



**CVVM**  
**UNIVERSITY**

Aegis: Charutar Vidya Mandal (Estd.1945)

## FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

**Programme:** Bachelor of Technology (Computer Engineering)

**Semester:** VII

**Course Code:** 202046712

**Course Title:** Mobile Application Development

**Course Group:** Professional Elective Course -III

**Course Objectives:** This course is gaining importance in today's digital era. This course aims to cover various methods of mobile application development that are required to become a professional app developer. This course provides hands-on experience and exposure to the required tools and techniques to produce industry-standard mobile apps using android and flutter

### Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
Lecture	Tutorial	Practical		Theory		J/V/P*		Total
				Internal	External	Internal	External	
3	0	2	4	50/18	50/17	25/9	25/9	150/53

\* J: Jury; V: Viva; P: Practical

### Detailed Syllabus:

Sr.	Contents	Hours
1	<b>Overview of Android</b> Introducing Android, The Android Application Components, the manifest file, Downloading and Installing Android, Exploring the Development Environment, Developing and Executing the first Android Application.	04
2	<b>Using Activities, Fragments, and Intents in Android</b> Working with activities, Using Intents, Fragments, Using the Intent Object to Invoke Built -in Application	05
3	<b>Working with the User Interface Using View and ViewGroups</b> Working with View Groups, building data with the AdapterView Class, Designing AutoTextCompleteView, Implementing Screen Orientation, Designing the views programmatically, Handling UI events, Creating Menus.	06
4	<b>Storing the Data Persistently</b> Introducing the Data Storage Options, Using the internal storage, Using the external storage, Using the SQLite Database, Working with content Provider.	08



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5	<b>Working with Location Services and Maps</b> Working with Google Maps, Working with Geocoding and Reverse Geocoding. Use Media Player, Recording and Playing sound, creating a sound pool, Using Camera, Recording Video.	05
6	<b>Working with Graphics and Animation</b> Working with Graphics, Using the Drawable Object, Using the ShapeDrawable object, Hardware Acceleration, Working with Animation. Signing the Android Application, Versioning the Android Application, Publishing the Android Application.	05
7	<b>Introduction to flutter</b> Introduction Dart & Flutter, how to install flutter on android studio. The flutter user interface, widgets.	04
8	<b>Flutter: Handling user input &amp; Routing</b> Input widgets, validating input, custom input, Theming & styling, Routing: navigating between screens.	03
	Total	40

### List of Practicals / Tutorials:

1	Configuring Android Development Environment.
2	Develop an android application that uses GUI components, Font and Colors.
3	Develop an android application that uses Layout Managers and event listeners.
4	Develop a standard calculator android application to perform basic calculations like addition, subtraction, multiplication, and division.
5	Develop an android application that create, save, update, and delete data in database.
6	Develop an android application that uses GPS location information.
7	Develop an android application that draws basic graphical primitives (Rectangle, circle etc.) on the screen.
8	Create an android application that writes data to SD Card.
9	Configuring Flutter Development Environment.
10	Develop a flutter application that uses GUI components, Font, and Colors.
11	Develop login signup application using flutter.

### Reference Books:

1	Android Application Development Black Book by Pradeep Kothari, DreamTech
2	Beginning Android 4 Application Development by Wei Meng Lee, Wrox
3	Android Wireless Application Development by Lauren Darcey, Shane Conder, Pearson
4	Flutter for beginners By Alessandro Biessek, Packt publication

### Supplementary learning material:

1	<a href="https://developer.android.com/">https://developer.android.com/</a>
2	<a href="https://flutter.dev/">https://flutter.dev/</a>



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## Pedagogy:

- Direct classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Seminar/Poster Presentation
- Industrial/ Field visits
- Course Projects

## Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks in %						R: Remembering; U: Understanding;
R	U	A	N	E	C	A: Applying;
15%	25%	25%	15%	20%	---	N: Analyzing; E: Evaluating; C: Creating

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.

## Course Outcomes (CO):

Sr.	Course Outcome Statements	%weightage
CO-1	Understand Android & flutter architecture, activities and their life cycle.	16
CO-2	Use View Groups comprising layouts and Views in application.	26
CO-3	Manage data binding, user interface events, maps	24
CO-4	Work with graphics, animation, still images and video.	20
CO-5	Publish and distribute Android Application	14

## Curriculum Revision:

Version:	2.0
Drafted on (Month-Year):	June-2022
Last Reviewed on (Month-Year):	-
Next Review on (Month-Year):	June-2025