Flutter Lectureflow

Module 6) Flutter - Introduction	1

- Introduction to student Career in Android Understanding Student Login of TOPS ERP Exam Process Working on Project and Assignment Using Lab Assign Project
- Overview of Mobile Application Development
- Introduction to Flutter and its advantages
- Setting up the development environment (Flutter SDK, IDE setup, emulators/simulators)
- Overview of Dart and its role in Flutter
- First Flutter project setup: "Hello World" in Flutter

Module 2) Fundamental - Dart Programming	9

- Dart SDK
- Flutter Installation - Android Studio Configuration - Flutter doctor
- Dart Introduction
- Data types in Dart
- String interpolations
- Operators
- Working on Control Statements
- conditional statements : if statement , if..else statement , nested if ,switch statement
- looping statements : for loop , while loop , for .. in loop
- Jumping statements
- Working with collection
- Working with list , set , map and methods
- working with function
- Advance Dart Programing
- Class, Object, Inheritance, Polymorphism
- Keywords : this , super , static , async
- Asynchronous programming: Futures, async/await, and Streams
- Exception handling in Dart

Module 3) Flutter - UI Designing and Development	15

- Text, elevated button
- Project creation in Flutter - run project in read device and emulator - hot reloading app
- Flutter Architecture
- Stateless and Stateful widgets
- Working with Row and Column Widgets
- Layout widgets: Container, Column, Row, Stack, ListView, and GridView
- Flutter widgets, Flutter layout
- Common UI components: Text, Image, Button, Icon, and Card

- State ful Widgets
- Material Design and Cupertino widgets
- Stateless Widgets
- Navigator widget and route management
- Material App
- Push, pop, and named routes
- Scaffold , contain
- Using arguments for passing data between screens
- Properties of container widgets
- Introduction to navigation packages (like go_router)
- Stateless widgets - row and column widgets
- State management basics: Stateful widgets and setState
- Working with text and button ontap and onpress event
- InheritedWidget and Provider package
- icons ,alert dialogs ,radio button , checkbox , switch ,TextFormField - working with all style properties
- Introduction to advanced state management (e.g., Riverpod, Bloc)
- Working with forms
- When to use various state management approaches
- Design registration form
- Form widgets: TextField, Checkbox, Radio, Dropdown
- Design Login Form
- Form validation: Manual and automatic validation
- Working with Form key
- Using controllers and listeners
- Customize widgets
- Managing focus and keyboard input
- Form validation , apply email validation – password hide and unhide
- Change dynamic background color on button click
- working with setState, init
- images , network images - working with assets
- Floating Action button with types
- Working with pageviewbuilder and dots controller

Module 4) Flutter - Advance UI Designing and Development	7

- working with init method
- working with them
- Working Routing
- Named Routes
- Arguments in routes
- Return data from screen
- Send data to screen
- Navigation , navigator , push and pop - navigation between different screens

- Listview and list item
- Working with grid view
- working with bottom navigation bar
- working with tab bar with icons
- working with navigation drawer with navigation screens
- Splash screen
- working with listview - dividers
- Flutter gestures

Module 5) Flutter - Offline Database- Sqlite	8

- Using shared_preferences for lightweight data persistence
- Database Introduction
- Introduction to databases: SQFlite and Hive
- working with Sqflite Database
- Basic CRUD operations in a local database
- Dependencies
- Saving app settings and user preferences
- working with model class
- CRUD operations using sqflite database
- working with async , await , future

Module 6) Flutter - Advance App Development	15

- Gallery Access , Camera access in Flutter
- Fetch data from internet
- Working on json parsing
- Animation
- retrieve data and display in listview format
- working with listview indexing
- working with gridview
- working with firebase database
- firebase authentication
- firebase real time database
- notification with firebase
- working with background services
- Google map integration and social media integration with flutter application
- Project implementation - Splash Screen • Login - registration Screen • Database integration or api integration • working with listview - navigation • navigation drawer with user header layout and list tile items
- Making phone calls , sms and url launcher
- Flutter state management
- Bloc concept

Module 7) Flutter - Deployment	**1**
- Generating Application , build application • Build a release for android device and deployment on playstore	