



# MANGALORE UNIVERSITY

## DEPARTMENT OF M.Sc. COMPUTER SCIENCE

### MASTER OF COMPUTER APPLICATIONS (MCA) PROGRAMME

<b>MCAH 503: ANDROID APPLICATION DEVELOPMENT</b>		
<b>Hours/Week: 4</b>		<b>I.A. Marks: 30</b>
<b>Credits : 4</b>		<b>Exams. Marks: 70</b>
<b><u>Course Outcomes:</u></b>		
<p>CO1: By the end of the course, student will be able to write simple GUI applications</p> <p>CO2: Use built-in widgets and components</p> <p>CO3: Work with the database to store data locally, and much more.</p> <p>CO4: Students will gain fundamental knowledge essential to not only Android development, but mobile development in general.</p>		
<b>UNIT-I</b>		<b>12 Hours</b>
<p><b>Introduction to Android Operating System:</b> Android OS design and Features – Android development framework, SDK features, Installing and running applications on Eclipse platform, Creating AVDs, Types of Android applications, Best practices in Android programming, Android tools Android application components – Android Manifest file, Externalizing resources like values, themes, layouts, Menus etc, Resources for different devices and languages, Runtime Configuration Changes Android Application Lifecycle – Activities, Activity lifecycle, activity states, monitoring state changes.</p>		
<b>UNIT-II</b>		<b>12 Hours</b>
<p><b>Android User Interface:</b> Measurements – Device and pixel density independent measuring units Layouts – Linear, Relative, Grid and Table Layouts User Interface (UI) Components – Editable and non editable Text Views, Buttons, Radio and Toggle Buttons, Checkboxes, Spinners, Dialog and pickers Event Handling – Handling clicks or changes of various UI components Fragments – Creating fragments, Lifecycle of fragments, Fragment states, Adding fragments to Activity, adding, removing and replacing fragments with fragment transactions, interfacing between fragments and Activities, Multi-screen Activities</p>		
<b>UNIT-III</b>		<b>12 Hours</b>
<p><b>Intents and Broadcasts:</b> Intent – Using intents to launch Activities, Explicitly starting new Activity, Implicit Intents, Passing data to Intents, Getting results from Activities, Native Actions, using Intent to dial a number or to send SMS Broadcast Receivers – Using Intent filters to service implicit Intents, Resolving Intent filters, finding and using Intents received within an Activity Notifications – Creating and Displaying notifications, Displaying Toasts.</p>		

	<b>UNIT-IV</b>	<b>12 Hours</b>
<p><b>Persistent Storage: Files</b> – Using application specific folders and files, creating files, reading data from files, listing contents of a directory Shared Preferences – Creating shared preferences, saving and retrieving data using Shared Preference Database – Introduction to SQLite database, creating and opening a database, creating tables, inserting retrieving and deleting data, Registering Content Providers, Using content Providers (insert, delete, retrieve and update). Advanced Topics: Alarms – Creating and using alarms Using Internet Resources – Connecting to internet resource, using download manager Location Based Services – Finding Current Location and showing location on the Map, updating location.</p>		
<p><b>REFERENCE BOOKS</b></p> <ol style="list-style-type: none"> <li>1. RetoMeier,,Professional Android 4 Application Development, Wiley India, (Wrox) , 2012.</li> <li>2. James C Sheusi,,Android Application Development for Java Programmers, Cengage Learning, 2013</li> <li>3. Wei-MengLee,,Beginning Android 4 Application Development, Wiley India (Wrox), 2013</li> </ol>		

