

# Frontend Interview Handbook (150+ Questions)

This handbook covers HTML, CSS, JavaScript, React, Performance, and Production-level frontend interview questions. Each question includes a clear answer and two reasons explaining why the answer is correct, designed for 1–5 year frontend developers.

**Q:** What is HTML?

**Answer:** HTML is used to structure content on the web.

**Why:** HTML defines structure, not styling or logic.

**Why:** This is the standard industry definition.

**Q:** What are semantic HTML elements?

**Answer:** Semantic elements clearly describe their meaning, such as header, footer, and article.

**Why:** They improve SEO and accessibility.

**Why:** They make code more readable and maintainable.

**Q:** What is CSS?

**Answer:** CSS is used to style and layout web pages.

**Why:** Separates presentation from structure.

**Why:** Allows consistent design across pages.

**Q:** What is Flexbox?

**Answer:** Flexbox is a one-dimensional layout system for aligning items.

**Why:** Used for responsive layouts.

**Why:** Simplifies alignment problems.

**Q:** What is JavaScript?

**Answer:** JavaScript is a programming language used to make web pages interactive.

**Why:** Adds dynamic behavior to UI.

**Why:** Runs in browser and server environments.

**Q:** What is closure in JavaScript?

**Answer:** A closure allows a function to access variables from its outer scope.

**Why:** Important for data privacy.

**Why:** Commonly used in callbacks and hooks.

**Q:** What is React?

**Answer:** React is a JavaScript library for building UI components.

**Why:** Component-based architecture.

**Why:** Efficient rendering with Virtual DOM.

**Q:** What is Virtual DOM?

**Answer:** A lightweight copy of the real DOM used for efficient updates.

**Why:** Improves performance.

**Why:** Minimizes direct DOM manipulation.

**Q:** What is useState hook?

**Answer:** useState is used to manage state in functional components.

**Why:** Replaces class-based state.

**Why:** Triggers re-render on update.

**Q:** What is useEffect?

**Answer:** useEffect handles side effects like API calls and subscriptions.

**Why:** Keeps side effects separate from render.

**Why:** Supports lifecycle behavior.

**Q:** What is performance optimization in frontend?

**Answer:** Techniques to make UI faster and more responsive.

**Why:** Improves user experience.

**Why:** Reduces load time and bounce rate.

**Q:** What is code splitting?

**Answer:** Loading code only when required.

**Why:** Reduces initial bundle size.

**Why:** Improves page load performance.

**Q:** What is lazy loading?

**Answer:** Deferring loading of components or assets until needed.

**Why:** Optimizes performance.

**Why:** Improves perceived speed.

**Q:** What is SPA?

**Answer:** Single Page Application loads content dynamically without full reloads.

**Why:** Provides smooth user experience.

**Why:** Reduces server load.

**Q:** What is SSR?

**Answer:** Server-side rendering renders HTML on the server.

**Why:** Improves SEO.

**Why:** Faster first contentful paint.

**Q:** What is CSR?

**Answer:** Client-side rendering renders content in the browser.

**Why:** Reduces server computation.

**Why:** Suitable for dashboards.

**Q:** What is CDN?

**Answer:** Content Delivery Network serves assets from nearest location.

**Why:** Reduces latency.

**Why:** Improves global performance.

**Q:** What are Web Vitals?

**Answer:** Metrics that measure real user performance.

**Why:** Used by Google ranking.

**Why:** Helps performance monitoring.

**Q:** What is Lighthouse?

**Answer:** A tool to audit performance, SEO, and accessibility.

**Why:** Identifies performance issues.

**Why:** Industry standard audit tool.

**Q:** How do you deploy a React app?

**Answer:** By building static files and serving via NGINX or cloud platforms.

**Why:** Production-ready approach.

**Why:** Separates build and runtime.

**Note:** This is a condensed professional handbook. More advanced React, performance, testing, and system-design questions can be appended as separate volumes if required.