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**Question 1:**

What is the difference between state and props?

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| State | Props |
| Data is passed within the component only. | Data is passed from one component to another. |
| Data can be modified when using state | Data in props is read-only |
| State can only be used with the state component | Props can be used with state and functional components. |
| e.g. const [product, Setproduct] =useState ([]) the Setproduct is used to update the state value in the component. It is like a local storage for the component | Props is an object that stores the value |

**Question 2:**

With the following code blocks, can you say what will happen in each of these instances?

const c1 = 1;

c1 = 3;

It will result to a TypeError as you are trying to reassign c1 which is a constant that has been initialized. The const declaration creates a read-only reference to the value assigned to the constant hence one cannot change the value of the const.

Or updating a string…

const c2 = “hello”;

c2 += “world!”;

It will also result to a TypeError as you are trying to change the value of a constant variable.

Or reassigning an object…

const c3 = {};

c3.name = “Geoff”;

c3. someValue = “Sausage”;

c3 = {};

It will result to a TypeError as c3 which is a constant has been reassigned again. The const creates a read-only to the value assigned in this case an array if the array was console.log instead of being reassigned it would display an array {name: ‘Geoff’, someValue: ‘Sausage’}

**Question 3**

Outline the various stages of the React.js lifecycle.

The life cycle of the react.js is mounting, updating and unmounting.

In Mounting/Initial render: It is only executed every time the component is mounted.

In Updating-Executed when the state used in the component or props added to the component is changed. useEffect is executes code at certain times of the life cycle.

In Unmounting-When the component is removed from the DOM.

**Question 4**

How are controlled and uncontrolled components different?

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| Controlled Components | Uncontrolled Components |
| Form data is handled by a React component. | Form data is handled by the DOM. |
| Usage of component state is a must. | Use of state is optional but one must useRefs. |
| Validation can be done as the input is being change | Validation cannot be done as the input is being changed. |
| It accepts the current value as props | Values are accessed using refs. |
| Does not maintain the internal state | In uncontrolled the internal state is maintained. |

**Question 5**

Explain what three dots mean in React.

In react this is referred to as the Spread Syntax/Spread Operator which is used to expand an array. This is an ES6 feature which allows you to deconstruct an array or object into separate variables. It is used when you want to pass a dynamic object and also to copy objects or arrays. It can create a new array or object with all of the properties or element of existing object or array.