Branch: BCA	Semester-V
Subject Code: 5101	Lecture: 04 Credit: 04
Course Opted	Core Course – 15
Subject Title	**MOBILE APPLICATION**

Course Objectives:
- Understand the application development lifecycle.
- Develop a grasp of the Android OS architecture.
- Create an android based mobile application
- Familiarize with Android's APIs for data storage, retrieval, user preferences, files and content providers
- Experiment with database to store data locally
- Identity, analyze and choose tools for Android development including device emulator, profiling tools and IDE

Course Outcomes:
- Recognizes mobile development environments...
- Write clear and effective Android code.
- Create Native & Hybrid Mobile applications using Android App Development
- Implementing database using SQLite & Firebase Real-time Database.
- Be exposed to technology and business trends impacting mobile application
- Be competent with designing and developing mobile applications using one application development framework.

Modules	Sr. No.	Topic and Details	No. of Lectures Assigned	Marks Weightage %
UNIT-I	1	**Programming Revision (Object Oriented Programming Concepts & Java Fundamental):** Class, Object & methods, Constructors in Java, Inheritance, Polymorphism, Abstraction, Encapsulation, Exception Handling in Java, Multithreading in Java, File I/O **Introduction to Android Programming Language:** What is Android, History and Version, Software Stack, Core Building Blocks, Android Emulator, Hello Android example, Internal Details, Dalvik VM, AndroidManifest.xml	8	16
	2	**Android Application Layout:** Android Linear Layout, Android Relative Layout, Android Table Layout, Scroll View in Android, Android Frame Layout	8	12
UNIT-II	3	**Android Activity & Intent, Android Fragments:** Activity Lifecycle, Implicit Intent, Explicit Intent, Android Fragments	8	12
	4	**Android UI widgets:** Working with Button, Toast, Toggle Button, Checkbox, Image View, Image Button, Alert Dialog, Spinner, AutoComplete Text View, Rating Bar, Date Picker, Date Picker, Time Picker, Progress Bar	10	24
	5	**Building Android Application with Web View:** Building Simple Web View Application, Load	4	8

		HTML Date on Web View, Embed/Display YouTube Video in Web View, Convert Custom Design Website into Android App.		
UNIT-III	6	**Menus in Android & Services:** Option Menu, Context Menu, Popup Menu, It can be used to perform any task in background. It doesn't have any user interface (UI).	2	4
	7	**Android Database (SQLite) & Android Multimedia:** SQLite Example with GUI, Fire Base (Real time), Playing Audio in android Example, Playing Video in android Example, Playing Media Player in android Example.	2	4
	8	**Android Speech & Telephony API:** Speech API is used to convert text into speech, Text to Speech Example with Speed option, Telephony Manager, Get Call State, Call State Broadcast Receiver, How to make a Phone Call, How to Send SMS, How to Send Email.	4	8
UNIT-VI	9	**Device Connectivity &Android sensor:** Bluetooth, List Paired Device, Wi-Fi, Android Sensor.	2	4
	10	**Android Material Design Using Design Support Library & Animation:** Navigation Drawer View, Splash Screen, Android animation enables you to rotate, slide and flip images and text, Fade In Animation in Android, Fade Out Animation in Android, Zoom In Animation in Android, Zoom Out Animation in Android, Implementing Ripple Effect in Android, Add Ripple Effect/Animation to a Android Button.	2	8
		TOTAL	**50**	**100**

Text Book:

1. Android Studio 3.0 Development Essentials

Reference Books:

1. Android Programming: The Big Nerd Ranch Guide
2. Android Application Development - Black book
3. Android Development for Gifted Primates
4. Android Cookbook focuses
5. Practical Android
6. Head First Android: A Brain-Friendly Guide, by Paul Barry.