UIT University

Department of Engineering Technology

B.E. Tech (Software)

SEB312 – Mobile Application Development

Lab Index

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| **Exp. No.** | **Title** | **CLO** | **Signature** |
| 1 | Install Visual Studio Code and also install flutter and dart extensions. Create a first application of Hello World. Exploring project structure and main files. Create a basic counter app on Flutter. Writing simple Dart programs. | 3 |  |
| 2 | Writing simple Dart programs: Variables, loops, and functions, implementing basic OOP concepts: Creating classes, objects, and methods., Manipulating Lists, Sets, and Maps, implementing asynchronous functions with Future and async/await, | 3 |  |
| 3 | Experimenting with Stateless and Stateful widgets, Building a basic UI with Text, Text field, Button and Container widgets. Building a basic UI with Text, Text field, Button and Container widgets | 3 |  |
| 4 | Building a UI with padding and Image widgets, Creating a static layout with Rows and Columns. Exploring InkWell, ScrollView, ListView and ListTile widgets and its usages. | 3 |  |
| 5 | Styling widgets and applying themes to the layout, Using Custom Fonts and Icons. Navigation from one screen to another screen. Open Ended Task. | 3 |  |
| 6 | Creating a multi-screen app with named routes. Create a splash screen, passing data from one screen to another. | 3 |  |
| 7 | Implementing a simple navigation drawer or bottom navigation bar, Navigation Between Screens. Building a login page and Form validation using TextFormField. Implementing more advanced form validation techniques. | 3 |  |
| 8 | Implementing local state management in a to-do list app. Using Provider to manage global state in counter app. Convert the stateful widget into provider widget | 3 |  |
| 9 | Using Provider to manage global state in a shopping cart app. Add a feature to increase or decrease the quantity of each product in the cart. | 3 |  |
| 10 | Making HTTP GET and POST requests using the http package. Fetching and displaying data from a REST API. Implementing search functionality to filter API results. Fetch Data from an API. | 4 |  |
| 11 | Implementing pagination to fetch data in batches. Adding infinite scrolling to a list. Open ended lab activity II | 4 |  |
| 12 | Implementing Shared Preferences to store simple key-value pairs. Creating a SQLite database in a Flutter app to store and retrieve data. | 4 |  |
| 13 | Implementing Firebase database to store Counter value in database. Create a login page and stored login information by using Shared Preferences | 4 |  |
| 14 | Implement animation on container. Writing unit tests for Dart functions. Implementing widget tests to validate UI components in a Flutter app | 4 |  |