CP459: ANDROID PROGRAMMING
CREDITS = 5 (L=3, T=0, P=2)

Course Objective:
To learn the Android Operating system, Gradle and Mobile application development using Android Studio.

Teaching and Assessment Scheme:

Teaching Scheme			Credits	Marks Distribution				Total Marks
				Theory Marks		Practical Marks		
L	T	P	C	ESE	CE	ESE	CE	
3	0	2	5	70	30	30	20	150

Course Contents:

Unit. No.	Topics	Teaching Hours
1	**Android Overview:** Android OS, Dalvik Virtual Machine, Features of Android, API Level Introduction, Linux Kernel, Libraries, Android Libraries, Android Application Framework, Introduction to Application component.	04
2	**Android Studio:** Android Studio Overview, Android Project internals, configuration files. Launching emulator o Editing emulator settings Emulator shortcuts Logcat usage Introduction to DDMS.	03
3	**Activities and Intent:** Android Activities Introduction, Life Cycle, Working with Activities, Android Services: Introduction, Life Cycle, Working with Services, Introduction to Broadcast receiver, Content Provider, Fragments and Intent Filters, Intent Objects, Extras Bundle.	05
4	**Android UI Interface:** UI Layouts, Types of Layout, Configuration of Layouts, View Identification, UI Controls, Event Handling, Adapters and Widgets.	10

5	**Content Provider:**	
	Working with Shared Preferences, storing and retrieving shared key-value pairs.Using Internal Storage, retrieving cache files, Working with External Storage, and working with files shared by other applications. Intent Filters, Explicit Intents, Implicit Intents, Working with Intents.	03
6	**Advances in Android:**	
	Android Debugging, Other view, Notification, Toast, Thread, AsyncTask, Handler & Runnable, gradle plugins, localization, NFC, SMS sending receiving, Phonecalls, Sending Emails, GPS, MAPS, Location based service, Sensors, Network Connectivity Services, adb tools, Interfacing with Php and MySql for storing data. SQLite Overview, Query Introduction, GreedDao: Android ORM for Sqlite Database,Core Classes, Modelling entities, Session, Queries, Relations, Joins, Create a mini-project.	15
7	**Other Mobile Application Development:**	
	iOS Platform Overview, basics iOS Dev Center, iOS SDK, Understanding the Skeleton APP, Simple Application creation. Understanding cordova, Environment understanding, Application Skeleton, Basics on Cordova Core Components and Cordova Plugins.	05
	TOTAL	**45**

List of References:

1. Reto Meier, "Profession Android Application Development", Wrox Publication
2. Marko Gargenta and Masumi Nakamura, "Learning Android" O'REILLY
3. Lucas Jordan and Peiter Greyling, "Practical Android Projects", Apress
4. Official Channel of Android Developer.
   Youtube https://www.youtube.com/user/androiddevelopers

Course Outcomes (COs):

After learning the course students will be able to

1. Understand Android OS, gradle, Android Studio.
2. Debug Android Application
3. Develop UI based Mobile Application using Android Studio.
4. Design application for Mobile using various sensors.
5. Design and develop an application using Database.
6. Adapt to learn new mobile technologies.