

# GUJARAT TECHNOLOGICAL UNIVERSITY

## Master in Computer Application

Year II – (Semester-IV) (W.E.F. January 2017)

**Subject Name: Android Programming**

**Subject Code: 3640015**

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### 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	<b>Introduction to ANDROID :</b> <ul style="list-style-type: none"><li>• ANDROID SDK Features, Introduction to Development Features</li></ul> <b>Basics of ANDROID</b> <ul style="list-style-type: none"><li>• Developing for ANDROID, developing for mobile and embedded devices, ANDROID development tools</li></ul> <b>Creating Applications using ANDROID</b> Basics of an ANDROID application, introduction to manifest, externalizing resources, application lifecycle, ANDROID activities	06
2	<b>Building user interfaces</b> <ul style="list-style-type: none"><li>• Introduction to layouts, introduction to fragments, creating new views, introduction to adapters</li></ul> <b>Intents and broadcast receivers</b> <ul style="list-style-type: none"><li>• Introduction to intents, creating intents and broadcast receivers</li></ul> <b>Using Internet resources</b> <ul style="list-style-type: none"><li>• Downloading and parsing internet resources, using the download manager, using internet services</li></ul>	09
3	<b>Files, saving state and preferences</b> <ul style="list-style-type: none"><li>• Creating, saving and retrieving shares preferences, including static files as resources, working with the file system</li></ul> <b>Database and content providers</b> <ul style="list-style-type: none"><li>• Introducing ANDROID databases, content values and cursors, working with SQLite databases, creating content providers, using content providers, native ANDROID content providers</li></ul>	09

	<b>Working in background</b> <ul style="list-style-type: none"> <li>Introducing services, using background threads, using alarms</li> </ul>	
<b>4</b>	<b>Enhancing user experience</b> <ul style="list-style-type: none"> <li>Introduction and addition of action bar, menus and dialogs, drawables and gradients, custom animations</li> </ul> <b>Hardware sensors</b> <ul style="list-style-type: none"> <li>Sensors and sensor manager, monitoring devices' movement and orientation</li> </ul> <b>Maps and location based services</b> <ul style="list-style-type: none"> <li>Using location based services, selecting a location provider, finding your current location, creating map based activities</li> </ul>	<b>08</b>
<b>5</b>	<b>Audio, video and using the camera</b> <ul style="list-style-type: none"> <li>Playing audio and video, manipulating raw audio, using camera to take pictures, recording video, adding media to media store</li> </ul> <b>Telephony and SMS</b> <ul style="list-style-type: none"> <li>Hardware support for telephony, using telephony, introducing SMS and MMS</li> </ul> <b>Monetizing, promoting and distributing the applications</b> <ul style="list-style-type: none"> <li>Signing and publishing applications, distributing applications, introduction to monetizing applications</li> </ul>	<b>07</b>

#### 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