Course: Major
Mobile Technologies

Semester II	Credits: 4	Subject Code: SMAJCMC223552	Lectures: 60

Course Outcomes:

At the end of this course, the learner will be able to
- CO1: Understand the Fundamentals of Mobile Computing and Mobile OS
- CO2: Explore the mobile technologies like PhoneGap and IOS
- CO3: Learn the fundamentals of Android OS
- CO4: Write the basic Android programming
- CO5: Learn the advanced Android programming
- CO6: Create and Design Mobile Apps using Android OS

Unit 1: Introduction to Mobile computing and Android	15

- **Introduction to Mobile Computing -** Introduction and need for Mobile computing, Mobility and portability, Mobile and Wireless devices, Mobile Applications, Mobile Operating system – IOS, Blackberry, Windows phone, Palm OS,Symbian OS, Introduction to PhoneGap-Why Use PhoneGap, How PhoneGap Works, PhoneGap Limitations, PhoneGap Plug-Ins, and API, Introduction to IOS: What is IOS,IOS Architecture, Frameworks, Application Life Cycle, Features, Introduction to Swift

Unit 2: Android Programming	15

- Android Fundamentals - Introduction to Android - Overview and evolution of Android, Features of Android, Android architecture, Components of an Android Application, Manifest file, Android Activity, Service Lifecycle
- Android UI Design - Basic UI Designing - Form widgets, Layouts,[dip, dp, sip, sp] versus px), All components Text fields, Button, Slider, Image view, Toast, Event Handling, Intent, Adapters, Menu

Unit 3: Android Thread and Notification	15

- Android Thread and Notification - Threads running on UI thread, (runOnUiThread), Worker thread, Handlers, AsynTask (in detail), Broadcast Receivers, Services and notification

Unit 4: Advanced Android Programming	15

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- Advanced Android Programming - Content Providers, SQLite Programming, Accessing Phone Service(Call, SMS, MMS), Location based services

Reference Books:

- Giorgio Natili, Purusothaman Ramanujam, *PhoneGap: Beginner's Guide*, PACKT Publication, Third Edition, ISBN 978-1-78439-228-4
- Jochen Schiller, *Mobile Communications*, Pearson Education, 2nd Edition,   ISBN : 9780321123817
- Wei-Meng Lee, *Beginning Android Application Development*, Published by John Wiley & Sons, Inc, ISBN: 978-1-118-19954-1

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