GUJARAT TECHNOLOGICAL UNIVERSITY

Master in Computer Application (Integrated MCA)

Year IV – (Semester-VII) (W.E.F. June 2016)

Subject Name: Mobile Programming
Subject Code: 4470611

1. **Learning Objectives :**
   - To be able to understand the process of developing software for the mobile
   - To be able to create mobile applications on the Android Platform
   - To be able to create mobile applications involving data storage in SQLite database.

2. **Prerequisites**: Knowledge of the Core Java Programming, database concepts

3. **Contents :**

Unit No.	Course Content	No Of Lectures
1	**Introduction to ANDROID :** • ANDROID SDK Features, Introduction to Development Features **Basics of ANDROID** • Developing for ANDROID, developing for mobile and embedded devices, ANDROID development tools **Creating Applications using ANDROID** Basics of an ANDROID application, introduction to manifest, externalizing resources, application lifecycle, ANDROID activities	**06**
2	**Building user interfaces** • Introduction to layouts, introduction to fragments, creating new views, introduction to adapters **Intents and broadcast receivers** • Introduction to intents, creating intents and broadcast receivers **Using Internet resources** • Downloading and parsing internet resources, using the download manager, using internet services	**09**
3	**Files, saving state and preferences** • Creating, saving and retrieving shares preferences, including static files as resources, working with the file system **Database and content providers** • Introducing ANDROID databases, content values and cursors, working with SQLite databases, creating content providers, using content providers, native ANDROID content providers	**09**

	Working in background • Introducing services, using background threads, using alarms	
4	**Enhancing user experience** • Introduction and addition of action bar, menus and dialogs, drawables and gradients, custom animations **Hardware sensors** • Sensors and sensor manager, monitoring devices' movement and orientation **Maps and location based services** • Using location based services, selecting a location provider,finding your current location, creating map based activities	08
5	**Audio, video and using the camera** • Playing audio and video, manipulating raw audio, using camera to take pictures, recording video, adding media to media store **Telephony and SMS** • Hardware support for telephony, using telephony, introducing SMS and MMS **Monetizing, promoting and distributing the applications** • Signing and publishing applications, distributing applications, introduction to monetizing applications	07

4. Text Book:

1. Reto Meier Professional ANDROID 4 Application Development, WROX Latest Edition

5. Reference Books:
1. Lauren Darcey and Shane Conder, "Android Wireless Application Development", Pearson Education, 2nd ed. (2011)
2. Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd(2009)
3. Sayed Y Hashimi and Satya Komatineni, "Pro Android", Wiley India Pvt Ltd(2009)

6. Chapter wise Coverage from Text Book:

Unit No	Book#	Chapters
1	1	Chapter 1,2,3
2	1	Chapter 4,5,6
3	1	Chapter 7,8,9
4	1	Chapter 10,11,12,13
5	1	Chapter 15, 17,19

Tools/Technologies to be used:
1 ANDROID Studio [Latest Version]
2. ANDROID Version [Jelly Bean and later]

7. Accomplishments of the student after completing the course :
• Student will visualize the real world mobile application scenario and enables them for development and implementation of mobile applications

8. Suggestions for Lab Sessions :
• Create mobile application