### **1.Explain React Components**

React components are the building blocks of a React application. A component is basically a small, reusable piece of code that represents part of the user interface. Each component can have its own structure (HTML/JSX), logic (JavaScript), and styling (CSS). In React, you can create components as functions or classes, and then combine them to build complex UIs.

### **2.Differences between Components and JavaScript Functions**

* A normal JavaScript function just performs some logic and returns a value, whereas a React component returns JSX (UI elements) that React renders to the screen.
* Components can have their own state and lifecycle methods, while normal JavaScript functions cannot manage UI state directly.
* React components follow React’s rules (like using Hooks or render() method), but regular functions do not.

### **3.Types of Components in React**

React mainly has two types of components:

1. Class Components – Written as ES6 classes, can hold state and lifecycle methods.
2. Function Components – Written as JavaScript functions, use Hooks (like useState, useEffect) to manage state and lifecycle.

### **4.Explain Class Component**

A class component is created using JavaScript classes and extends the React.Component base class. It must include a render() method to return JSX. Class components can hold state, handle lifecycle events like componentDidMount, and are useful when you need complex state

### **5.Explain Function Component**

A function componen**t** is simply a JavaScript function that returns JSX. Earlier it was stateless, but with the introduction of Hooks, function components can now manage state and side effects. They are shorter and preferred in modern React development

### **6.Define Component Constructor**

The constructor is a special method used inside class components. It is called when the component is created and is mainly used to initialize state or bind event handlers.

### **7.Define render() Function**

The render() function is mandatory in class components. It tells React what to display on the UI. The function should return JSX, and React will use this output to update the DOM.