

Online FDP on Android App Development Using Java (23rd October, 2021 – 1st November, 2021)

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

Course Pre-requisites: Participants must be equipped with PCs/Laptops and Internet (Min 2 Mbps dedicated).

Day-1-10 (From 10:00 am onwards): Each day lectures will be of 05 Hrs. excluding 60 mins (01 no.) breaks in between.

Date/Time	9.30 am-10:00 am	10.00 am-11:00 am	11:00 am-01:00 pm	01:00 pm-02:00 pm	02:00 pm to 04.00 pm		
23-10-2020 (Saturday)	Inauguration and Introduction with all remote centres	JAVA Concepts • OOPs Concepts • Inheritance in detail • Exception handling • Packages & interfaces • JVM & .jar file extension • Multi-threading (Thread class & Runnable Interface)		Break (01 Hour)	SQL • DML & DDL Queries in brief		
Date/Time	10:00 am - 11:00 am	11:00 am - 01:00 pm		01:00 pm-02:00 pm	02:00 pm to 04.00 pm		
25-10-2020 (Monday)	DML & DDL Queries in brief	Introduction to Android • Setting up development environment • Dalvik Virtual Machine & .apk file extension • Fundamentals - • Basic Building blocks - Activities, Services, Broadcast Receivers & Content providers		Break (01 Hour)	UI Components - Views & notifications • Components for communication -Intents & Intent Filters • Android API levels (versions & version names)		
Date/Time	10:00 am - 12:00 pm	12:00 pm - 01:00 pm		01:00 pm-02:00 pm	02:00 pm to 04.00 pm		
26-10-2021 (Tuesday)	Application Structure (in detail) • AndroidManifest.xml • Uses-permission & uses-sdk • Resources & R.java • Assets • Layouts & Drawable Resources • Activities and Activity lifecycle • First sample Application Course	Emulator-Android Virtual Device • Launching emulator • Debugging in Android Application		Break (01 Hour)	Logcat usage • Introduction to DDMS • Hello World App • Creating your first project The manifest file Layout resource Running your app on Emulator		
Date/Time	10:00 am - 11:00 am	11:00 am - 01:00 pm		01:00 pm-02:00 pm	02:00 pm to 02.30 pm	02:30 pm to 03.30 pm	03.30 pm-04.00 pm
27-10-2021 (Wednesday)	Second App - (switching between activities) • Develop an app for demonstrating the communication between Intents	Basic UI design • Form widgets • Text Fields • Layouts • [dip, dp, sip, sp] versus px • Examples		Break (01 Hour)	Preferences • Shared Preferences • Examples	Menu • Option menu • Context menu • Sub menu • menu from xml • menu via code • Examples	Quiz 1
Date/Time	10:00 am - 11:00 am	11:00 am - 12:00 pm	12:00 pm - 01:00 pm	01:00 pm-02:00 pm	02:00 pm to 03.00 pm		03:00 pm to 04.00 pm
28-10-2021 (Thursday)	Intents (in detail) • Explicit Intents • Implicit intents • Examples	UI design • Time and Date • Images and media • Composite • Alert Dialogs & Toast • Popup • Examples	Styles & Themes • styles.xml • drawable resources for shapes, gradients (selectors)	Break (01 Hour)	Style attribute in layout file • Applying themes via code and manifest file • Examples		Linkify • Web URLs, Email address, text, map address, phone, Open Web Browser

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29-10-2020 (Friday)	Adapters and Widgtes • Adapters - a. ArrayAdapters, b. BaseAdapters • Recycler View • Gallery using adapters	Content Providers • SQLite Programming • SQLiteOpenHelper • SQLiteDatabase - Getting Data from Database	Break (01 Hour)	Toast	Camera • Taking pictures • Media Recorder • Rendering previews	Quiz 2	
Date/Time	10:00 am - 11:00 am	11:00 am - 12:00 pm	12:00 pm - 01:00 pm	01:00 pm-02:00 pm	02:00 pm to 03.00 pm	03:00 pm to 04.00 pm	
30-10-2020 (Saturday)	Threads • Threads running on UI thread (runOnUiThread) • Worker thread • Handlers & Runnable • AsynTask (in detail) • Examples	Services • Overview of services in Android • Implementing a Service • Service lifecycle	Multimedia in Android • Simple video playback	Break (01 Hour)	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	Sensors • How Sensors work • Using Orientation and Accelerometer sensors • Best practices for performance	
Date/Time	10:00 am - 11:00 am	11:00 am - 12:30 pm	12:30 am - 01:00 pm	01:00 pm-02:00 pm	02:00 pm to 03.00 pm	03:00 pm to 03.30 pm	03.30 pm-04.00 pm
01-11-2020 (Monday)	Telephony Services • Making calls • Sending messages	Android Application Deployment on Android Market	Json Parsing in Application	Break (01 Hour)	Json Parsing in Application	Adding Advertisement (Admob) in Android App for making money through App.	Valedictory

*Note: All the lectures and hands-on sessions will be online using Cisco Webex Platform.

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Hands-on Detail:

Complete session is 90% coding based hands-on. Practical sessions are subjected to the topics undertaken in the respective hours.

Mini Projects: Calculator, Music Player, Database Management, Park the car on Google Maps