

24CSS102: ANDROID PROGRAMMING

Hours/Week: 4
Credits: 4

I.A. Marks: 30
Exam. Marks: 70

Course Learning Objectives:

- Fundamentals of Android Operating systems, android application components and android development framework.
- Designing of Android User Interfaces using various components like buttons, text views, toggle buttons, check boxes, spinners etc.
- How to develop software's with reasonable complexity and deploying software to mobile devices.
- The concept of intents and broadcasts, persistent storage and database connectivity concepts.

Course Outcomes: After completing the course, the students will be able to,

- Demonstrate their understanding of the fundamentals of Android operating systems
- Show their skills of using Android software development tools
- Develop software with reasonable complexity and their design aspects.
- Deploy software to mobile devices and debug the programs
- Understands the working of Android OS Practically and able to develop, deploy and maintain the Android Applications.
- Understands the concept of persistent storage and develop User Interface.
- Recognizes basics of SQLite database and perform various possible operation on database.

UNIT-I

12Hrs.

Introduction to Android Operating System: Introduction to Mobile applications, Android: Android OS design and Features – Android development framework, SDK features, Installing and running applications on Eclipse platform, Creating AVDs, Types of Android applications, Android tools Android application components – Android Manifest file, Externalizing resources like values, themes, layouts, Menus, Resources for different devices and languages, Runtime Configuration Changes Android Application Lifecycle – Activities, Activity lifecycle, activity states, monitoring state changes.

UNIT-II

12Hrs.

Android User Interface: Measurements – Device and pixel density independent measuring units Layouts – Linear, Relative, Grid and Table Layouts User Interface (UI) Components – Editable and non-editable Text Views, 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.

UNIT-III

12Hrs.

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.

UNIT-IV

12Hrs.

Android capabilities: flutter framework, Introduction-including libraries future, asynch and wait, including files in application shared preferences, **Introduction to SQLite database**, creating and opening a database, creating tables, inserting, retrieving and deleting data, **Registering Content Providers, Using content Providers (insert, delete, retrieve and update)**. Connecting to internet resource, using download manager Location Based Services – Finding Current Location and showing location on the Map, updating location.

REFERENCE BOOKS:

1. RetoMeier,, Wiley India, (Wrox) , Professional Android 4 Application Development, 2012.
2. James C Sheusi, Android Application Development for Java Programmers, Cengage Learning, 2013.
3. Wei-Meng Lee, Beginning Android 4 Application Development, Wiley India (Wrox), 2013.
4. Rap Payne, Beginning App Development with Flutter: Create Cross-Platform Mobile Apps -

