

MANGALORE UNIVERSITY

DEPARTMENT OF M.Sc. COMPUTER SCIENCE

MASTER OF COMPUTER APPLICATIONS (MCA) PROGRAMME

MCAH 503:ANDROID APPLICATION DEVELOPMENT		
Hours/Week: 4 Credits : 4		I.A. Marks: 30 Exams. Marks: 70
<u>Course Outcomes:</u> CO1: By the end of the course, student will be able to write simple GUI applications CO2: Use built-in widgets and components CO3: Work with the database to store data locally, and much more. CO4: Students will gain fundamental knowledge essential to not only Android development, but mobile development in general.		
	UNIT-I	12 Hours
Introduction to Android Operating System: 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.		
	UNIT-II	12 Hours
Android User Interface: 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		
	UNIT-III	12 Hours
Intents and Broadcasts: 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.		

	UNIT-IV	12 Hours
Persistent Storage: Files – 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.		
REFERENCE BOOKS 1. RetoMeier,,Professional Android 4 Application Development, Wiley India, (Wrox) , 2012. 2. James C Sheusi,,Android Application Development for Java Programmers, Cengage Learning, 2013 3. Wei-MengLee,,Beginning Android 4 Application Development, Wiley India (Wrox), 2013		

