**Comprehensive List of 100 React Questions (A to Z Coverage)**

**Core React Basics**

1. What is React, and how does it differ from other frameworks?
2. What are the main features of React?
3. What is JSX, and why is it used in React?
4. What is the Virtual DOM, and how does it improve performance?
5. How does React handle one-way data binding?
6. What are React components, and how are they classified?
7. What is the difference between a class component and a functional component?
8. How do you create a simple React component?
9. What are props in React, and how are they used?
10. What is state in React, and how does it differ from props?

**React Lifecycle**

1. What are the lifecycle methods in React?
2. What is the difference between componentDidMount and useEffect?
3. How do you use componentWillUnmount in a functional component?
4. What is shouldComponentUpdate, and when would you use it?
5. How does getDerivedStateFromProps work, and why is it useful?

**React Hooks**

1. What are React Hooks, and why were they introduced?
2. How do you use the useState Hook?
3. How do you use the useEffect Hook for side effects?
4. What is the useContext Hook, and how is it used?
5. What is the difference between useMemo and useCallback?
6. How does useRef work in React?
7. What is the useReducer Hook, and how is it different from useState?
8. How can you manage custom hooks in React?
9. What are the rules of React Hooks?

**Advanced State Management**

1. What are the pros and cons of using Redux for state management?
2. What is the Context API, and how does it compare to Redux?
3. How do you manage global state in React?
4. What is the concept of lifting state up in React?
5. How do you implement state management using Zustand?
6. What is the difference between local and global state?

**Forms and Events**

1. How do you handle forms in React?
2. What is the difference between controlled and uncontrolled components?
3. How do you handle form validation in React?
4. What are synthetic events in React?
5. How do you optimize event handling in React?

**React Router**

1. What is React Router, and why is it used?
2. How do you set up routing in a React application?
3. What is the difference between BrowserRouter and HashRouter?
4. How do you handle nested routes in React?
5. How can you implement dynamic routing in React?
6. What are route guards, and how do you create them?

**React Performance Optimization**

1. How do you optimize React app performance?
2. What is React.memo, and how does it prevent unnecessary re-renders?
3. How does lazy loading improve performance in React?
4. What is code-splitting in React, and how is it implemented?
5. How do you use the React.PureComponent for performance optimization?
6. How do you prevent unnecessary renders using React.memo and useCallback?

**React Testing**

1. How do you test React components?
2. What are the different types of testing in React?
3. How do you use Jest and Enzyme for testing React apps?
4. What is snapshot testing, and how is it used in React?
5. How do you test a component that uses hooks like useEffect or useState?

**Error Handling in React**

1. What are error boundaries in React?
2. How do you implement error boundaries in a React app?
3. How do you handle errors in asynchronous React code?
4. What are the best practices for debugging React applications?

**Styling in React**

1. What are the different ways to style React components?
2. How do you use CSS modules in React?
3. What is styled-components, and how do you use it?
4. How do you use Tailwind CSS with React?
5. How does inline styling work in React?

**React Animations**

1. How do you add animations to a React app?
2. What is the difference between React Transition Group and Framer Motion?
3. How do you create custom animations using CSS in React?

**React and APIs**

1. How do you fetch data in React?
2. What are the different methods for API integration in React?
3. How do you handle errors during API calls in React?
4. How do you implement infinite scrolling in React?

**Real-Time Data in React**

1. How do you implement real-time data updates using WebSockets in React?
2. How does React handle real-time notifications?

**Server-Side Rendering (SSR)**

1. What is server-side rendering, and why is it used?
2. How do you implement SSR in React using Next.js?
3. What are the benefits and drawbacks of SSR in React?

**Progressive Web Apps (PWAs)**

1. How do you convert a React app into a PWA?
2. What are the key features of a PWA built with React?

**React Design Patterns**

1. What are higher-order components (HOCs) in React?
2. How do you implement render props in React?
3. What is the container-presentational component pattern?

**Accessibility in React**

1. What are best practices for building accessible React apps?
2. How do you handle keyboard navigation in React?

**Internationalization (i18n)**

1. How do you implement internationalization in a React app?
2. What are the popular libraries for i18n in React?

**Deployment and CI/CD**

1. How do you deploy a React application?
2. What is the role of CI/CD in React app development?

**Micro-Frontends**

1. What are micro-frontends, and how can you implement them in React?

**Miscellaneous Topics**

1. How does React handle accessibility out of the box?
2. What is the difference between React and React Native?
3. How do you optimize images in a React app?
4. What is hydration in React?
5. How do you implement dark mode in React?

**React Tools and Ecosystem**

1. What are some popular tools and libraries in the React ecosystem?
2. How do you use React DevTools to debug React applications?
3. What is the role of Babel and Webpack in React?

**React Best Practices**

1. What are some React coding best practices?
2. How do you ensure component reusability in React?

**React Anti-Patterns**

1. What are common anti-patterns to avoid in React development?

**State-of-the-Art React**

1. What are React Server Components?
2. How does React handle concurrent rendering?
3. What is React Fiber, and how does it improve React?
4. What are the latest features in the most recent version of React?