1. Introduction to Dart

- **What is Dart?**
- **Why Dart for Flutter?**
- **Setting up the Dart SDK**
- **Running Dart programs**

2. Basic Syntax and Data Types

- **Variables and data types (int, double, String, bool, dynamic)**
- **Comments and basic operators**
- **Printing output using print()**

3. Control Flow Statements

- **Conditional statements (if, else if, else)**
- **Loops (for, while, do-while)**
- **break and continue keywords.**

4. Functions

- **Defining and calling functions**
- **Function parameters and return values**
- **Optional and named parameters**
- **Arrow functions (=>)**

5. Lists

- **Creating and manipulating lists**
- **List methods (add, remove, insert, map, where, etc.)**
- **List iteration**

6. Sets and Maps

- **Creating and manipulating sets**
- **Creating and manipulating maps**
- **Map methods and iteration**

7. Classes and Objects

- **Defining classes and creating objects**
- **Instance variables and methods**
- **Constructors (default, named, and factory)**

8. Inheritance and Polymorphism

- **Extending classes using inheritance**
- **Method overriding**
- **Abstract classes and interfaces**

9. Mixins and Extensions

- **What are mixins and how to use them.**
- **What are Extensions and how to use them.**

10. Futures and Async/Await

- Understanding asynchronous operations
- Creating and using Futures
- Using async and await keywords

11. Streams

- Understanding streams
- Creating and using streams.

12. Null Safety

- Understanding null safety in Dart
- Nullable and non-nullable types
- Null assertion and null aware operators

13. Exception Handling

- Using try, catch, and finally blocks
- Creating and throwing custom exceptions

14. Using Packages

- Using pubspec.yaml
- Adding dependencies
- Importing packages
- Basic understanding of common dart packages.

15. Introduction to Flutter

- What is Flutter?
- Setting Up Flutter Development Environment

16. Flutter Widgets

- Introduction to Widgets
- Layouts and Containers
- Handling User Input

17. State Management

- Understanding State and Stateful Widgets
- State Management Techniques

18. Navigation and Routing

- Introduction to Navigation
- Using Routes and Named Routes

19. Networking and API Integration

- Making HTTP Requests
- Working with JSON and REST APIs

20. Forms and User Input Validation

- Creating Forms
- Validation and Error Handling

21. Animations and Gestures

- Animating Widgets
- Handling Gestures

22. Working with Device Features

- **Accessing Camera and Image Gallery**
- **Using Geolocation and Maps**

23. Local Data Storage

- **Using Shared Preferences**
- **SQLite Database Integration**

24. Internationalization and Localization

- **Localization Setup**
- **Supporting Multiple Languages**

25. Testing and Debugging

- **Unit Testing with Flutter**
- **Debugging Techniques**

- ## Capstone Project

Python django	JAVA	Machine Learning	MERN	FLUTTER
C /C++	Data Structure & Algorithms	Automation Testing	UI	BIG DATA