {
    echo "Error: ".$stmt -) error;
}
$stmt -) close();
$conn -) close();
}
?>
```

Q-8 Explain the MVC architecture. Describe the role of model, view and controller in the MVC pattern.

ans =)

→ MVC is a software design pattern used for web applications to separate concerns and make code more manageable.

Role :-

①model :-

→ manages the application's data and business logic
→ Interacts with the database.
→ Example :- fetching user details from the database.

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② View :-

→ Handles the user interface and displays data.
→ Example :- HTML templates, displaying forms, and tables.

③ Controller :-

→ Acts as a bridge between model and view.
→ Processes user input, updates the model, and selects the appropriate view.
→ Example :- Handling form submissions and updating the database.

Advantages

→ Enhances code reusability and maintainability.
→ Separates data logic from UI, making it scalable.
→ makes debugging and testing easier.