

**CS8601 MOBILE COMPUTING SYLLABUS**

**L T P C 3 0 0 3**

**OBJECTIVES:**

- To understand the basic concepts of mobile computing.
- To learn the basics of mobile telecommunication system.
- To be familiar with the network layer protocols and Ad-Hoc networks.
- To know the basis of transport and application layer protocols.
- To gain knowledge about different mobile platforms and application development.

**UNIT I INTRODUCTION 9**

Introduction to Mobile Computing – Applications of Mobile Computing- Generations of Mobile Communication Technologies- Multiplexing – Spread spectrum -MAC Protocols – SDMA- TDMA- FDMA- CDMA

**UNIT II MOBILE TELECOMMUNICATION SYSTEM 9**

Introduction to Cellular Systems - GSM – Services & Architecture – Protocols – Connection Establishment – Frequency Allocation – Routing – Mobility Management – Security – GPRS/UMTS – Architecture – Handover - Security

**UNIT III MOBILE NETWORK LAYER 9**

Mobile IP – DHCP – AdHoc– Proactive protocol-DSDV, Reactive Routing Protocols – DSR, AODV, Hybrid routing –ZRP, Multicast Routing- ODMRP, Vehicular Ad Hoc networks (VANET) –MANET Vs VANET – Security.

**UNIT IV MOBILE TRANSPORT AND APPLICATION LAYER 9**

Mobile TCP– WAP – Architecture – WDP – WTLS – WTP –WSP – WAE – WTA Architecture – WML

**UNIT V MOBILE PLATFORMS AND APPLICATIONS 9**

Mobile Device Operating Systems – Special Constraints & Requirements – Commercial Mobile Operating Systems – Software Development Kit: iOS, Android, BlackBerry, Windows Phone – MCommerce – Structure – Pros & Cons – Mobile Payment System – Security Issues

**TEXT BOOKS:**

1. Jochen Schiller, —Mobile CommunicationsII, PHI, Second Edition, 2003.
2. Prasant Kumar Pattnaik, Rajib Mall, —Fundamentals of Mobile ComputingII, PHI Learning Pvt. Ltd, New Delhi – 2012

**REFERENCES**

1. Dharma Prakash Agarwal, Qing and An Zeng, "Introduction to Wireless and Mobile systems", Thomson Asia Pvt Ltd, 2005.
2. Uwe Hansmann, Lothar Merk, Martin S. Nicklons and Thomas Stober, —Principles of Mobile ComputingII, Springer, 2003.

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**For Questions, Notes, Syllabus & Results**

3. William. C.Y. Lee—Mobile Cellular Telecommunications-Analog and Digital SystemsII, Second Edition, TataMcGraw Hill Edition ,2006.
4. C.K.Toh —AdHoc Mobile Wireless NetworksII, First Edition, Pearson Education, 2002.
5. Android Developers: <http://developer.android.com/index.html>
6. Apple Developer: <https://developer.apple.com/>
7. Windows Phone DevCenter: <http://developer.windowsphone.com>
8. BlackBerry Developer: <http://developer.blackberry.com>