

Winter FDP on Android Programming & Applications (07 – 12 March, 2022)

Jointly organized by: Electronics & ICT Academies at- IIT Guwahati, NIT Patna, MNIT Jaipur, IIITDM Jabalpur, IIT Roorkee and NIT Warangal.

Lecture	Topics	Tentative Speakers	Institute
	MOBILE APP DEVELOPMENT INTRODUCTION		
Lecture 1	JAVA Concepts <ul style="list-style-type: none"> • OOPs Concepts • Exception handling • JVM & .jar file extension • Inheritance in detail • Packages & interfaces • Multi-threading (Thread class & Runnable Interface) 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 2	SQL <ul style="list-style-type: none"> • DML & DDL Queries in brief 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 3	Introduction to Android <ul style="list-style-type: none"> • Setting up development environment • Dalvik Virtual Machine & .apk file extension • Fundamentals -Basic Building blocks- Activities, Services, Broadcast Receivers & Content providers • UI Components - Views & notifications • Components for communication -Intents & Intent Filters • Android API levels (versions & version names) 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
	ANDROID SOFTWARE DEVELOPMENT KIT (SDK)		
Lecture 4	Application Structure (in detail) <ul style="list-style-type: none"> • AndroidManifest.xml • Resources & R.java • Layouts & Drawable Resources • First sample Application Course • Uses-permission & uses-sdk • Assets • Activities and Activity lifecycle 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 5	Emulator-Android Virtual Device <ul style="list-style-type: none"> • Launching emulator • Logcat usage • Creating your first project, The manifest file Layout resource, Running your app on Emulator • Second App - (switching between activities) • Develop an app for demonstrating the communication between Intents • Debugging in Android Application • Hello World App 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
	INTERFACE USABILITY		
Lecture 6	Basic UI design <ul style="list-style-type: none"> • Form widgets • Text Fields • Layouts • [dip, dp, sip, sp] versus px 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 7	<ul style="list-style-type: none"> • Preferences • Shared Preferences 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 8	Menu <ul style="list-style-type: none"> • Option menu • menu from xml • Context menu • menu via code • Sub menu 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 9	Intents (in detail) <ul style="list-style-type: none"> • Explicit Intents • Implicit intents 	Shri Abhishek Bhargava	Ritvij Bharat Private Limited

Lecture 10	UI design • Time and Date • Alert Dialogs & Toast • Images and media • Popup • Composite	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
	ANDROID APPLICATION DEVELOPMENT		
Lecture 11	Styles & Themes • styles.xml • drawable resources for shapes, gradients (selectors) • Style attribute in layout file • Applying themes via code and manifest file	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 12	Linkify • Web URLs, Email address, text, map address, phone, Open Web Browser	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 13	Adapters and Widgtes • Adapters - • a. ArrayAdapter • b. BaseAdapters • Recycler View • Gallery using adapters	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 14	Content Providers • SQLite Programming • SQLiteOpenHelper • SQLiteDatabase - Getting Data from Database	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 15	Toast	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 16	Camera • Taking pictures • Media Recorder • Rendering previews	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 17	Threads • Threads running on UI thread (runOnUiThread) • Worker thread • Handlers & Runnable • AsyncTask (in detail)	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 18	Services • Overview of services in Android • Implementing a Service • Service lifecycle	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 19	Multimedia in Android • Simple video playback	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 20	Location Based Services and Google Maps • Using Location Based Services • Finding current location and listening for changes in location • Working with Google Maps • Showing google map in an Activity	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 21	Sensors • How Sensors work • Best practices for performance • Using Orientation and Accelerometer sensors	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 22	Telephony Services • Making calls • Sending messages	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
	ANDROID APPLICATION DEPLOYMENT	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 23	Android Application Deployment in Android Market	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 24	Json Parsing in Application	Shri Abhishek Bhargava	Ritvij Bharat Private Limited
Lecture 25	Monitisation of Android App - Adding Advertisement (Admob)	Shri Abhishek Bhargava	Ritvij Bharat Private Limited

Winter FDP on “Android Programming & Applications” from 07 – 12 March, 2022

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Detailed Schedule of the Programme

***Note: Inauguration on 07th March, 2022 at 09.30 am to 10:00 am.**

Closing Ceremony on 12th March at 05.00 pm to 05:30 pm

***Break Timing:- Lunch Break: 01:00 pm to 01:30 pm**

***Note: 1) Theory Lectures = 21 hrs**

2) Hands – on /Quiz Test = 19 hrs

Date/Time	10:00 am to 11:00 am		11:00 am to 12:00 noon	12:00 noon to 01:00 pm	01:30 pm to 02:30 pm	02:30 pm to 03:30 pm	03:30 pm to 04:30 pm	04:30 pm to 05:00 pm	
	09:30 am to 10:00 am	10:00 am to 11:00 am							
07-03-2022 Monday	Inauguration	Lecture 1			Lecture 2		Lecture 2		
08-03-2022 Tuesday	Lecture 3					Lecture 4			
09-03-2022 Wednesday	Lecture 5			Lecture 6	Lecture 7	Lecture 8	Lecture 9	Quiz 1	
10-03-2022 Thursday	Lecture 10		Lecture 11	Lecture 11	Lecture 12	Lecture 13	Lecture 14		
11-03-2022 Friday	Lecture 15		Lecture 16	Lecture 17	Lecture 18	Lecture 19	Lecture 20	Quiz 2	
12-03-2022 Saturday	Lecture 21			Lecture 22	Lecture 23		Lecture 24	Lecture 25	Closing Ceremony