GURUKUL INSTITUTE OF MANAGEMENT & INFORMATION TECHNOLOGY

App & Web Development

Course Content

1. **Dart Programming Language**
   a. Operators , Comments & Variables
   b. Control Flow
   c. Functions
   d. Classes
   e. Objects Oriented Programming
   f. Lists , Maps & Enums
   g. Asynchronous Programming
   h. Records , Patterns & Extensions
2. **Flutter Basics**
   a. Widgets
   b. State
   c. Material & Cupertino Design
3. **Debugging**
4. **Solve Problems**
5. **AI Help**
6. **State Management**
7. **Animations**
8. **Git**
9. **Firebase**
   a. Authentication
   b. Storage
   c. Cloud Firestore
   d. Analytics
   e. Crashlytics
   f. Push Notifications
10. **Testing**
    a. Unit testing
    b. Widget Testing
    c. Integration Testing
11. **App Deployment**
    a. Play Store
    b. AppStore
    c. Web
12. **5+ Working Apps**

COURSE DURATION

- 2 Days in Week (Saturday & Sunday) (12:00 noon to 3:00 PM)

- **FEE STRUCTURE**

- Course fee : Rs 6000/-
- One Time fee : Rs 5000/-
- Two Time fee : Rs 3000 x 2 = 6000/-

Documents Required for this course

1. 10th MARKSHEET XEROX
2. AADHAR CARD XEROX
3. ONE COLOUR PHOTOGRAPH

TATA KANDRA MAIN ROAD CHHOTA GAMHARIA NEAR BHARAT PETROLEUM, SERAIKELLA KHARSAWAN
MOBNO: 8603214022, 9128223040, 06573566966
Email id:info@gmail.com Website: www.gmiit.in

- Introduction to Dart
- Operators, Comments, and Variables
- Control Flow and Conditional Statements
- Functions and their Applications
- Classes and Object-Oriented Programming Principles
- Collections: Lists, Maps, and Enums
- Asynchronous Programming: Futures and Streams
- Advanced Concepts: Records, Patterns, and Extensions

Flutter Basics

- Introduction to Flutter and its Architecture
- Deep Dive into Widgets: Stateless vs Stateful
- User Interaction: Buttons, Gestures, and Event Handling
- Layouts and UI Design: Responsive and Flexible Layouts
- Navigation and Routing: Managing Multi-Screen Apps
- Theming: Customizing and Creating Dynamic Themes

Flutter Intermediate

- API Integration: Making Network Requests and Handling Data
- Plugins and Packages: Leveraging Third-Party Tools
- Forms and User Input Handling: Validation and Dynamic Forms
- Custom Widgets: Building Reusable and Modular Components
- Internationalization (i18n) and Localization

Flutter Advanced

- Advanced Animations: Implicit and Explicit Techniques
- Data Caching: Optimizing Performance with Local Storage
- State Management: Provider, Mobx and GetIt
- Performance Optimization: Debugging and Profiling Apps
- Development Best Practices: Efficient Debugging and Problem Solving

Git and GitHub

- Version Control Basics
- Branching, Merging, and Pull Requests
- Collaboration and Code Reviews

Development Tools

- Flutter DevTools for Debugging and Profiling
- Code Linting and Formatting
- Working with IDEs and Editors: VS Code and Android Studio
- Leveraging AI Assistance: Tools for Productivity and Problem Resolution

Firebase Integration

- Authentication: Secure Sign-In Options
- Storage: Managing Media and Files
- Cloud Firestore: Real-Time Database Integration
- Analytics: User Behavior Tracking and Insights
- Crashlytics: Error Monitoring and Reporting
- Push Notifications: Real-Time Updates and Alerts

Testing and Quality Assurance

- Unit Testing: Validating Business Logic
- Widget Testing: Ensuring UI Accuracy
- Integration Testing: End-to-End Testing for Apps

App Deployment

- Play Store: Preparing and Publishing Android Apps
- App Store: Publishing iOS Apps with Best Practices
- Flutter for Web: Building and Deploying Web Applications
- Continuous Integration/Continuous Deployment

Capstone Projects

- Hands-On Development of 10+ Real-World Applications:
  - Practical projects covering diverse use cases and functionalities.