

# **G. H. RAISONI INSTITUTE OF BUSINESS MANAGEMENT**

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## **CERTIFICATE COURSE IN ANDROID**

### **OVERVIEW**

Today Android has grown to become the biggest Operating System for smartphones supporting devices from scores of manufactures making it a truly global phenomenon. Taking this Certificate Course and mastering the art of Android App Development can thrust students into the big league where they can command big salaries and further grow their career in one of the most exciting technology platforms available today. The goal of Android App Development Training course is to provide Students easy and complete understanding of the Android **App Development** with our Class Room Training. The Android Training course provides a series of sessions & Lab Assignments which introduce and explain Android features that are used to code, debug and deploy **Mobile Applications**

### **Objectives of the program:-**

By completing the course a student should be able to:

1. Students understand the operation of the application, application lifecycle, configuration files, intents, and activities.
2. The candidates get a better understanding of the UI - components, layouts, event handling, and screen orientation.
3. Students also develop a working knowledge of the custom UI elements and positioning.
4. Build and deploy his/ her Android application.

**Duration of the Program:** 6 Months (Registration is valid till one academic year)

### **Eligibility Criteria for students:**

Anybody who is beginners without programming knowledge interested in Android Application Development can take this Training. A basic knowledge of Java or any object oriented programming can help.

### **Teaching Hours required & Medium of Instructions:**

48 Hours (4 Credit points) and the medium of instruction is English.

**Staff/Resource Trainer Required:** In-house Faculty Members and External Experts.

### **Scheme of Examinations:**

1. For this Certification course examination of 100 Marks will be conducted. The pattern of question paper will be online Objective Test, containing multiple choice questions (MCQ) in English.
2. A student has to score minimum 50% of marks to qualify the Certification course.

### **Program Outcome:-**


Upon completion of the course students should be able to:

- Install and configure Android application development tools.
- Design and develop user Interfaces for the Android platform.
- Save state information across important operating system events.
- Apply Java programming concepts to Android application development.
- Build and deploy various Mobile Apps.



## **Course Structure:**

### **Certificate Course in Android**

- 1. Introduction to Android** **(10 Hours)**
    - 1.1 Build your first app
    - 1.2 Create an Android project
    - 1.3 How to run app
    - 1.4 Build a simple user interface
    - 1.5 Start another activity
    - 1.6 App Fundamentals
    - 1.7 App Resources
    - 1.8 App Manifest & Permissions
  
  - 2. Activities** **(10 Hours)**
    - 2.1 Introduction to Activities
    - 2.2 Activity Life Cycle
    - 2.3 State Changes
    - 2.4 Tasks & back stack
    - 2.5 Bundles
    - 2.6 Fragments
    - 2.7 Handling App links
    - 2.8 Intents & Filters
  
  - 3. User Interface & Navigation** **(10 Hours)**
    - 3.1 Layouts
    - 3.2 Look & Feel
    - 3.3 Notifications
    - 3.4 Adding the app bar
    - 3.5 Slide between fragments & view pager
    - 3.6 Toasts
    - 3.7 Pop up messages
    - 3.8 Dialogs
    - 3.9 Menus
    - 3.10 Settings
  
  - 4. Multimedia And Connectivity** **(10 Hours)**
    - 4.1 Images & Graphics
    - 4.2 Audio & Video
    - 4.3 User Location
    - 4.4 Camera
    - 4.5 Perform Network operations
    - 4.6 Transmit data using volley
  
  - 5. Data in Local Database** **(08 Hours)**
    - 5.1 Define data using entities
    - 5.2 Accessing data using DAO
    - 5.3 Performing CRUD operations
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## **Practical on Android**

1. Installation and setup of java development kit (JDK), setup android SDK, setup eclipse IDE, setup android development tools (ADT) plugins, create android virtual device.
2. Create "Hello World" application. That will display "Hello World" in the middle of the screen using TextView Widget in the red color.
3. Create Registration page to demonstration of Basic widgets available in android.
4. Create sample application with login module.(Check username and password) On successful login, Change TextView "Login Successful". And on failing login, alert user using Toast "Login fail".
5. Create an application for demonstration of Scroll view in android.
6. Create login application where you will have to validate username and passwords till the username and password is not validated, login button should remain disabled.
7. Create local database and fetch data from database to android app.
8. Insert, update and delete data from database through Mobile App.
9. Any two small projects.

## **Reference Books:**

- 1) Mobile Communications J. Schiller, Addison Wesley Publication ISBN 0 321 12381 6
- 2) GSM System Engineering A.Mehrotra, Addison Wesley Publication SBN 0-201-42293-X.
- 3) Understanding WAP M. Heijden, M. Taylor, Artech House Publication SBN 0470849061
- 4) Professional Android™ Application Development Wrox Publications, Reto Meier ISBN: 978-0-47034471-2