1. What is React.js? How is it different from other JavaScript frameworks and libraries?

(ans) react and javascript are two crucial elements of these ecological systems, which frequently cause misunderstanding owing to their interconnectedness. While javascript is the main programming platform for designing platforms, react is a javascript package that simplifies the construction of graphic user interference.

1. Explain the core principles of React such as the virtual DOM and component based architecture

(ans) core principles of react:

Virtual DOM :

react uses a virtual DOM to efficiently render components, which can improve the performance of large and complex applications. The virtual DOM is stored in memory which eliminates excessive re – rendering that could harm performance.

Component based architecture :

React uses a component based architecture to build software by creating reusable, independent components. These components encapsulate specific functionality and can be easily combined to create complex user interferances.

1. What are the advantages of using React.js in web development?

(ans) react js has many advantages in web development such as reusable components, declarative programming, light weight API, easy to learn, code stability, SEO optimization, data visualization tools, large scale applications, integration with other javascript frameworks.

JSX (JavaScript XML)

1. What is JSX in React.js? Why is it used?

(ans) jsx stands for javascript XML. Jsx allows us to write html in react. Jsx makes it easier to write and add html in react.

1. How is JSX different from regular JavaScript? Can you write JavaScript inside JSX?

(ans) jsx is an syntax extension for javascript that allows you to write html- like code within javascript. It introduces xml like tags and attributes to create react elements. Js, on other hand, is plain javascript code without any special syntax or extensions.

1. Discuss the importance of using curly braces {} in JSX expressions

(ans) curly braces in jsx are syntactic sugar that sweetens the development process. The indicators tell react to interpret the enclosed content as javascript, not plain text. This allows developer to embed variables, function calls, and other javascript expressions directly within their jsx code.

Components (Functional & Class Components)

1. What are components in React? Explain the difference between functional components and class components.

(ans) components are like bricks that help create a user interface by breaking it down into manageable pieces. The main difference between functional and class components is the syntax and the complexity of the code. Functional components are simple javascript functions that return react elements. They are faster and easier to understand than class components. Functional components are easier for small and presentational components. Class components are more complex and are written with javascript. They support state and lifecycle methods, and are suitable for larger, reusable components.

1. How do you pass data to a component using props?

(ans) react components use props to communicate with each other. Every parent component can pass information to its child components by giving them props. Props might remind you of html attributes, but you can pass any javascript value through them, including arrays, functions and objects.

1. What is the role of render() in class components?

(ans) react renders html to the web page by using a function called render(). The purpose of the function is to display the specified html code into the specied html element. In the render method we can read props and state and can return our jsx code to the root component of our app.

Props and State

1. What are props in React.js? How are props different from state?

(ans) props are used to pass data, whereas state is for managing data. Data from props is read only, and cannot modified by a component that is receiving it from outside. State data can be modified by its own component, but is private.

1. Explain the concept of state in React and how it is used to manage component data.

(ans) state is a component specific memory that stores data about a component and how it behaves. State is a javascript object that contains data and information about a component. State is used to manage component data by storing information that changes over time.

1. Why is this.setState() used in class components, and how does it work?

(ans) setstate() enqueues changes to the component state and tells react that this component and its children needs to be re rendered with the updated state. This is the primary method you use to update to the user interface in response to event handlers and server responses.