

### Unit - I

Introduction to Android - Architecture - Features of Android SDK - Introducing the Development Framework, Developing for Android- Android Development Tools- The Android Virtual Device Manager - Android SDK Manager - The Android Emulator - The Dalvik Debug Monitor Service - The Android Debug Bridge. Installing and Configuring Android SDK, ADT and AVD - Android Software Stack, Dalvik Virtual Machine.

(9 hrs)

### Unit - II

**Creating Android Applications:** Working of Android Application: Android Application Life Cycle; Building User Interfaces - Introducing Activities, Various Layouts, Fragments, and Adapters. Intents, Intent Filters, Controls, Dialogs, Toasts and Notifications: Displaying Pictures and Menus with Views; Adding Interactivity and Handling UI events.

(10 hrs)

### Unit - III

**Building Blocks of Android:** Activities: Life Cycle and Working; Broadcast Receivers: Creating, Registering and unregistering a Broadcast Receiver. Content Providers: Concept of Content Resolver, Creating and using Content Providers. Services: Bound Services and Unbound Services, Life Cycle of services

(9 hrs)

### Unit - IV

**Data Access in Android:** Creating, Saving and Retrieving Shared Preferences; Introducing the Preference Framework and the Preference Activity; Including Static Files as Resources; Working with the File System. Introducing Android Databases; Introducing SQLite; Content Values and Cursors; Working with SQLite Databases; Creating and Using Content Providers; Using Native Android Content Providers.

10 hrs

### Unit - V

Advanced Android: Introducing Services, Using Background Threads, Using Alarms; Controlling Device Vibration; Introducing Android Text-to-Speech; Using Sensors and the Sensor Manager; Using Accelerometer, Compass and GPS; Audio, Video and Using the Camera; Using Telephony and SMS.

10 hrs