



# SYLLABUS

<b>Course Title</b>	<b>Mobile Application Development using Android</b>
<b>Course Code</b>	<b>BCA612</b>
<b>Course Credit</b>	Theory(Hrs) : 5
	Practical(Hrs) : 4
	Tutorial(Hrs) : 0
	Credits : 7

## Course Objectives

The objectives of the course are:

- To gain knowledge about Android development environment, operating system and architecture
- To understand the internal working of android operating system to build an android application
- To understand different user interface screen elements & layouts to design an android application
- To understand android application development cycle and enables to independently create new android application
- To develop android applications with database interaction and website integration.
- To deploy android application in actual device

## Detailed Syllabus

<b>Sr. No.</b>	<b>Name of chapter &amp; details</b>	<b>Hours Allotted</b>
<b>Section – I</b>		
<b>1</b>	<b>Mobile Application Development</b> Introduction, advantages, difference between mobile application and Web application	<b>02</b>

<b>2</b>	<b>Android Operating System</b> Introduction, Android Versions with Features, Android Architecture, OHA	<b>03</b>
<b>3</b>	<b>Android Development Environment</b> Eclipse IDE, Android SDK, Android Development Tools, Android Virtual Devices, Directory Structure of Android Application, Anatomy of Android Application, AndroidManifest file	<b>04</b>
<b>4</b>	<b>Android Terminologies &amp; Resource handling</b> <b>Terminologies:</b> Context, Activity, Intent, Service, Broadcast <b>Resources:</b> Working with different types of Resources	<b>08</b>
<b>5</b>	<b>Android User Interface Elements</b> <b>Layouts:</b> Linear Layout, Absolute Layout, Frame Layout, Relative Layout, Table Layout, Creation of Layout Programmatically <b>UI Screen Elements:</b> TextView, Button, EditText, CheckBox, RadioButton & RadioGroup, AutoCompleteTextView, Spinner, ListView, Expandable ListView, ImageView, Seekbar, ProgressBar, ScrollView, WebView <b>Animation:</b> Tweened Animation, Frame by Frame Animation	<b>11</b>
<b>Section – II</b>		
<b>6</b>	<b>Android Storage Techniques</b> Shared Preferences, Files & Directories, SQLite Database Connectivity & Operations, Sharing Data Between Application Using Content Providers	<b>12</b>
<b>7</b>	<b>Android APIs</b> Networking API, Telephony API, Web API	<b>07</b>
<b>8</b>	<b>Web Application Integration Techniques</b> Introduction, Use of JSON & XML Parsing, Difference between JSON & XML Parsing, XML Parsing, JSON Parsing	<b>08</b>
<b>9</b>	<b>Deployment of Application</b> Publish Android Application in Android Market	<b>01</b>
<b>Instructional Method &amp; Pedagogy</b>		
<ul style="list-style-type: none"> <li>• Lectures will be conducted on the basis of Classroom Response Systems with the use of multimedia projector and black board.</li> <li>• Assignments based on course contents will be given at the end of each unit/topic</li> </ul>		

and will be evaluated at regular interval.

- Experiments will be based on the practical curriculum and will be evaluated at regular interval.
- Students will be guided to develop the real-world applications with the advanced concepts of application development.

### **Course Learning Outcomes:**

On the completion of the course, students will be able to:

- **Acquire** an insight into concepts of android development terminologies, environment and architecture
- **Design** an android application user interface and layouts
- **Develop** robust android applications with database interaction and website integration
- **Gain** knowledge of deployment of application in actual android device

### **Text books:**

- Title: Android Wireless Application Development, 2<sup>nd</sup> Edition, Pearson Education, Author(s): Lauren Darcey and Shane Conder

### **Reference Books:**

- Title: Professional Android 4 Application Development, John Wiley & Sons  
Author(s): Reto Meier
- Title: Beginning Android, Apress, 2011  
Author(s): Mark L Murphy
- Title: Android, Vikas Publishing House Pvt Ltd.  
Author(s): Prasanna Kumar Dixit

### **Additional Resources:**

- <http://www.vogella.com/articles/Android/article.html>
- <http://androinica.com/category/androidguide/>
- <http://www.tutorialspoint.com/>
- <http://www.learn-android-easily.com/>
- <http://www.javatpoint.com/android-tutorial>