**• Explain the need and Benefits of component life cycle**

**Ans. Need:**

1. components go through stages: create, update and delete.
2. Lifecycle methods allow you to hook into these stages to run code at precise moments.
3. manage side effects, API calls, DOM manipulation, etc.

**Benefits:**

1. Efficient DOM updates
2. Easy Data Fetching
3. Optimized Performance
4. Controlled State Management

**• Identify various life cycle hook methods**

**Ans. For class components:**

* **Creating (Mounting)**

1. constructor()
2. static getDerivedStateFromProps()
3. render()
4. componentDidMount()

* **Updating**

1. static getDerivedStateFromProps()
2. shouldComponentUpdate()
3. render()
4. getSnapshotBeforeUpdate()
5. componentDidUpdate()

* **Deleting (Unmounting)**

1. componentWillUnmount()

**For Function Components:**

1. useState()
2. useEffect()
3. useContext()
4. useMemo()
5. useCallback()

**• List the sequence of steps in rendering a component**

**Ans. Step1—**

Mounting / Creating phase (initial render)

**Step2—**

Updating Phase (prop / state change)

**Step3—**

Unmounting Phase (cleanup)