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| **Name:**  **Enrolment No:** | | A picture containing text, clipart  Description automatically generated | | |
| UPESEnd Semester Examination (DR), October 2025Programme Name: B.Tech(Hons.) Computer Science & Engg. Semester:Course Name : Frontend Devlopment Time : 1.5 hrsCourse Code : CSFS2003P Max. Marks: 50Nos. of page(s) : 2 Calculator allowed: YesInstructions: Please attempt according to the time provided and given weightage. | | | | |
| **SECTION A**  **Attempt all questions** | | | | |
| **S. No.** |  | | **Marks** | **CO** |
| Q 1 | Explain the difference between let, var, and const in JavaScript. Discuss their scope and redeclaration behavior with examples. | | **5** | **C01** |
| Q 2 | Assess the role of version control systems in frontend development. How does **Git** enable collaboration among multiple developers? | | **5** | **C01** |
| Q 3 | Evaluate the importance of usability in modern web design. List and briefly explain any three best practices that enhance user experience. | | **5** | **CO2** |
| **SECTION B** | | | | |
| Q 4 | Differentiate between **stateful** and **stateless** components in React. Explain with suitable code snippets. | | **10** | **CO3** |
| Q 5 | a) Distinguish between **authentication** and **authorization** in web security. Provide real-world examples for each.  **OR**  b) Explain the difference between **task runners** and **module bundlers** in frontend development. When would you prefer one over the other? | | **10** | **CO3** |
| **SECTION C** | | | | |
| Q 6 | a) Consider the following Redux code:   js<br> function counter(state = 0, action) {<br> switch (action.type) {<br> case 'INCREMENT':<br> return \_\_\_\_\_(2)\_\_\_\_\_;<br> default:<br> return state;<br> }<br> }<br>  Fill in the blanks so that:  • The action creator returns a valid action with type 'INCREMENT'.  • The reducer increments the state by 1.  Then explain the role of **actions** and **reducers** in Redux. If the current state is 5 and the increment action is dispatched, what will the new state be?   **OR**  b) Critically evaluate how the **Virtual DOM** improves performance compared to direct DOM manipulation. Discuss situations where it may lead to performance challenges. | | **15** | **CO4** |