Seminar Topic Summary Report

Institution Name: Basaveshwara Engineering College, Bagalkote

Department of Computer Applications (MCA)

Course: MCA

Semester: II Sem

Seminar Topic: **React.js**

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1. INTRODUCTION

React.js is a widely-used JavaScript library developed by Meta (formerly Facebook) for building dynamic and interactive user interfaces, especially for single-page applications (SPAs). At the heart of React is its component-based architecture, which encourages the creation of small, reusable pieces of code called components. These components function like LEGO bricks, each encapsulating its own structure (HTML), styling (CSS), and logic (JavaScript). This modular approach enhances code reusability, readability, and maintainability, making it easier to develop and scale complex applications.One of React's most significant innovations is the Virtual DOM—a lightweight, in-memory representation of the actual DOM. When changes occur in the application state, React efficiently updates the Virtual DOM first and then calculates the minimal number of changes needed to update the real DOM.

2. SEMINAR TOPIC DETAILS

Title of the Topic: React.js

Area/Domain: Web development

Keywords: JSX, Virtual DOM, State

3. TOPIC SUMMARY

React.js is a powerful and widely-used JavaScript library developed by Meta (formerly Facebook) for building modern and dynamic user interfaces (UIs), particularly well-suited for single-page applications (SPAs) where content updates dynamically without needing to reload the entire page. React follows a component-based architecture, which allows developers to design applications using small, modular, and reusable building blocks known as components.Each component in React can manage its own state and logic, and can be composed together to create complex user interfaces in a structured and maintainable way. This approach not only improves code organization but also encourages reusability and scalability, as the same components can be used across different parts of an application or even shared across multiple projects.

4. RELEVANCE TO MCA CURRICULUM

React helps make websites fast, interactive, and user-friendly. It's great for making apps like to-do lists, weather apps, or dashboards. It gives you a big advantage in job interviews and it is used to create a responsive web applications.

5.LEARNING OBJECTIVES

1. Understand the basics of React.js Learn how React works, including components, props, state, and JSX.

2. Develop interactive web applications. Create responsive and dynamic user interfaces using React.

3. Apply modern JavaScript (ES6+) Use updated JavaScript features effectively in real projects.

5. EXPECTED OUTCOME

1. Build Modern Web Applications

2. Use JavaScript and JSX Effectively

3. Develop Single Page Applications (SPAs)

6. REFERENCES

1. https://reactjs.org

2. Chis Bates, Web development ,3rd Edition

3. HTML5 Black Book, Dreamatech,2nd Edition

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