

Chapter 4: JavaScript – Notes & Solutions**PART I: Short Questions (Exercise Answers)****Q1. What is JavaScript?**

- JavaScript is a **client-side scripting language** used to make web pages interactive and dynamic.
- Runs inside the browser.
- Example: Validating a login form before submission.

Q2. What can JavaScript Do?

- Validate forms (check if input is empty).
- Change HTML content dynamically.
- Show/hide elements.
- Create animations and effects.
- Communicate with servers (AJAX).

Q3. Write an example of Hide HTML Element through JavaScript.

```
<p id="text">Hello World!</p>
```

```
<button onclick="document.getElementById('text').style.display='none'">
```

```
Hide Text
```

```
</button>
```

Q4. Explain JavaScript Functions.

- A **function** is a block of code that performs a specific task.
- It runs only when called.
- Helps avoid repetition.

Q5. Write the syntax of JavaScript Functions.

```
function functionName(parameters) {
  // code to be executed
}
```

- Example:

```
function greet() {
  alert("Hello World!");
}
```

Q6. Define jQuery Selector.

- jQuery selectors are used to **select and manipulate HTML elements**.
- Syntax:

```
$("#selector").action();
```

Q7. Define the #id Selector.

- Selects an element by its **ID attribute**.
- Example:

```
$("#myDiv").hide();
```

Q8. Define the .class Selector.

- Selects elements by their **class name**.
- Example:

```
$(".myClass").css("color","red");
```

Q9. Write any two Examples of jQuery Selectors with Description.

1. **Element Selector:** Selects all <p> tags → \$("p").hide();
2. **Universal Selector:** Selects all elements → \$("*").css("font-size","14px");

Q10. Explain jQuery Hide and Show.

- .hide() → Hides an element.
- .show() → Displays a hidden element.
- Example:

```
$("#para").hide();
```

```
$("#para").show();
```

Q11. How to create sliding effects on HTML elements with jQuery?

- jQuery provides sliding effects: .slideUp(), .slideDown(), .slideToggle().
- Example:

```
$("#panel").slideDown();
```

✔ PART II: Long Questions (Exercise Answers)**Q1. What is JavaScript? Give example of simple JavaScript Hello World program.**

- JavaScript is a scripting language that makes websites **interactive**.
- Example:

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<script>
```

```
document.write("Hello World!");
```

```
</script>
```

```
</body>
```

```
</html>
```

Q2. Give detailed description of Styling Elements in JavaScript. Also add examples.

- JavaScript can change **CSS styles** of HTML elements dynamically.
- Example:

```
<p id="para">This is a paragraph.</p>
```

```
<button onclick="document.getElementById('para').style.color='blue'">
```

```
Change Color
```

</button>

- Common properties:
 - element.style.color
 - element.style.fontSize
 - element.style.backgroundColor

Q3. Write a note on jQuery selectors.

- jQuery selectors simplify HTML element selection.
- Syntax: \$(selector).action();
- Types:
 - **ID Selector:** \$("#id")
 - **Class Selector:** \$(".class")
 - **Element Selector:** \$("p")
- Example:

```
$("p").css("color","green");
```

Q4. Write the code to apply validation on HTML form using JavaScript.

```
<form onsubmit="return validateForm()">
  Name: <input type="text" id="name"><br>
  <input type="submit" value="Submit">
</form>
```

```
<script>
function validateForm() {
  let x = document.getElementById("name").value;
  if (x == "") {
    alert("Name must be filled out");
    return false;
  }
  return true;
}
</script>
```

★ Extra Important Short Questions with Answers

Q1. Difference between Java and JavaScript?

- **Java:** Programming language, compiled, used for apps/software.
- **JavaScript:** Scripting language, interpreted, used for web.

Q2. What is the difference between == and === in JavaScript?

- == → Compares values only.

- === → Compares values and data types.

Q3. What is DOM in JavaScript?

- DOM = Document Object Model.
- It represents the HTML page as objects for manipulation.

Q4. What is an Event in JavaScript?

- Actions that happen in browser (click, keypress, mouseover).
- Example: onclick, onchange.

Q5. What is AJAX in JavaScript?

- AJAX = Asynchronous JavaScript and XML.
- Used to send/receive data from server without reloading page.

★ Extra Important Long Questions with Answers

Q1. Differentiate between Inline, Internal, and External JavaScript.

| Type | Example | Use |
|----------|---|------------------|
| Inline | <code><button onclick="alert('Hi')">Click</button></code> | Quick scripts |
| Internal | <code><script> alert("Hi"); </script></code> | Inside HTML page |
| External | <code><script src="script.js"></script></code> | Reusable code |

Q2. Explain JavaScript Events with Example.

- Events are user actions like click, hover, input.
- Example:

```
<button onclick="alert('Button clicked!')">Click Me</button>
```

Q3. Write advantages of using jQuery.

- Easy to learn.
- Cross-browser support.
- Rich effects and animations.
- Reduces code length.