VEER NARMAD SOUTH GUJARAT UNIVERSITY – SURAT
T Y B. Sc. (Computer Science)
Syllabus for T. Y. B. Sc. Semester-VI
Effective From: June-2022
Course: 605: Fundamentals of Mobile Programming

Course Code	605
Course Title	Fundamentals of Mobile Programming
Credit	2
Teaching per Week	2 Hrs
Minimum weeks per Semester	15 (Including Class work, examination, preparation, holidays etc.)
Last Review / Revision	June, 2019
Purpose of Course	To introduce the most demanding and developing mobile app technology. Fundamentals of android open source technology.
Course Objective	1. To make students understand fundamentals of mobile app technology. 2. To make students understand various inbuilt features of android. 3. To make students understand the android design essentials. 4. To make students understand android user interface design basics .
Pre-requisite	Fundamentals of web technologies and fundamentals related to mobile OS.
Course Out come	CO1. Introduction and History of Android and OHA. CO2. Train students for installing and using the Android Developer's Toolkit such as SDK Manager, Android Virtual Device, Dalvik Debug Monitor Service (DDMS), Android Debug Bridge (ADB) and make them capable to develop, manage and maintain applications (Apps) using Android CO3. Understand the Android Activity Lifecycle stack & program building blocks like activities, services and notifications to use them effectively to develop Android applications. CO4. Explain working with AndroidManifest, and its common settings related to permissions, and xml resources like layout and values and incorporate xml resources with Java code. CO5. Train students to design UI using different layout, use java library for views, widgets, menus, dialogs, graphics, media, storage, SQLiteDatabase etc. to make applications. CO6. Train students to build Android app that perform crud operation on SQLite database. CO7. Train students to prepare and use apk.

Mapping between COs with PSOs		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6

	CO1						
	CO2						
	CO3						
	CO4						
	CO5						
	CO6						
	CO7						

Course Content	**Unit-1 :** 1. Introduction to Android 1.1 History of Mobile Software Development 1.2 The Open Handset Alliance 1.3 The Android Platform, Architecture 1.4 Android SDK 1.5 Building a sample Android application **Unit-2 :** 2. Android Application Design Essentials 1.1 Android Life Cycle 1.2 Android terminologies – Activity, Layout, Emulator, AVD, logcat, Gradle 1.3 Application Context, Activities Intents. 1.4 Android Manifest File and its common settings 1.5 Using Intent Filter, Permissions 1.6 Resource Management in Android. **Unit-3 :** 3. Android User Interface Design Essentials 1.1 UI elements – EditText, TextView, Button, RadioButton, CheckBox, Spinner, ListView, ProgressBar, ToggleButton 1.2 Designing User Interfaces with Layouts 1.2.1 Relative Layouts 1.2.2 Linear Layouts 1.2.3 Table Layouts **Unit-4 :** 4. Preserving and Saving data in Android 4.1 Shared preferences – Creating, Saving and Retrieving data 4.2 Managing data using SQLite – Creating database and performing CRUD operations 4.3 Preparing and using apk
Reference Books:	1. Lauren Darcey and Shane Conder, "Android Wireless Application Development", Pearson Education, 2nd ed. (2011) 2. http://developer.android.com/ **3.**Reto Meier, "Professional Android 2 Application Development", Wiley India Pvt Ltd (2011) 4.Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd(2009)

	5.Sayed Y Hashimi and Satya Komatineni, “Pro Android”, Wiley India Pvt Ltd(2009)
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment. 70% External assessment