

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. Embedded Systems (Branch Code - 54)

Year – II (Semester – IV)

Subject: Application Development for Mobile Devices (745401)

Sr. No.	Course Contents	Hours
1	Introduction to Java and Embedded Android Java fundamentals; Classes and objects; Inheritance, polymorphism and interfaces, APIs – Linux Kernel – Android Hardware Support – Android Native User-Space – Android System Services – Development Host Setup – AOSP – Building and Running AOSP – Android System Architecture – Memory Layout and Mapping – Development Setup	20
2	Android OS Introduction to Android, Introducing Development Framework, Dalvik Virtual Machine – DVM, Android Virtual Device and SDK Manager, Android Architecture and OOPS, Android Development Tools, Android Debug Bridge	10
3	Building application with Android Android Layouts, Android UI, Android GUI Architecture, Layouts, Android Widget Toolbox, Understanding Android Menus, Intents and Processes, Graphics Animation and Multimedia, Bitmaps, Introduction to Audio on Android, Introduction to Video, Android Persistence, Android Preferences, Using File system, Accessing SD cards, Location and maps, Using GEOCoder, Creating and Using Overlays, Projections, Using Wake Locks, Interprocess Communication, Internet Services, Broadcast receivers, Using Camera, Sensor Manager, Bluetooth, Network, Wi-Fi, AIDL and IPC, SQLite Databases, Services and Content Providers	22
4	Database Connectivity SQLite Database, SQLite Data Types, Cursors and Content Values, SQLite Open Helper, Adding, Updating and Deleting Content	4
	Total	56

Reference Books:

1. Karim Yaghmour, “Embedded Android”, O’Reilly Media Publication, ISBN : 978-1-4493-0829-2
2. Wallace Jackson, “Android Apps for Absolute Beginners”, 2nd Edition, Apress Publications, ISBN1 3: 78-1-484200-20-9
3. Jeff Friesen, “Learn Java for Android Development”, 2nd Edition, Apress Publications, ISBN 1 3: 978-1-4302-6454-5
4. Ziqurd Mednieks, Laird Dornin, G. Black Meike, Masumi Makamura , “Programming Android”, O’Reily Media Publication, ISBN: 978-1-4493-8969-7