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## **18BC309 MOBILE APPLICATION DEVELOPMENT USING ANDROID**

### **Course Description and Objectives:**

This course helps a student to design effective mobile applications using the Android development environment. The main objective of this course is to create user-friendly applications that involve design of layout, windows components, and multiple screens with one-touch options.

### **Course Outcomes:**

Students will be able to:

- Get familiarity with the Android operating system development environment.
- Create user-friendly mobile user interfaces and views.
- Develop basic Android applications for mobiles.

### **Skills:**

- Writing mobile applications for user requirements.
- Usage of various components of Android operating system.
- Utilization of activities, intents, layouts and views for content.

### **Activities:**

- Installation of Android Studio and required plug-ins.
- Creating activities, Dialog boxes and linking other activities in the application.
- Creating applications by using Activities, Fragments and Intents.
- Implementing applications using different views.

## **Syllabus**

### **UNIT – 1**

**12 Hours**

GETTING STARTED WITH ANDROID: Android introduction, Versions of android, Features of android, Architecture, Devices in the market, Developer community.

### **UNIT – 2**

**12 Hours**

ACTIVITIES, FRAGMENTS, INTENTS: Understanding activities, Linking activities using intents, Fragments, Calling built in apps using intents.

### **UNIT – 3**

**12 Hours**

GETTING TO KNOW ANDROID UI: Understanding the components of screen -

Views and view groups, Linear layout, Absolute layout, Table layout, Relative layout, Frame layout, Scroll view.

**UNIT – 4**

**12 Hours**

DISPLAY ORIENTATION: Anchoring views, Resizing and repositioning views, Managing changes to screen orientation, Utilizing the action bar, Creating UI programmatically.

**UNIT – 5**

**12 Hours**

DESIGNING UI WITH VIEWS:Using basic views - Text view, Button, Image Button, Edit text, check Box, Toggle button, Radio button, and Radio group views, Progress bar view and Auto complete text view.

**List of Experiments:**

1. Installation of Android studio, its required tools and Android Virtual Device(Emulator).
2. Displaying the welcome message in AVD.
3. Creating a basic Activity and applying themes, styles to it.
4. Displaying various types of Dialog objects.
5. Linking activities with Intents.
6. Passing data using intent object.
7. Usage of Fragments and adding them dynamically to the application.
8. Communication between fragments.
9. Creating various layouts.
10. Displaying Action bar.
11. Handling view events.

**Test Book:**

Wei-Meng Lee, “Beginning Android Application Development”, 1<sup>st</sup> Edition, John Wiley & Sons, Inc., 2012.

**Reference Books:**

1. RaimonRefolsMontane, Laurence Dawson, “Learning and Android Application Development”, 1<sup>st</sup> Edition, PACKT Publishing, 2016.
2. Reto Meier, “Professional Android 4 Application Development”, 3<sup>rd</sup> Edition,Wrox, 2012.
3. Adam Gerber and Clifton Craig, “Learn Android Studio”, 1<sup>st</sup> Edition, Apress, 2015.