

MOBILE APPLICATION DEVELOPMENT

III Semester: CSE								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
BCSC29	Elective	L	T	P	C	CIA	SEE	Total
		3	0	0	3	30	70	100
Contact Classes: 45		Total Tutorials: Nil		Total Practical Classes: Nil			Total Classes: 45	

I. COURSE OVERVIEW:

This course focuses on the java API'S and tools necessary for developing mobile applications. It covers the necessary language features for mobile programming and focuses particularly on the Mobile Information Device Profile used in mobile phone application development. This course is used to build a mobile application interface using J2ME, connecting via HTTP to the web tier interface of a Java application.

II. COURSE OBJECTIVES:

The students will try to learn:

- I. The fundamentals of Android operating systems.
- II. The skills of using Android software development tools.
- III. How to deploy mobile applications with reasonable complexity on mobile platform.
- IV. The programs running on mobile devices.

III. COURSE OUTCOMES:

After successful completion of the course, students will be able to:

CO 1	Select suitable software tools and APIs for the development of a particular mobile application	Remember
CO 2	Use Intents to dial a number to send SMS Broadcast Receivers	Apply
CO-3	Demonstrate creating a file and reading data from files using Persistent Storage	
CO 4	Use a content provider for inserting, deleting, retrieving and updating data using SQLite	Apply
CO 5	Develop mobile applications with good design and interactive features for mobile devices.	Apply

IV. COURSE SYLLABUS

MODULE-I: INTRODUCTION TO ANDROID OPERATING SYSTEM (09)

Android OS design and Features – Android development framework, SDK features, Installing and running applications on Android Studio, Creating AVDs, Types of Android applications, Best practices in Android programming, Android tools Android application components – Android Manifest file, Externalizing resources like values, themes, layouts, Menus etc, Resources for different devices and languages, Runtime Configuration Changes Android Application Lifecycle – Activities, Activity lifecycle, activity states, monitoring state changes.

MODULE-II: ANDROID USER INTERFACE (09)

Measurements – Device and pixel density independent measuring UNIT – s Layouts – Linear, Relative, Grid and Table Layouts User Interface (UI) Components – Editable and non editable TextViews, Buttons, Radio and Toggle Buttons, Checkboxes, Spinners, Dialog and pickers Event Handling – Handling clicks or changes of various UI components Fragments – Creating fragments, Lifecycle of fragments, Fragment states, Adding fragments to Activity, adding, removing and replacing fragments with fragment transactions, interfacing between fragments and Activities, Multi-screen Activities.

MODULE-III: INTENTS AND BROADCASTS (09)

Intents and Broadcasts: Intent – Using intents to launch Activities, Explicitly starting new Activity, Implicit

Intents, Passing data to Intents, Getting results from Activities, Native Actions, using Intent to dial a number or to send SMS Broadcast Receivers – Using Intent filters to service implicit Intents, Resolving Intent filters, finding and using Intents received within an Activity Notifications – Creating and Displaying notifications, Displaying Toasts.

MODULE-IV: STORAGE (09)

Persistent Storage: Files – Using application specific folders and files, creating files, reading data from files, listing contents of a directory Shared Preferences – Creating shared preferences, saving and retrieving data using Shared Preference.

MODULE-V: SQ Lite (09)

Database – Introduction to SQLite database, creating and opening a database, creating tables, inserting retrieving and etindelg data, Registering Content Providers, Using content Providers (insert, delete, retrieve and update).

V. TEXT BOOKS:

1. Reto Meier, “Professional Android 4 Application Network Development”, Wiley India, (Wrox), 2012.
2. James C Sheusi, “Android Application Development for Java Programmers”, Cengage Learning, 2013.

VI REFERENCE BOOKS:

1. Wei-Meng Lee, “Beginning Android 4 Application Development”, Wiley India (Wrox), 2013.

VII. Web References:

1. <https://www.udemy.com/course/learn-android-application-development-y/>
2. <https://www.tutorialspoint.com/android/index.htm>
3. <https://www.geeksforgeeks.org/android-app-development-fundamentals-for-beginners/>

VIII. E-BOOKS:

1. <https://web.stanford.edu/class/cs231m/lectures/lecture-2-android-dev.pdf>