**Q-1 what is react.js? how is different from the other JavaScript framework and libraries ?**

**Ans :** React, is a free, open-source and it is JavaScript library for building user interfaces

react library of the JavaScript, it is use for create dynamic websites and it is faster then JavaScript because in react use hooks and best for reuse code and it is use virtual DOM

**Q-2 what are the advantages of using react.js in web development?**

**Ans :**

React offers numerous advantages in web development, including:

1. Component-Based Architecture

React component-based architecture makes it easy to build and maintain complex user interfaces.

2. Reusable Components

React components are reusable, reducing code duplication and making development more efficient.

3. Virtual DOM

React virtual DOM (a lightweight in-memory representation of the real DOM) optimizes rendering, reducing the number of DOM mutations and improving performance.

5. Easy Debugging

React component hierarchy and virtual DOM make it easy to debug and identify issues.

6. Large Community

React has a massive and active community, ensuring there are many resources available for learning and troubleshooting.

10. Constantly Improving

React is constantly evolving, with new features and improvements being added regularly.

12. Fast Rendering

Reacts virtual DOM and optimized rendering algorithms ensure fast and efficient rendering of complex user interfaces.

13. Improved Code Quality

React component-based architecture and declarative programming style promote clean, modular, and maintainable code.

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**Q-3 What is JSX in React.js? Why is it used?**

**Ans :** What is JSX? JSX stands for JavaScript XML. JSX allows us to write HTML in React.

JSX, or JavaScript XML, is used in React to write HTML in JavaScript code, making it easier to develop user interfaces (U Is). JSX offers several benefits, including:

**Q-3 How is JSX different from regular JavaScript? Can you write JavaScript inside**

**JSX?**

**Ans :-**  JSX is a syntax extension for JavaScript that allows you to write HTML-like code within JavaScript. It introduces XML-like tags and attributes to create React elements. JS, on the other hand, is plain JavaScript code without any special syntax or extensions

🡪Yes We can write JavaScript in side the JSX

**Q-4 Discuss the importance of using curly braces {} in JSX expressions.**

**Ans**  :

Curly braces in JSX are the syntactic sugar that sweets the development process.The indicators tell React to interpret the enclosed content as JavaScript, not plain text. This allows developers to embed variables, function calls, and other JavaScript expressions directly within their JSX code.

**Q-5 What are components in React? Explain the difference between functional**

**components and class components**

**Ans :-**  Components are independent and reusable bits of code

Functional Components

Functional components are the simplest type of component in React. They are defined as a function that returns JSX (JavaScript XML) elements.

Class component : Class components are more complex than functional components and are used when you need to manage state and/or use life-cycle methods.

**Q-6 How do you pass data to a component using props?**

**Ans :**

1. Define the props in the parent component.

2. Pass the props to the child component using the JSX syntax.

3. Access the props in the child component using the props object.

Example

Here's an example of passing props to a component:

jsx

// Parent component

import React from 'react';

import Child Component from './Child component';

function ParentComponent() {

const name = 'Tops';

const age = 15;

return (

<div>

// pass value using props

<Child Component name={name} age={age} />

</div>

);

}

**Q-7 What is the role of render() in class components?**

**Ans :** Render in React JS is a fundamental part of class components. It is used to display the component on the UI returned as HTML or JSX components.

**Q-8 What are props in React? How are props different from state?**

**Ans :-**

Props is short for properties ,are objects that pass data and information to parent component to child component

Different between props and state:

state is managed within a component, while props are passed from a parent component to a child component.