GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering
Subject Code: 3161612
Semester – VI
Subject Name: Mobile Application Development

Type of course: Elective

Prerequisite: NA

Rationale: There is a growing number of people who uses smartphones and tablets and hence **mobile app development** has ability to access a large segment. Android has an advantage of being open source. This course will enable the students to develop mobile application using Android.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P	C	Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
2	0	2	3	70	30	30	20	150

Content:

Sr. No.	Content	Total Hrs	Marks Weight age (%)
1	Overview of Android Introducing Android, The Android Application Components, The manifest file, Downloading and Installing Android, Exploring the Development Environment, Developing and Executing the first Android Application.	03	10
2	Using Activities, Fragments and Intents in Android Working with activities, Using Intents, Fragments, Using the Intent Object to Invoke Built –in Application	03	20
3	Working with the User Interface Using Vies and ViewGroups Working with View Groups, Building data with the AdapterView Class, Designing AutoTextCompleteView, Implementing Screen Orientation, Designing the views programmatically, Handling UI events, Creating Menus	04	20
4	Storing the Data Persistently Introducing the Data Storage Options, Using the internal storage, Using the external storage, Using the SQLite Database, Working with content Provider	05	20
5	Working with Location Services and Maps Working with Google Maps, Working with Geocoding and Reverse Geocoding.	04	5

6	Working with Graphics and Animation Working with Graphics, Using the Drawable Object, Using the ShapeDrawable object, Hardware Acceleration, Working with Animation	04	10
7	Audio, Video and Camera Use Media Player, Recording and Playing sound, Creating a sound pool, Using Camera, Recording Video	02	10
8	Publishing and Distributing Android Application Signing the Android Application, Versioning the Android Application, Publishing the Android Application	03	5

Suggested Specification table with Marks (Theory): (For BE only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	**40**	**20**	**--**	**--**	**--**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Course Outcomes: Students will be able to

Sr. No.	CO statement	Marks % weightage
CO-1	Understand Android architecture, activities and their life cycle.	10
CO-2	Use View Groups comprising layouts and Views in application.	40
CO-3	Manage data binding, user interface events, maps	25
CO-4	Work with graphics, animation, still images and video.	20
CO-5	Publish and distribute Android Application	05

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

List of Open Source Software/learning website:
1. https://developer.android.com/

List of Practical:

1. Write an Android application for calculator
2. Write an Android application to convert into different currencies for example, Rupees to dollar
3. Write an android application to count library overdue.

4. Write an android application to convert a ball from size of radius 2(colour red) to radius 4(colour blue) to radius 6 (colour green). The ball must rotate in circle for 1 minute before changing size and colour.
5. Write an application to mark the daily route of travel in map.
6. Write an application to record video and audio on topic "Intent" and play the audio and video.