# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

## Value Added Course on "Flutter"

### 14.03.2022 to 15.03.2022 and 06.04.2022 to 12.04.2022

### Flutter

**Objectives**

To enable the students to,

- Learn about the features and installation of Flutter
- Learn about the basic programming constructs of Dart
- Develop simple mobile applications in Flutter using Dart language
- Develop mobile applications using database Connections

**UNIT I Introduction to Flutter** (9)

Features of Flutter- Advantages of Flutter- Disadvantages of Flutter. Flutter Installation-Installation in Windows- Installation in Mac OS- Creating Simple Application in Android Studio - Architecture of Flutter Applications

**UNIT II Flutter Basics** (9)

Widgets- Gestures- Concept of State- Layers- Introduction to Dart Programming-Variables and Data types- Decision Making and Loops. Functions- Object Oriented Programming. Introduction to Widgets- Widget Build Visualization

**UNIT III Introduction to Layouts** (9)

Type of Layout Widgets- Single Child Widgets- Multiple Child Widgets- Advanced Layout Application-Introduction to Gestures- Statement Management in Flutter.  Ephemeral State Management-Application State - scoped model- Navigation and Routing.

**UNIT IV Animation on Flutter** (9)

Introduction to Animation Based Classes-Work flow of the Flutter Animation- Working Application- Android Specific Code on Flutter- Introduction to Package- Types of Packages-Using a Dart Package- Develop a Flutter Plugin Package- Accessing Rest API- Basic Concepts- Accessing Product service API

**UNIT V Database Concepts** (9)

SQLite- Cloud Fire store- Internalization on Flutter- Using intl Package-Testing on Flutter-Types of Testing- Widget Testing- Steps Involved- Working Example-Deployment- Android

Application- IOS Application- Development Tools- Widget Sets- Flutter Development with Visual Studio Code- Dart DevTools- Flutter SDK

**OUTCOMES**

**At the end of the course, the students will be able to**

CO1: Install Flutter in Android Studio

CO2: Build simple Flutter application using simple widgets and layouts

CO3: Build Animation on Flutter

CO4: Develop Flutter applications using Dart packages

CO5: Construct Flutter application using database