

<b>Branch: B.Sc.(IT)</b>	<b>Semester-V</b>
<b>Subject Code: 5101</b>	<b>Lecture: 04</b> <b>Credit: 04</b>
<b>Course Opted</b>	<b>Core Course – 15 (Theory)</b>
<b>Subject Title</b>	<b>MOBILE APPLICATION DEVELOPMENT</b>

**Course Objectives:**

- To facilitate students to understand android SDK
- To help students to gain a basic understanding of Android application development
- To inculcate working knowledge of Android Studio development tool

**Course Outcomes:**

At the end of this course, students will be able to:

- Identify various concepts of mobile programming that make it unique from programming for other platforms,
- Critique mobile applications on their design pros and cons,
- Utilize rapid prototyping techniques to design and develop sophisticated mobile interfaces,
- Program mobile applications for the Android operating system that use basic and advanced phone features, and
- Deploy applications to the Android marketplace for distribution.

<b>Modules</b>	<b>Sr. No.</b>	<b>Topic and Details</b>	<b>No of Lectures Assigned</b>	<b>Marks Weightage %</b>
UNIT-I	1	<b>Introduction:</b> What is Android, Android versions and its feature set The various Android devices on the market, The Android Market application store, Android Development Environment – System Requirements, Android SDK, Installing Java, and ADT bundle – Eclipse Integrated Development Environment (IDE), Creating Android Virtual Devices (AVDs)	3	6
	2	<b>Android Architecture Overview and Creating an Example Android Application:</b> The Android Software Stack, The Linux Kernel, Android Runtime – Dalvik Virtual Machine, Android Runtime – Core Libraries, Dalvik VM Specific Libraries, Java Interoperability Libraries, Android Libraries, Application Framework, Creating a New Android Project ,Defining the Project Name and SDK Settings, Project Configuration Settings, Configuring the Launcher Icon, Creating an Activity, Running the Application in the AVD, Stopping a Running Application, Modifying the Example Application, Reviewing the Layout and Resource Files	3	6
	3	<b>Android Software Development Platform:</b> Understanding Java SE and the Dalvik Virtual Machine , The Directory Structure of an Android Project , Common Default Resources Folders , The	4	8

		Values Folder , Leveraging Android XML, Screen Sizes , Launching Your Application: The AndroidManifest.xml File , Creating Your First Android Application		
UNIT-II	4	<b>Android Framework Overview:</b> Android, Application Components, Android Activities: Defining the UI, Android Services: Processing in the Background, Broadcast Receivers: Announcements and Notifications Content Providers: Data Management, Android Intent Objects: Messaging for Components, Android Manifest XML: Declaring Your Components	4	8
	5	<b>Understanding Android Views,</b> View Groups and Layouts: Designing for Different Android Devices, Views and View Groups, Android Layout Managers, The View Hierarchy, Designing an Android User Interface using the Graphical Layout Tool	4	8
	6	<b>Graphical User Interface</b> Screen with views: Displaying Text with TextView, Retrieving Data from Users, Using Buttons, Check Boxes and Radio Groups, Getting Dates and Times from Users, Using Indicators to Display Data to Users, Adjusting Progress with SeekBar, Working with Menus using views	4	8
UNIT-III	7	<b>Displaying Pictures:</b> Gallery, ImageSwitcher, GridView, and ImageView views to display images, Creating Animation	4	8
	8	<b>Files, Content Providers, and Databases:</b> Saving and Loading Files, SQLite Databases, Android Database Design, Exposing Access to a Data Source through a Content Provider, Content Provider Registration, Native Content Providers	4	8
	9	<b>Intents and Intent Filters:</b> Intent Overview, Implicit Intents, Creating the Implicit Intent Example Project, Explicit Intents, Creating the Explicit Intent Example Application, Intents with Activities, Intents with Broadcast Receivers	5	10
UNIT-IV	10	<b>A Basic Overview of Android Threads and Thread handlers:</b> An Overview of Threads, The Application Main Thread, Thread Handlers, A Basic Threading Example, Creating a New Thread, Implementing a Thread Handler, Passing a Message to the Handler	5	10
	11	<b>Messaging and Location-Based Services:</b> Sending SMS Messages Programmatically, Getting Feedback after Sending the Message Sending SMS Messages Using Intent Receiving, sending email, Introduction to location-based service, configuring the Android Emulator for Location-Based Services, Geocoding and Map-Based Activities	5	10
	12	<b>Multimedia: Audio, Video, Camera:</b> Playing Audio and Video, Recording Audio and Video, Using the Camera to Take and Process Pictures	5	10
<b>TOTAL</b>			<b>50</b>	<b>100</b>

**Text Books:**

1. Lauren Darcey and Shane Conder, "Android Wireless Application Development", Pearson Education, 2nd ed. (2011)

**Reference Books:**

1. Reto Meier, "Professional Android 2 Application Development", Wiley India Pvt Ltd
2. Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd
3. Android Application Development All in one for Dummies by Barry Burd, Edition: I

<b>Branch: B.Sc.(IT)</b>	<b>Semester-V</b>
<b>Subject Code: 5201</b>	<b>Lecture: 04 Credit: 04</b>
<b>Course Opted</b>	<b>Core Course – 15 (Practical)</b>
<b>Subject Title</b>	<b>MOBILE APPLICATION DEVELOPMENT -LAB</b>

**Course Objectives:**

- To facilitate students to understand android SDK
- To help students to gain a basic understanding of Android application development
- To inculcate working knowledge of Android Studio development tool

**Course Outcomes:**

At the end of this course, students will be able to:

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- Program mobile applications for the Android operating system that use basic and advanced phone features, and
- Deploy applications to the Android marketplace for distribution.

Modules	Sr. No.	Topic and Details	No of Lectures Assigned	Marks Weightage %
UNIT-I	1	<b>Introduction:</b> Installing Java, and ADT bundle – Eclipse Integrated Development Environment (IDE), Creating Android Virtual Devices (AVDs)	2	4
	2	<b>Android Architecture Overview and Creating an Example Android Application:</b> Creating a New Android Project, Defining the Project Name and SDK Settings, Project Configuration Settings, Configuring the Launcher Icon, Creating an Activity, Running the Application in the AVD, Stopping a Running Application, Modifying the Example Application, Reviewing the Layout and Resource Files	2	4
	3	<b>Android Software Development Platform:</b> Creating Your First Android Application Developing a billing app in android.	2	4