

Topics (Credits : 2 Lectures/Week: 3) Android Developer Fundamentals (TCSCCS0407T)		
Objectives: To provide the comprehensive insight into developing applications running on smart mobile devices and demonstrate programming skills for managing task on mobile. To provide systematic approach for studying definition, methods and its applications for Mobile-App development.		
Course outcomes: 1) Understand the requirements of Mobile programming environment. 2) Learn about basic methods, tools and techniques for developing Apps 3) Explore and practice App development on Android Platform 4) Develop working prototypes of working systems for various uses in daily lives.		
Unit 1	What is Android? Obtaining the required tools, creating first android app, understanding the components of screen, adapting display orientation, action bar, Activities and Intents, Activity Lifecycle and Saving State, Basic Views: TextView, Button, ImageButton, EditText, CheckBox, ToggleButton, RadioButton, and RadioGroup Views, ProgressBar View, AutoCompleteTextView, TimePicker View, DatePicker View, ListView View, Spinner View	15L
Unit 2	User Input Controls, Menus, Screen Navigation, RecyclerView, Drawables, Themes and Styles, Material design, Providing resources for adaptive layouts, AsyncTask and AsyncTaskLoader, Connecting to the Internet, Broadcast receivers, Services, Notifications, Alarm managers, Transferring data efficiently	15L
Unit 3	Data - saving, retrieving, and loading: Overview to storing data, Shared preferences, SQLite primer, store data using SQLite database, ContentProviders, loaders to load and display data, Permissions, performance and security, Firebase and AdMob, Consuming Web services in Android application	15L
Text books 1. Wei-Meng Lee, “Beginning Android 4 Application Development”, WROX, 2012. 2. <u>Reto Meier</u> , Professional Android 4 Application Development, Wiley 2012 Additional References		

1. Paul Deitel , Android 6 for Programmers: An App-Driven Approach, Prentice Hall , 2015 2. https://developers.google.com/training/courses/android-fundamentals 3. https://www.gitbook.com/book/google-developer-training/android-developer-fundamentals-course-practicals/details	
--	--

Android Developer Fundamentals (TCSCCS0407P)	
1. Install Android Studio and Run Hello World App. 2. Create an android Calculator app with Interactive User Interface using appropriate layouts. 3. Create an android app that demonstrates working with TextView Elements. 4. Create an android app that demonstrates Activity Lifecycle and Instance State. 5. Create an android app that demonstrates the use of Keyboards, Input Controls, Alerts, and Pickers. 6. Create an android app that demonstrates the use of an Options Menu. 7. Create an android app that demonstrate Screen Navigation Using the App Bar and Tabs. 8. Create an android app to Connect to the Internet and use BroadcastReceiver. 9. Create an android app to show Notifications and Alarm manager. 10. Create an android app to save user data in a database and use of different queries.	