11)Why should we not update the state directly?

a.) setState works in batches, which means one cannot expect the setState to do the state update immediately, it is an asynchronous operation so the state changes may happen in later point in time which means manually mutating state may get overriden by setState.
b.) Performance. When using pure component or shouldComponentUpdate, they will do a shallow compare using === operator, but if you mutate the state the object reference will still be the same so the comparison would fail.

12)What is the purpose of callback function as an argument of setState()?
The callback function is invoked when setState finished and the component gets rendered. Since setState() is asynchronous the callback function is used for any post action.

13)What is the difference between HTML and React event handling?
In HTML, the attribute name is in all lowercase and is given a string invoking a function defined somewhere.
In React, the attribute name is camelCase and are passed the function reference inside curly braces.

14)How to bind methods or event handlers in JSX callbacks?
a)Bind in constructor:

```
        constructor() {
this.handleClick = this.handleClickFunc.bind(this);  }
```

b)Bind in render
c)Bind with arrow function

15)How to pass a parameter to an event handler or callback?

```
<button onClick={() => this.handleClick(id)} />
 <button onClick={this.handleClick.bind(this, id)} />
```

16)What are synthetic events in React?
A synthetic event is a cross-browser wrapper around the browser's native event

17)What are inline conditional expressions?
It is commonly referred to as the conditional operator, inline if (iif), or ternary if. An expression a ? b : c evaluates to b if the value of a is true, and otherwise to c.

18)What is "key" prop and what is the benefit of using it in arrays of elements?
Keys help React identify which items have changed, are added, or are removed. Keys should be given to the elements inside the array to give the elements a stable identity.

19)What is the use of refs?

Refs are a function provided by React to access the DOM element and the React element that you might have created on your own. They are used in cases where we want to change the value of a child component, without making use of props and all.

20)How to create refs?
You can create a ref by calling React.createRef() and attaching a React element to it using the ref attribute on the element.

this.name=React.createRef()

21) What are forward refs?
a) Ref forwading is a technique for automatically passing a ref through a component to one of its children. It's very useful when building reusable component libraries. forwardRef is a function used to pass the ref to a child component.
22) Which is preferred option with in callback refs and findDOMNode()?
a) It is preferred to use callback refs over findDOMNode() API. Because findDOMNode() prevents certain improvements in React in the future.
23) Why are String Refs legacy?
a) In an older API where the ref attribute is a string, like "textInput", and the DOM node is accessed as this.refs.textInput because string refs have some issues, are considered legacy, and are likely to be removed in one of the future releases.
24) What is Virtual DOM?
a) The virtual DOM (VDOM) is a programming concept where an ideal, or "virtual", representation of a UI is kept in memory and synced with the "real" DOM by a library such as ReactDOM.
25 How Virtual DOM works?
a) Like the actual DOM, the Virtual DOM is a node tree that lists elements and their attributes and content as objects and properties. React's render() method creates a node tree from React components and updates this tree in response to mutations in the data model, caused by actions.
26 What is the difference between Shadow DOM and Virtual DOM?
a) Virtual DOM is creating a copy of the whole DOM object, and Shadow DOM creates small pieces of the DOM object which has their own, isolated scope for the element they represent.
27 What is React Fiber?
a) React Fiber is a set of internal algorithms for rendering graphics used by the JavaScript library React, as opposed to its old rendering algorithm, Stack.
28 What is the main goal of React Fiber?
a) The goal of React Fiber is to increase its suitability for areas like animation, layout, and gestures.
29 What are controlled components?
a) React component that renders a form also controls what happens in that form on subsequent user input. An input form element whose value is controlled by React in this way is called a "controlled component".
30 What are uncontrolled components?

a) The Uncontrolled Components are the ones that store their own state internally, and you query the DOM using a ref to find its current value when you need it. This is a bit more like traditional HTML.