



GUJARAT TECHNOLOGICAL UNIVERSITY
Syllabus for Bachelor of Vocation (B.Voc.), 5th Semester

Branch: Information Technology

Subject Name: Mobile Application Development using Android Lab

Subject Code: 1150506

Type of subject: Practical

Prerequisite: Java Programming.

Rationale: This course facilitates classroom and laboratory learning, letting students develop competence and confidence in android programming and understand the entire Android Apps Development Cycle, as well as it would also enable the students to independently create Real time Android Applications.

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) | | |
| 0 | 0 | 4 | 2 | 0 | 0 | 30 | 20 | 50 |

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

Course Details:

| Sr.No | Practical / Hands on Exercise | Hrs. |
|-------|--|------|
| 1 | Set-up of Android development environment, managing AVD and understanding its various components. | 4 |
| 2 | Develop a Basic Application in Android and understand the structure of an Android Application. | 4 |
| 3 | Develop Android Application to demonstrate methods of Activity Life Cycle. | 4 |
| 4 | Design Android Activities using LinearLayout, RelativeLayout, GridView, FrameLayout, and ConstraintLayout. | 4 |
| 5 | Design various Activities using different Layouts and various controls such as:TextView, EditText, Button, RadioButton, CheckBox, ImageButton, ToggleButton, TimePicker, DatePicker, ProgressBar, ImageView to make the user-friendly GUI. | 4 |
| 6 | Develop code to demonstrate different ways of Handling various events such as: onClick, onLongClick, over Button, EditText to perform action in Android application at run-time. | 8 |
| 7 | Develop code to demonstrate Event handling of CheckBox and RadioButton selection. | 4 |
| 8 | Develop code to navigate between different activities and pass the data from one activity to another activity using Intent services. | 8 |



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| | | |
|----|--|-----------|
| 9 | Develop Android Application using local database connectivity and performing basic database operations such as:select, insert, update, delete using SQLiteDatabase and SQLiteOpenHelper Classes. | 12 |
| 10 | Develop the code to manage Permission using Manifest file and run time from Activity, and toggle state forWiFi and Bluetooth. | 4 |
| | Total | 56 |

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 byIan G. Clifton
5. Android Developer Fundamental Course by Google.
6. Advance Android Developer Course by Google.

| Sr. No. | CO Statement | Weightage (%) |
|----------------|---|----------------------|
| CO-1 | Demonstrate the Understanding of fundamental of Android Programming. (Understand) | 20 |
| CO-2 | Build their ability to develop software with reasonable complexity on mobile platforms. (Apply) | 30 |
| CO-3 | Discover the life cycles of Activities, Applications, intent and fragments.(Evaluate) | 20 |
| CO-4 | Design the Android apps by using Java Concepts. (Create) | 15 |
| CO-5 | Develop mobile applications using SQLite. | 15 |

Course Outcomes:

List of Open-Source Software/learning website:

Students must refer to the following sites to enhance their learning ability.

Web Resources: -

1. <https://developer.android.com/index.html>
2. <https://www.udemy.com>
3. <http://nptel.ac.in/>
4. <https://www.tutorialspoint.com/android/index.htm>
5. <https://www.raywenderlich.com/category/android>
6. <https://in.udacity.com/course/new-android-fundamentals--ud851>