

Name of the college: Government College of Arts, Science & Commerce, Sanquelim Goa							
Name of Faculty: Mr. Amar R. Naik				Subject: Computer Science			
Paper code: CSC108 Mobile Application Development				Program/Course: TY B.Sc.		Division: -	
Academic year: 2024 - 2025				Semester: VI		Total Lectures: 60	
Course Objectives: Introduce mobile application development for the Android platform using XML and Java/Kotlin. Include developing simple applications that could run on Android phones and tablets. Cover Android application terminologies, components and coding.							
Course Learning Outcome: Upon completion of the course students should be able to : <ul style="list-style-type: none">Identify the significance of each of the Android basic building blocks and determine when to use the component.Describe the anatomy of a mobile app and use the Android components in designing simple mobile applications.Explain the data storage options available on the Android platform and perform basic CRUD operations on persistent data.Design complete Android app by integrating the Android building blocks and using firebase as backend tool.							
Month	Lectures From: To:		No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
December	09-12-2024	14-12-2024	4	Syllabus Overview, Introduction: Need for Mobile Apps., Different types of Mobile Apps., Android vs. Other mobile platforms, Open Handset Alliance (OHA), Features of Android Android Limitations, Mobile Navigation: Basic patterns, Pros		Laptop, PPT, LCD Projector/ Smartboard	Head First Android Development: A Brain-Friendly Guide

				and Cons, Screen independent design			
December	16-12-2024	21-12-2024	4	Resolution and density independence (px, dip, dp, sip, sp), Android Pre-requisites: Java/Kotlin Programming fundamentals, Introduction to XML, Introduction to Build System (Gradle)		Laptop, PPT, LCD Projector/ Smartboard	Head First Android Development: A Brain-Friendly Guide
January	02-01-2025	04-01-2025	2	Android Architecture: Overview of Android Architecture Internals - Linux Kernel, Libraries, Android Runtime, Application Framework, Dalvik VM and .apk files, Emulator		Laptop, PPT, LCD Projector/ Smartboard	1. Head First Android Development: A Brain-Friendly Guide 2. developer.android.com
January	06-01-2025	11-01-2025	4	Android Virtual Device: Definition, Features, Examples, Android Basic Building blocks: Activities, Services, Broadcast Receivers and Content Providers, UI Components: Views and notifications, Activities, Views	Demo on usage of AVD	Laptop, PPT, LCD Projector/ Smartboard	Head First Android Development: A Brain-Friendly Guide
January	13-01-2025	18-01-2025	4	Layouts (LinearLayout and RelativeLayout and WebView), Responsive UI with ConstraintLayout, Significance of application manifest file		Laptop, PPT, LCD Projector/ Smartboard	1. Head First Android Development: A Brain-Friendly Guide 2. developer.android.com
January	20-01-2025	25-01-2025	4	Creating User Interface (UI): Common UI components (TextView, EditText, Button, Checkbox, RadioButton , ToggleButton, Spinner, Pickers)	Creating interfaces with layouts, widgets.	Laptop, PPT, LCD Projector/ Smartboard	Head First Android Development: A Brain-Friendly Guide

January - February	27-01-2025	01-02-2025	4	Activity lifecycle, Understanding the exception handler, Event Handling: onClick(), onLongClick(), onFocusChange()		Laptop, PPT, LCD Projector/ Smartboard	Head First Android Development: A Brain-Friendly Guide
February	03-02-2025	08-02-2025	4	OnKey(), onTouch(), onCreateContextMenu(), onCreateOptionsMenu(), Intents: Intents uses, intent types (Implicit & Explicit)		Laptop, PPT, LCD Projector/ Smartboard	Head First Android Development: A Brain-Friendly Guide
February	10-02-2025	15-02-2025	4	Passing data (Direct, Bundle & Parcelable) Implicit Intents – Intent Filters and Intent Resolution Process, Pending intents	Develop UI using adapters	Laptop, PPT, LCD Projector/ Smartboard	1. Head First Android Development: A Brain-Friendly Guide 2. developer.android.com
February	17-02-2025	22-02-2025	4	Advanced UI: Building Layouts with an Adapter (GridView & ListView), Custom Adapters, Menus (Options menu & Context menu), Toast, Custom Toast, Dialogs, Status bar Notifications	Demo on a Broadcast Receiver	Laptop, PPT, LCD Projector/ Smartboard	1. Head First Android Development: A Brain-Friendly Guide 2. developer.android.com
February-March	24-02-2025	01-03-2025	4	Broadcast Receivers (BR): Broadcast receiver registration (Static & Dynamic), Broadcast Receiver Classes, Sticky & non-sticky BR, BR Security, Understanding Broadcast action, category and data, Sending & Receiving Broadcast, Services: Overview of services in Android, Implementing a Service		Laptop, PPT, LCD Projector/ Smartboard	developer.android.com
March	03-03-2025	08-03-2025	4	Service lifecycle, Inter Process Communication (AIDL Services),		Laptop, PPT, LCD	developer.android.com

				Web Services and WebView: Consuming web services		Projector/ Smartboard	
March	10-03-2025	15-03-2025	4	Receiving HTTP Response (XML, JSON), Parsing JSON and XML, Using WebView, Multithreading: Background processing in android		Laptop, PPT, LCD Projector/ Smartboard	developer.android.com
March	17-03-2025	22-03-2025	4	Threads running on UI thread: Handlers & Runnable, AsyncTask, Introduction to data storage: Shared Preferences: Introduction, Preferences types, operating modes		Laptop, PPT, LCD Projector/ Smartboard	developer.android.com
March	24-03-2025	29-03-2025	4	Android File System: Internal storage, External storage, SQLite: Basics of SQLite Database, Data Types, SQLite Connections, SQLiteOpenHelper class, SQLite Queries: Working with cursors		Laptop, PPT, LCD Projector/ Smartboard	1. developer.android.com 2. https://www.geeksforgeeks.org/how-to-create-and-add-data-to-sqlite-database-in-android/
March - April	31-03-2025	05-04-2025	4	Inserting, updating, and deleting contents of SQLite, Firebase: Introduction, Firebase services (Authentication, Cloud messaging, Database query)		Laptop, PPT, LCD Projector/ Smartboard	1. developer.android.com 2. https://www.geeksforgeeks.org/how-to-create-and-add-data-to-sqlite-database-in-android/
April	07-04-2025	11-04-2025	4	Revision			
Practical							
December	09-12-2024	14-12-2024	4	Explore Android Studio, Setup device emulator, Demonstrating use of different layouts, use of basic views.		Laptop, PPT, LCD Projector/ Smartboard	1. Head First Android Development: A Brain-Friendly Guide 2. developer.android.com 3. https://www.geeksforgeeks.org/how-to-create-and-add-data-to-sqlite-database-in-android/
December	16-12-2024	21-12-2024	4	Create Simple Calculator Application:		Laptop, PPT, LCD	

				Layout design with constraint layout, Implement app, Debug and find errors, Installation of .apk into your android mobile		Projector/ Smartboard
January	02-01-2025	04-01-2025	4	ListView layout design, Load listview with data, Add/ remove items		Laptop, PPT, LCD Projector/ Smartboard
January	06-01-2025	11-01-2025	4	Create Tic tac toe Game	Demo on usage of AVD	Laptop, PPT, LCD Projector/ Smartboard
January	13-01-2025	18-01-2025	4	Tic tac toe Game		Laptop, PPT, LCD Projector/ Smartboard
January	20-01-2025	25-01-2025	4	Intents: Implicit - display a webpage, send a message Explicit intent - launch an activity, pass data between activities	Creating interfaces with layouts, widgets.	Laptop, PPT, LCD Projector/ Smartboard
January - February	27-01-2025	01-02-2025	4	Create Zoo app: ListView layout design, Load listView with Data, Load different views in ListView, ListView events, Add or Remove item to listView		Laptop, PPT, LCD Projector/ Smartboard
February	03-02-2025	08-02-2025	4	Create Restaurant App: Design GridView Layout, Load gridView with list of foods, Show Food details		Laptop, PPT, LCD Projector/ Smartboard

February	10-02-2025	15-02-2025	4	Restaurant App	Develop UI using adapters	Laptop, PPT, LCD Projector/ Smartboard
February	17-02-2025	22-02-2025	4	Alert Dialog demonstration, Broadcast receiver implementation	Demo on a Broadcast Receiver	Laptop, PPT, LCD Projector/ Smartboard
February-March	24-02-2025	01-03-2025	4	Web Services		Laptop, PPT, LCD Projector/ Smartboard
March	03-03-2025	08-03-2025	4	SQLite content values, queries		Laptop, PPT, LCD Projector/ Smartboard
March	10-03-2025	15-03-2025	4	Contact list app using SQLite		Laptop, PPT, LCD Projector/ Smartboard
March	17-03-2025	22-03-2025	4	Notes app, Firebase		Laptop, PPT, LCD Projector/ Smartboard
March	24-03-2025	29-03-2025	4	Firebase		Laptop, PPT, LCD Projector/ Smartboard
March - April	31-03-2025	05-04-2025	4	Firebases		Laptop, PPT, LCD Projector/ Smartboard
April	07-04-2025	11-04-2025	4	Revision		

***Assessment Rubrics**

Component

Max Marks

ISA 1

10

ISA 2

10

Practical

50

Project

-

Semester End Examination

80