Krantiguru Shyamji Krishna Verma Kachchh University
Master of Science (Information Technology)
Semester: I

Paper Code: CCCS102	**Total Credit :** 4
Title of Paper: Mobile Computing	**Total Marks :** 70 **Time :** 3 Hrs

Unit	Description	Weighting
I	**Introduction To Mobile Apps:** Why we Need Mobile Apps, Different Kinds of Mobile Apps, Briefly about Android **Introduction Android:** History Behind Android Development, What is Android?, Pre-requisites to learn Android, Brief Discussion on Java Programming **Android Architecture:** Overview of Android Stack, Android Features, Introduction to OS layers **Deep Overview in Android Stack:** Linux Kernel, Libraries, Android Runtime, Application Framework, Dalvik VM **Installing Android Machine:** Configuring Android Stack, Creating Eclipse Environment, Integrating Android with Eclipse IDE, Exploring Eclipse IDE	
II	**Creating First Android Application:** Creating Android Project, Debugging Application through DDMS, Setting up environment, AVD Creation, Executing Project on Android Screen **Android Components:** Activities, Services, Broadcast Receivers, Content Providers **Hello World App:** Creating your first project, The manifest file, Layout resource, Running your app on Emulator **Building UI with Activities:** Activities, Views, layouts and Common UI components, Creating UI through code and XML, Activity lifecycle, Intents, Communicating data among Activities **Advanced UI:** Selection components (GridView, ListView, Spinner), Adapters, Custom Adapters, Complex UI components, Building UI for performance, Menus, Creating custom and compound Views	
III	**Notifications:** Toast, Custom Toast, Dialogs, Status bar Notifications **Styles And Themes:** Creating and Applying simple Style, Inheriting built-in Style and User defined style, Using Styles as themes **Resources and Assets:** Android Resource, Using resources in XML and code, Localization, Handling Runtime configuration change **Intent, Intent Filters and Broadcast Receivers:** Role of filters, Intent-matching rules, Filters in your manifest, Filters in dynamic Broadcast Receivers, Creating Broadcast receiver **Receiving System Broadcast:** Understanding Broadcast action, category and data, Registering Broadcast receiver through code and through XML, Sending Broadcast	
IV	**Data Storage:** Shared Preferences, Android File System, Internal storage, External storage, SQLite **Introducing SQLite:** SQLiteOpenHelper and creating a database, Opening and closing a database, Working with cursors Inserts, updates, and deletes **Content Providers:** Accessing built in content providers, Content provider MIME types, Searching for content, Adding, changing, and removing content, Creating content provider, Working with content files **Services:** Overview of services in Android, Implementing a Service, Service lifecycle, Inter Process Communication (AIDL Services) **Multimedia in Android:** Drawing and Working with Animation, Multimedia Supported audio formats, Simple media playback,	

	Supported video formats, Simple video playback **Location Based Services and Google Maps:** Using Location Based Services, Finding current location and listening for changes in location, Proximity alerts **Working with Google Maps:** Showing google map in an Activity, Map Overlays, Itemized overlays, Geocoder, Displaying route on map	
V	**Web Services and WebView:** Consuming web services, Receiving HTTP Response (XML, JSON) Parsing JSON and XML, Using We, View **Sensors:** How Sensors work, Using Orientation and Accelerometer sensors, Best practices for performance **WiFi:** Monitoring and managing Internet connectivity, Managing active connections, Managing WiFi networks **Telephony Services:** Making calls, Monitoring data connectivity and activity, Accessing phone properties and status, Controlling the phone, Sending messages **Camera:** Taking pictures, Media Recorder, Rendering previews **Bluetooth:** Controlling local Bluetooth device, Discovering and bonding with Bluetooth devices, Managing Bluetooth connections, Communicating with Bluetooth **Android Application Deployment:** Android Application Deployment on Android Market	

Basic Text & Reference Books :-

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

Chapter wise Coverage from Text Book:

Chapters: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 29

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Unit	**Description**		**Total Marks**
I	Q.1 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	14
	Q.1 (B) Medium / Long Questions. (With Internal Option)	08	
II	Q.2 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	14
	Q.2 (B) Medium / Long Questions. (With Internal Option)	08	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.3 (B) Medium / Long Questions. (With Internal Option)	08	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	
V	Q.5 (A) Short / Medium Questions (With Internal Option)	06	14
	Q.5 (B) Medium / Long Questions. (With Internal Option)	08	