

3IT43: MOBILE APPLICATION DEVELOPMENT

CREDITS - 4 (LTP: 3,0,1)

Course Objective:

Design and develop useful Android applications with compelling user interfaces by using, extending, and creating your own layouts and Views and using Menus.

Teaching and Assessment Scheme:

Teaching Scheme (Hours per Week)			Credits	Assessment Scheme				
L	T	P	C	Theory		Practical		Total Marks
				ESE	CE	ESE	CE	150
3	0	2	4	60	40	20	30	

Course Contents:

Unit No.	Topics	Teaching Hours
1	Basics of Android Programming: Introduction, History, Features and android architecture, Introduction to java and android, Introducing development framework, Dalvik virtual machine – DVM, Installation of Android Studio, Android virtual device (AVD) and SDK manager, Android manifest file, Android asset packaging tool (AAPT), Android debug bridge.	7
2	Android Building Blocks: Types of android applications, Activity lifecycle, Intents, services, Content provider, broadcast receivers, Activity classes, Component lifecycle, Layouts, Views and Resources, Activity with Implicit Intents.	6
3	Android User Interface : Buttons, RadioButtons, checkboxes, Pickers, Spinners, Menus: Options menu, contextual menu, Popup menu, Adding menu items, Navigation: Screen Navigation, Action bar, navigation drawer, Theme and Styles: uses of drawable in android, Material Designing : Guidelines for Material Designing.	6
4	Multimedia in Android: Introduction to audio and video in Android, Android persistence, Android preferences, Using file system, Accessing SD cards, Location and maps, Using GEOCoder, Creating and using Overlays, Projections, Using wake locks, Android text to speech, Paranoid android, Internet services, Broadcast receivers, Sensor manager.	8
5	Database Connectivity: SQLite database, SQLite data types, Cursors and content values, SQLite open helper, Adding, Updating and deleting content, Firebase database, connection of firebase database with android app.	6
6	Network and Parsing in Android : Bluetooth, Network, Wi-Fi, AIDL and IPC, XML parsing, Dom parsing, SAX parsing, JSON parsing, Services and content providers, Introduction to android NDK.	6
7	Test and Debug Android Application : Basics of testing, testing and commercializing applications, Activity testing, service testing, Content provider testing, Test classes, Debugging using DDMS, Configuration changes, Security and permissions, Web services integration, Deployment.	6
Total		45

List of References:

1. Mike Wolfson, "*Android Developer Tools Essentials*", O'Reilly Media Publications.
2. Jeff Friesen, "*Learn Java for Android Development*", 2nd Edition ,Apress Publications.
3. Kevin Brothaler, "*OpenGL ES 2 for Android -The Pragmatic Programmers*".
4. Wei-MengLee, John Wileyand sons, "*Android Application Development Cookbook*",2013

Course Outcomes (COs):

At the end of this course students will be able to ...

1. Design and develop user Interfaces for the Android platform.
2. Gain knowledge to create and publish their own Apps for Android devices
3. Understand the limitations and features of developing application for mobile devices
4. Learn database connectivity using real time database.
5. Analyze different parsing techniques.
6. Apply different Testing techniques on android applications.