

**COMSATS** **University Islamabad, Lahore Campus**



**Mid Term – Fall 2021**

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| Course Title: | Web Technologies | | | | Course Code: | | CSC336 | Credit Hours: | 3(2,1) |
| Course Instructor/s: | Muhammad Ali Khan | | | | Program Name: | | BCS | | |
| Semester: | 6th | Batch: | SP19 | Section: | C | | Date: | 18/11/2021 | |
| **Time Allowed:** | **90 minutes** | | | | **Maximum Marks:** | | | **50** | |
| Student’s Name: |  | | | | Reg. No. | CIIT/SDP- /LHR | | | |
| **Important Instructions / Guidelines:**   1. Attempt all the questions. | | | | | | | | | |

Course Learning Outcome and Program Learning Outcome of all questions are in the category**:**

**[CLO-C1, C3] [PLO-a1, i1]**

**Question 1: [Mars: 03]**

What is the default behavior of anchor tag and onSubmit event? How can you avoid their default behavior to make single-page React application?

**Question 2: [Mars: 04]**

What happens when React application doesn’t implement single source of truth? Provide example to justify your answer.

**Question 3: [Mars: 03]**

Why a state should not be updated directly in React application? What is the correct way to update a state in React application and why?

**Question 4: [Mars: 03]**

In how many ways a component can be created in React? Provide templates to support your answer.

**Question 5: [Mars: 04]**

What are controlled elements and controlled components? Provide examples to justify your answer.

**Question 6: [Mars: 03]**

With the help of a real-world example, write and implement React lifecycle hooks. (Note: assume the component is already written)

**Question 7: [Mars: 30]**

Implement the following scenario. Requirements are as follows:

1. Click here to view CS Merit List 2021 link is in App component
2. Clicking the above link takes you to the MeritList component at URL -meritList-
3. CS Merit List 2021 is displayed from -Title- component fed to App component
4. -Title- component is at URL -title-
5. MeritList component populates the data from array (applicantList) with applicantName and aggregate keys with values given in the table below
6. You are allowed to add only one extra key to achieve the desired functionality given below
7. You have the option to place applicantList array anywhere in your source folder
8. When selected button is clicked, the selected entry is removed from CS Merit List 2021 and added to the Selected CS candidates list
9. Note that you do not need to implement adding the entry to the Selected CS candidates list
10. In case the URL is manipulated or is inaccessible, user is taken to the -invalid- URL where Invalid component is rendered to show text – “Invalid URL”-

**Note:** You program must run. Therefore, you must write all the required code to show fully running single-page React application.

Graphical user interface, text, chat or text message

Description automatically generated