**UNIT-I: Introduction to Android**

* **Overview of Android**: Definition, key concepts, and an introduction to Android as an operating system.
* **History and Features**: Evolution of Android and its unique characteristics.
* **The Android Platform**: Analyzing the software architecture and components of Android.
* **Android Software Stack**: Understanding the layers (Linux Kernel, Libraries, Android Runtime, Application Framework, Applications).
* **Android Application Architecture**: Exploring key components like Activities, Services, Content Providers, and Broadcast Receivers.
* **Android Application Lifecycle**:
  + Overview of the lifecycle.
  + Detailed explanation of the Activity Lifecycle (onCreate, onStart, onResume, etc.).
* **Creating Android Activities**: Hands-on creation and understanding of activities.
* **Views and Layouts**: Understanding the basics of Views (UI components) and Layouts (View hierarchy and arrangement).
* **Android SDK**: Introduction to the Software Development Kit and its tools.
* **Android Installation**: Setting up the development environment.
* **Building Your First Android Application**: A beginner-friendly hands-on project.
* **Anatomy of an Android Application**: Structural elements (source files, resources, etc.).
* **Android Manifest File**: Importance, structure, and common configurations.

**UNIT-II: Android Application Design Essentials**

* **Anatomy of Android Applications**: Detailed exploration of app components and their interaction.
* **Android Terminologies**: Core terms (Activity, Intent, Service, etc.).
* **Creating User Interfaces with Basic Views**: Hands-on use of UI elements like TextView, EditText, etc.
* **Core Components**:
  + **Application Context**: Accessing global application data.
  + **Activities, Services, Intents**:
    - Linking Activities using Intents.
    - Receiving and broadcasting Intents.
  + **Android Manifest File**: Key settings and configurations.
  + **Intent Filters**: Filtering specific intents.
  + **Permissions**: Understanding and setting app permissions.

**UNIT-III: Android User Interface Design Essentials**

* **User Interface Screen Elements**: Key components for designing interactive UIs.
* **Designing with Layouts**:
  + Types of Layouts (Linear, Relative, Constraint, etc.).
  + RecyclerView, ListView, GridView, WebView.
* **Animation**: Creating and using animations in Android applications.
* **Input Controls**:
  + Buttons, Checkboxes, Radio Buttons, Toggle Buttons, Spinners, etc.
  + Handling input events.
* **Menus and Notifications**:
  + Menus (Options Menu, Context Menu).
  + Toast messages and Dialogs.
* **Styles and Themes**: Customizing application appearance.
* **Creating and Managing Lists**:
  + Standard and custom lists.

**UNIT-IV: Testing and Publishing Android Applications**

* **Testing Android Applications**: Best practices and tools.
* **Publishing Android Applications**: Steps for deployment to the Play Store.
* **Preferences**: Using Android's shared preferences.
* **Resource Management**:
  + Organizing and accessing resources hierarchically.
  + Working with various resource types (drawables, layouts, strings).

**UNIT-V: Using Common Android APIs**

* **Data Storage**:
  + Internal Storage and External Storage.
  + SQLite Databases: Managing app data using SQLite.
  + Sharing data with Content Providers.
* **Networking APIs**:
  + Handling web APIs and JSON Parsing.
  + Telephony APIs.
* **Location Services**:
  + Using GPS for location tracking.
  + Integrating Google Maps.
* **Sensors and Connectivity**:
  + Working with device sensors.
  + Implementing Bluetooth/Wi-Fi Connectivity.
* **Deploying Applications**:
  + Finalizing and sharing apps with the world.