Year: B. Tech III (Semester VI)

Subject Name: Mobile App Development **Subject Code:** BTCO15603
Type of course: Open Elective -2
Prerequisite (if any): Object Oriented Programming.

List of Courses where this course will be prerequisite:

Rationale: There is a growing number of people who uses smartphones and tablets and hence mobile app development has ability to access a large segment. Android has an advantage of being open source. This course will enable the students to develop mobile application using Android.

Teaching and Examination Scheme:

Teaching Scheme				Theory Marks			Practical Marks		Total
L	T	P	C	TEE	CA1	CA2	TEP	CA3	
2	0	2	3	60	25	15	30	20	150

CA1: Continuous Assessment (assignments/projects/open book tests/closed book tests CA2: Sincerity in attending classes/class tests/ timely submissions of assignments/self-learning attitude/solving advanced problems TEE: Term End Examination TEP: Term End Practical Exam (Performance and viva on practical skills learned in course) CA3: Regular submission of Lab work/Quality of work submitted/Active participation in lab sessions/viva on practical skills learned in course

Content:

Sr. No.	Content	Total Hrs
1	Android OS : Introduction to Android, Android System with Architecture, Android Architecture, Development with Android – Platforms, Tools, Versions, Setup Android Environment, Say Hello to Android Application,	4
2	Android Activities and UI Design : Building Blocks of Android Application, Work with Activity, Activity Lifecycle, Intents Fragments, Fragment Lifecycle, Create Application and new Activities Expressions and Flow control, Android Manifest, XML Introduction to GUI objects: Push Button, Text / Labels, EditText, ToggleButton, WeightSum Padding, Layout Weight	6
3	Design Android UI Layout : Simple UI -Layouts and Layout properties Fundamental Android UI Design Introducing Layouts Creating new Layouts Drawable Resources Resolution and density independence	6
4	Advanced UI Programming : Event driven Programming in Android (Text Edit, Button clicked etc.), Creating a splash screen, Menu: Custom Vs. System Menus, Creating and Using Handset menu Button (Hardware),Android Themes, Dialog, create an Alter Dialog.Toast in Android, List & Adapters, Android Manifest.xml File	6
5	Database Connectivity : SQLite: Open Helper and create database, Open and close a database	3

6	Development and Deployment : Delvik Debug Tool, Logcat, Emulator Control, Device Control, Work with ADB, Connect Real Devices, Execute Application on Real Device, Publish your Application	5

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
15	15	30	-	-	-

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Reference Books:

Sr No	Title of book /article	Author(s)	Publisher and details like ISBN	Year of publication / Publication Edition
1	Android Application Development Black Book	Pradeep Kothari	DreamTech	Latest Edition
2	Beginning Android 4 Application Development	Wei Meng Lee	Wrox	
3	Android Wireless Application Development	Lauren Darcey, Shane Conder	Pearson U	
4	Android: A Programming Guide	J.F. DiMarzio		
5	Programming android	Zigurd Mednieks		
6	Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps	Ian G. Clifton		

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	Understand open source mobile development, Android architecture, activities and their life cycle.	10%
CO-2	Apply the knowledge to design user interface using Android UI And Component	40%

CO-3	Implement event driven UI Android Application	20%
CO-4	Manage system database in Android Application	25%
CO-5	Publish and distribute Android Application	05%

List of Open learning website:

https://developer.android.com/
https://www.udemy.com
http://nptel.ac.in/
https://www.tutorialspoint.com/android/index.htm

List of Open Source Software:

Visual Studio Code
Android Studio
Eclipse

FOR LAB SESSIONS:

List of Experiments:

Sr. No.	Practical
1	To Study Android Architecture and Installing Android Studio on Windows Platform.
2	Develop an android app which displays "Hello (Your name), welcome to Android Lab" message.
3	Develop calculator Android Application.
4	Develop an android app which displays a form to get following information from user. Username, Password, Email-address, Phone number, Country, State, Interest, Birth Date. Form should be followed by a Button with label "Submit". When user clicks the button, a message should be displayed to user describing the information entered.
5	Using Android, Create a login Activity. It asks "username" and "password" from user. If username and password are valid, it displays Welcome message using new activity
6	Create an application that will change color of the screen, based on selected options from the menu.
7	Create an application that will display toast(Message) on specific interval of time.
8	Create an application to call a phone number entered by the user the Edit Text.
9	Create an application that will create database to store username and password.
10	Create an application to insert, update and delete a record from the database.
11	Develop an android application to demonstrate user registration and login using android SQLite Database

Major Equipment Needed: