Theory Assignment

1 : Explain the benefits of using flutter over other cross- platform frameworks.

Ans :

-> Benefits of using flutter :

1. **Single Codebase for Multiple Platforms**

2. **Performance**

3. **Customizable UI with Rich Widgets**

4. **Hot Reload**

5. **Strong Developer Tools**

6. **Growing Ecosystem and Community**

7. **Backend Integration**

**8. Community Strong**

**9. Google Support**

2. Describe the role of Dart in Flutter. What are its advantages for mobile development?

Ans :

-> Role of Dart in Flutter:

**1. Primary Language for Flutter Development**

2. Compiles to Native Code

3. Unified Language for Frontend and Backend

4. Hot Reload and Development Efficiency

-> Advantages of Dart for Mobile Development:

1. Optimized for UI Development

2. Strong Typing and Safety

3. Rich Standard Library

4. Asynchronous Programming (Async/Await)

5. Just-in-Time (JIT) and Ahead-of-Time (AOT) Compilation

6. Excellent Tooling and Debugging Support

3. Outline the steps to set up a Flutter development environment.

Ans :

1. Install Flutter SDK

2. Install Android Studio

3. Set Up an IDE

4. Verify flutter Installation (flutter doctor)

5. Create and run a project

4. Describe the basic Flutter app structure, explaining main.dart, the main function, and the widget tree.

Ans :