



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B.Voc.), 5th Semester
Branch: Information Technology
Subject Name: Mobile Application Development using Android
Subject Code: 1150502

Type of subject: Core

Prerequisite: Basic Java Programming.

Rationale: The development of mobile applications encompasses various stages, including conceptualization, design, coding, testing, and deployment. Developers leverage programming languages, frameworks, and development tools to create applications that cater to diverse user needs and preferences.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	0	3	50	0	0	0	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C Credit; ESE- End Semester Examination; PA- Progressive Assessment

Sr. No.	Content	Total Hrs.	Module % Weightage
1	Basic of Android Programming: Introduction to Android OS, setting up the Android Application Development Environment, Creating, Testing and Debugging Applications, Android Stack, Android applications structure, Activity life cycle, Understanding implicit and explicit intents.	10	20
2	User Interface in Android: Adaptive and responsive user interfaces, User Input Controls, Menus, Screen Navigation, RecyclerView, Drawables, Themes and Styles, Fragments, Fragment Lifecycle, Introduction to Material Design, Testing the user interface.	12	30
3	Background tasks: AsyncTask, AsyncTaskLoader, Connecting App to Internet, Broadcast receivers, Services, Notifications, Alarm managers.	10	20
4	Sensor, Location and Maps: Sensor Basic, Motion and Position Sensors, Location services, Google maps API, Google Places API.	6	15
5	Working with data in Android: Shared Preferences, App Setting, SQLite primer, Store data using SQLite database, Content Providers, Content Resolver, Loader.	4	15
TOTAL		42	100



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Suggested Specification table with Marks (Theory):

Distribution of Theory Marks				
R Level	U Level	A Level	N Level	E Level
10	10	15	10	5

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

Reference Books:

1. Android: A Programming Guide by J.F. DiMarzio
2. Hello, Android: Introducing Google's Mobile Development Platform by Ed Burnett
3. Programming android by ZigurdMednieks
4. Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps by Ian G. Clifton
5. Android Developer Fundamental Course by Google.
6. Advance Android Developer Course by Google.

Course Outcomes:

Sr. No.	CO Statement	Weightage (%)
CO-1	Design and develop user interfaces for mobile apps using basic building blocks, UI components and application structure using Emulator.	20
CO-2	Write simple programs and develop small applications using the concepts of UI design, layouts and preferences.	30
CO-3	Develop applications with multiple activities using intents, array adapter, exceptions and options menu.	20
CO-4	Implement activities with dialogs, spinner, fragments and navigation drawer by applying themes.	15
CO-5	Develop mobile applications using SQLite.	15