

2.4 JavaScript and page interaction

Name: _____ Class: _____ Date: _____ **Total: 15 marks**

KEY WORDS JavaScript JavaScript • DOM • event • function

Objective

Use JavaScript events and the DOM to add small, reliable web interactions.

You must be able to:

- explain the DOM and an event
- select an element after the page is loaded
- keep basic page functions usable without JavaScript

1 Key knowledge and worked examples

■ Respond to a click

`document.querySelector('#menu')` finds the menu in the **DOM**. A click is an **event**. An event listener runs a function when that click happens.

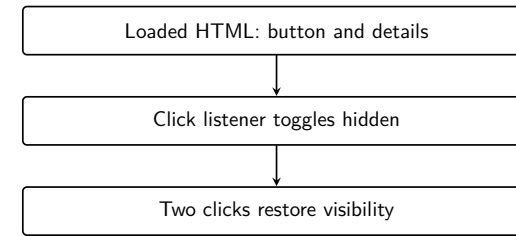
Make the menu a working list in HTML first. JavaScript may then hide or show it. If the script fails, visitors still have a usable menu.

■ Key knowledge: Trace an event handler

A query can return no element. Attach a handler only after the element exists, and choose a button for an action.

■ Worked example: Trace an event handler

HTML supplies `<button id="toggle" type="button">Show details</button>` and a visible details paragraph. After the markup loads, the script finds the button and paragraph. If both exist, it adds a click listener that toggles the paragraph's **hidden** property. On two clicks the paragraph hides, then shows. A missing script leaves the original details visible; a missing element is handled by a guard rather than an error.



2 Practice

2.1 Define the DOM. [1]

2.2 State one example of a browser event. [1]

2.3 Explain why a script that runs before the HTML is parsed may fail. [2]

3 Exam-style questions

3.1 Explain how a click listener can make a menu button show or hide a panel. [4]

3.2 Explain why client-side form validation is useful but cannot protect a system by itself. [4]

3.3 A script runs before the button markup and `querySelector` returns null. Explain the failure and give two suitable fixes or guards. [3]
