



K.E. Society's
Rajarambapu Institute of Technology, Sakharale
(An Autonomous Institute, Affiliated to Shivaji University, Kolhapur)

Syllabus (Theory Courses)
To be implemented from 2020-21

Department of Information Technology

Class:- T.Y. B. Tech	Semester- VI	L	T	P	Credits
Course Code : IT3202	Course Name : Mobile Application Development Lab	2	--	2	3

Course Description:

Mobile application development lab course is designed to provide knowledge to the students for making android apps which will be run on android devices. This course also provides a basis for understanding the android architecture with its layers. This course aims to teach mobile application development using Android as the development platform. The students will be able to understand built-in widget, basic building blocks, components, work with persistent storage, multimedia, etc. The core modules of this course include designing, developing, testing, signing, packaging and distributing high quality mobile apps. This course is designed for beginners who wish to become a mobile application developer by using Android, which is one of the most popular technologies for mobile application development.

Course Outcomes:

On completion of the course, the student will be able to:

1. Explain the basic concepts and terminologies of Android technology
2. Design User Interfaces using views, layout managers, menus and dialogs
3. Make use of shared preferences, files and SQLite database for persistent data storage and multimedia in android application
4. Develop mobile application using activity, services, content providers and broadcast receivers of Android Technology
5. Apply testing frameworks, packaging and deploy android application to emulators and physical devices

Prerequisite:

Knowledge of Java, XML and SQL

Course Content		
Unit No	Description	Hrs
1.	Introduction to Android Introduction, Android Architecture, Application Components, Android Studio Installation, SDK and AVD, Gradle File, Hello World Example,	04



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	Project File Structure.	
2.	User Interface UI Layout basic, Different types of layouts: Linear Layout , Constraint Layout, Layout Attributes, TextView, EditText, Button, RadioButton, CheckBox, ImageView, ImageButton, ListView, Spinner, Other controls, All control specific attributes, Style and Themes: Defining Styles, Using Styles in layout, Event Handling : Event listeners and handlers and Event listeners and registration	04
3.	App functionality beyond UI Activity, Service, Broadcast Receiver, Content Providers, Intents: Intent Objects, Android Intent Standard Action, Types of Intent, Passing Data with Intent, Notification, Menus: Context menu and Options menu	04
4.	Android Storage Shared Preferences, SQLite Database, Internal / External File Storage, Upgrading App with Storage: Saving user data in preferences, Implementing Login and Logout with session management, Saving data to SQLite Storage, Firebase	04
5.	Adding Polish to Android apps Multimedia: Audio and Video Playback, Google Location API: Showing Current Location, Adding Marker, Searching for location, Custom Marker, AsyncTask, Telephony and SMSManager API	04
6.	Testing, Signing, Packaging and Deployment Testing, Building an App for Final Distribution, Creation of keystore, Generating signed APK with key, Uploading to Play Store, Play Store submission procedure and checklist	04

Experiment List -

It should consist of minimum **10** experiments based on the syllabus and experiment list mentioned below:

1. Setting up Mobile Application Environment
2. User Interface
3. Android Widgets
4. Activity and its Lifecycle



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5. Intents and services
6. Notifications and Broadcast Receivers
7. Telephony and SMS
8. Shared Preferences and Files
9. Working with Database: SQLite
10. Firebase
11. Multimedia
12. Testing and deployment

References -

Text Books:

1. Anubhav Pradhan, Anil V. Deshpande, "Composing Mobile Apps using Android", Wiley, Second Edition.
2. Barry Burd, "Android Application Development All in one for Dummies", Wiley Publication, Second Edition.

Reference Books:

1. Reto Meier, "Professional Android 2 Application Development", Wrox, First Edition.
2. Chris Haseman, "Android Essential", First press Publication, First Edition.
3. James Steele, Nelson to, "The Android Developer's Cookbook", Addison Wesley Publication, First Edition.