SYLLABUS

For

Value Added Course

Certificate Course in Android Development

Offered by
Department of Computer Applications

TECNIA INSTITUTE OF ADVANCED STUDIES
NAAC ACCREDITED GRADE 'A' INSTITUTE
3 PSP, Institutional Area, Sector – 14, Rohini, Delhi - 110085

COURSE MODULE

Code No.: MCA-601 **Duration: 30 Hrs**
Credits: 2

Paper: Certificate Course in Android Development

INSTRUCTIONS TO PAPER SETTERS:

1. A quiz will be conducted consisting of 20 questions, containing 5 questions from each unit, covering entire syllabus.
2. A practical must be conducted based on the topics covered in the entire syllabus to evaluate analytical/technical skills of candidate.

OBJECTIVE: *The purpose of this course is to build a skill on mobile app development starting from basics . This course will help students with great idea and some mobile development skills to use it as a career choice as Android is on the rise and almost every industry in India uses Android apps. The course will make students able to creating robust mobile applications and learn how to integrate them with other services. It will help students in creating intuitive, reliable mobile apps using the android services and components and creating a seamless user interface that works with different mobile screens.*

PRE-REQUISITE:

1. Basics of Java Programming
2. Basics of Kotlin Programming

Unit 1

Introduction to Android Development-Architecture of Android operating system, key components of Android applications.

Java Programming for Android–Developing Android applications using Java or Kotlin programming languages.

User Interface Design and Layouts-Designing user interfaces (UI) for Android applications using XML layouts, using Android Studio visual editor. [8 Hrs]

Unit 2

Activities and Intents-Implementing different types of user interactions (button clicks, gestures), input validation.

Fragments-Utilizing various Android components, activities, fragments, services, and content providers, building functional and interactive applications.

Persistence and Data Storage-Accessing and manipulating data from external sources such as databases, web services, and content providers. [6 Hrs]

Unit 3

Networking and Web Services-Incorporating multimedia elements (images, audio, and video) into Android applications.

Background Processing and Multithreading-Understanding and implementing principles of responsive design, supporting multiple screen sizes and device orientations.

Notifications and Broadcasts-Handling background processing and multitasking, use of threading and asynchronous programming techniques. [9 Hrs]

Unit 4

Advanced Topics-Utilizing Android's notification system, delivering timely updates and alerts to users.

Testing and Deployment-Integrating device hardware features, camera, sensors. [7 Hrs]

Text Books

1. "Android Application Development, Black Book", Pradeep Kothari, Kogent Learning Solutions Inc., 2014.
2. "Mastering Android Application Development", Antonio Pachon, Packt, 1st Edition, 2015.
3. "Mastering Android Development with Kotlin", Miloš Vasić, Packt, 1st Edition, 2017.

References

1. "Android Application Development All-In-One for Dummies", Barry Burd, Wiley, 2nd Edition, 2015.
2. "Android Application Development for JAVA Programmers", James Sheusi, Cengage Learning, 2013.
3. "Advanced Android™ Application Development", Joseph Annuzzi, Lauren Darcey, Shane Conder, Addison-Wesley Professional, 4th Edition, 2014.

Evaluation Pattern

On the basis of Quiz and Practical conducted on the syllabus, followed by Viva.