IV/IV B. TECH. FIRST SEMESTER
MOBILE APPLICATION DEVELOPMENT (Required)

Course Code: CS 7T2	**Credits: 3**
Lecture:3 periods/week	**Internal assessment: 30 Marks**
Tutorial: 1 period/week	**Semester end examination: 70 Marks**

Prerequisite: Java, Database Management Systems, Advanced Java and Web Technologies

The main objective of this course is to enable the studetns
- About the Mobile Application programming features.
- To learn the internals of the Android OS
- to learn the Mobile application development using the Android SDK.

Course Outcomes:
At the end of this course student will able

CO1) To understand the key features of various Mobile Operating Systems (specially Android)

CO2) To know essential Android programming concepts

CO3) To develop Android Applications using GUI Components.

CO4) To demostrate and implement DataBase Connectivity Applications.

Syllabus:

UNIT 1

Android Introduction and Basics: Introduction to Android Platform, Android vs. other mobile platforms, Android Stack, Android Versions and Installing Android SDK components, updating SDK components,Android emulator, Sample programs on emulator.

Java role and java for Android: Reshaping client side java as Android, java type system, scope and idioms of java programming.

UNIT 2

Android Applications and its Anatomy: Android programming model vs. traditional programming models, Activities, Intents and Tasks, Other Android Components, Component Life Cycles, Static Application Resources and Context Android Application Runtime Environment: Activity life cycle, Manifest File, Layout XML Code, Strings, The R File.

UNIT 3

Android Frame Work and User Interface Design: Android GUI Architecture, Assembling a Graphical Interface, different layouts – Linear Layout and Table Layout etc., Drawable Resources, Drawable Resources, Resolution and density independence Working with common widgets, List View and Adapters, The Menu and the Action Bar, View Debugging and Optimization.

UNIT 4

Fragments : Creating a Fragment, Fragment Life Cycle, Fragment Manager, Fragment Transactions The Support Package, Fragments and Layout.

Content Providers: Understanding Content Providers, Defining a Provider Public API, Writing and Integrating a

Content Provider, File Management and Binary Data, Android MVC & Content observation. Sample Content Provider.

UNIT 5

Handling and Persisting Data: Relational Database Overview, SQLite, SQL and the Database-Centric Data Model for Android Applications, the Android Database Classes, Database Design for Android Applications.

Learning Resource

Text Books
1. Programming Android, 2nd Edition(Oct-2012), by Zigurd Mednieks, Larid Dornin, G.Blake Meike, Masumi Nakamura , O'reilly (SPD) Publications.

References

1. Beginning Android 4 Application Development, by *Wei-Meng Lee* , Wiley India

2.Beginning Android 4, (2012) , by *Grant Allen* , Apress publications.
3.Android Application Development (programming with Google SDK), by Rick Rogers, Jhon Lombarado, Zigurd M