**St. Francis Institute of Technology, Mumbai-400 103**

**Department of Information Technology**

**A.Y. 2024-2025**

**Class: TE-ITA/B, Semester: VI**

**Subject: MAD & PWA LAB**

**Experiment – 8: Creating a responsive UI using jQuery mobile/material UI/ Angular UI/ React UI for Ecommerce Application**

1. Aim: To create a responsive UI using jQuery mobile/material UI/ Angular UI/ React UI for Ecommerce Application

2. Objectives: After study of this experiment, the student will be able to

 Learn the Essential technologies, and Concepts of PWAs.

 Develop responsive web applications by combining AJAX development techniques with the jQuery JavaScript library.

3. Outcomes: After study of this experiment, the student will be able to

 Understand various PWA frameworks and their requirements.

 Design and Develop a responsive User Interface by applying PWA Design techniques. 4. Prerequisite: HTML/ CSS/ JavaScript.

5. Requirements: Visual Studio Code, Bootstrap framework, Internet Connection.

6. Pre-Experiment Exercise:

Brief Theory:

Progressive Web Applications:

PWAs are web applications developed using a number of specific technologies and standard patterns to allow them to take advantage of both web and native app features. There are some key principles a web app should try to observe to be identified as a PWA. It should be:

1. Discoverable

2. Installable

3. Linkable

4. Network independent

5. Progressively enhanced.

6. Re-engageable

7. Responsively designed

8. Secure

Implement Responsive Design using React js:

Responsive design is a graphic user interface (GUI) design approach used to create content that adjusts smoothly to various screen sizes.

The 3 different approaches to implementing responsive design in your next React app are: 

1. Media Queries

2. Inline styles

3. Higher Order Components

**7. Laboratory Exercise**

A. Program

1. Create a responsive user interface for an e-commerce application.

**B. Result/Observation**

1. Print out of program code and output.

**8. Post-Experimental Exercise**

**A. Questions:**

1. Why Responsive Design is important for web applications?

2. Differentiate between responsive design and adaptive design.

**B. Conclusion:**

1. Write what you have learnt in the experiment.

**C. References:**

1. https://www.w3schools.com/css/css\_rwd\_intro.asp

2. https://developers.google.com/web/updates/2015/12/getting-started-pwa 3. Building Progressive Web Apps, O’Reilly 2017.

 

 

