### **1. Explain the Need and Benefits of Component Life Cycle**

The component life cycle in React explains how a component is created, updated, and removed from the DOM. It is needed because it allows us to run specific code at the right stages, like fetching data after the component loads or cleaning up resources before it is destroyed.

**Benefits:**

* Let us control the behavior of components during different phases.
* Useful for data fetching, animations, and optimizing performance.
* Helps in cleaning up resources like timers or event listeners.

### **2. Identify Various Life Cycle Hook Methods**

In class components, the lifecycle methods are divided into three phases:

Mounting Phase: constructor(), render(), componentDidMount()  
 Updating Phase: shouldComponentUpdate(), render(), componentDidUpdate()  
 Unmounting Phase: componentWillUnmount()

### **3. List the Sequence of Steps in Rendering a Component (3 Points)**

1. The constructor is called to set up the initial state and props.
2. The render() method is executed to return JSX to the UI.
3. The componentDidMount() method runs after the component is mounted on the DOM.