



**Daffodil International University**  
**Faculty of Science & Information Technology**  
**Department of Software Engineering**  
**Final Examination, Summer 2026**

**Course Code: SE321; Course Title: Software Engineering Web Application**

**Sections & Teachers: 42 (A,B,C - SBA), (D,E,J - MRN), (F,G - SSA), (H,I - SSR)**

**Time: 2:00 Hrs**

**Marks: 40**

Answer ALL Questions

*[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]*

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| 1. | a) | Examine how React.js enhances the front-end experience of a website compared to a front-end developed using basic HTML, CSS, and JavaScript. Discuss how React.js concepts contribute in enhancing the front-end experience of a website                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | [Marks-4]  | CLO-2<br>Level-3 |
|    | b) | <pre> &lt;!DOCTYPE html&gt; &lt;html lang="en"&gt; &lt;head&gt;   &lt;title&gt;Form Submission Event&lt;/title&gt; &lt;/head&gt; &lt;body&gt;   &lt;form id="registrationForm"&gt;     &lt;label for="name"&gt;Name:&lt;/label&gt;     &lt;input type="text" id="name"&gt;     &lt;label for="email"&gt;Email:&lt;/label&gt;     &lt;input type="email" id="email"&gt;     &lt;button type="submit"&gt;Register&lt;/button&gt;   &lt;/form&gt;   &lt;p id="status"&gt;&lt;/p&gt;   &lt;script&gt;     //Write the JS code here   &lt;/script&gt; &lt;/body&gt; &lt;/html&gt; </pre> <p>Construct a JavaScript function that attaches a submission event listener to the form with the ID registrationForm. When the user submits the form:</p> <p>I. Check whether both the name and email fields contain values.</p> <p>II. If both fields are completed, display the message "Registration submitted successfully!" inside the paragraph.</p> <p>III. If any field is empty, display the message "Please complete all required fields." inside the paragraph.</p> | [Marks-6]  | CLO-2<br>Level-3 |
| 2. | a) | Develop a React application using a maximum of two components, including the App component. Use the useState hook to store whether course registration is open or closed, and provide a button to change the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | [Marks-10] | CLO-3<br>Level-6 |

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|    |    | registration status. Apply conditional rendering to display "Course registration is open." when registration is active and "Course registration is currently closed." when registration is inactive. The button text must also change between "Close Registration" and "Open Registration" according to the current registration status. Write the 'App.jsx' code for the above scenario. |           |                  |
|    | b) | Explain how React components and state work together to build reusable and interactive user interfaces. In your answer, explain how a state change updates the displayed content without manually modifying the DOM.                                                                                                                                                                      | [Marks-5] | CLO-3<br>Level-6 |
| 3. | a) | A client sends a GET /products page request to an Express server running on port 3000.<br>Create the request flow sequence of how the request passes through the back-end before a JSON response is returned to the client.                                                                                                                                                               | [Marks-5] | CLO-4<br>Level-6 |
|    | b) | Construct a server.js for a university course portal. Create a GET /courses route that returns all courses as JSON and a GET /courses/:id route that returns a specific course based on its ID.                                                                                                                                                                                           | [Marks-5] |                  |
|    | c) | Construct MySQL code to create a students table containing id, name, email, and department, where id is an auto-increment primary key and email is unique. Then write a SELECT query to display the names and emails of all students from the SWE department.                                                                                                                             | [Marks-5] |                  |