

**ST. ANN'S COLLEGE OF ENGINEERING & TECHNOLOGY: CHIRALA**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**LESSON PLAN**

**Subject: MOBILE COMPUTING**

**Academic Year: 2017-18**  
**Year&Sem/Section:IV-I SEM**  
**'C'**

**Name: Dr.P.HARINI**

**No.of Lectures per week: 4+1(Tutorial)**

S.NO	UNITS	TOPICS	NO.OF HRS. REQUIRED
1	I	<b>Introduction:</b> Mobile Communications, Mobile Computing – Paradigm, Promises/Novel Applications and Impediments and Architecture; Mobile and Handheld Devices, Limitations of Mobile and Handheld Devices. GSM – Services, System Architecture, Radio Interfaces, Protocols, Localization, Calling, Handover, Security, New Data Services, GPRS.	10
2	II	<b>(Wireless) Medium Access Control (MAC) :</b> Motivation for a specialized MAC (Hidden and exposed terminals, Near and far terminals), SDMA, FDMA, TDMA, CDMA, Wireless LAN/(IEEE 802.11)	7
3	III	<b>Mobile Network Layer :</b> IP and Mobile IP Network Layers, Packet Delivery and Handover Management, Location Management, Registration, Tunneling and Encapsulation, Route Optimization, DHCP.	5
4	IV	<b>Mobile Transport Layer :</b> Conventional TCP/IP Protocols, Indirect TCP, Snooping TCP, Mobile TCP, Other Transport Layer Protocols for Mobile Networks. <b>Database Issues :</b> Database Hoarding & Caching Techniques, Client-Server Computing & Adaptation, Transactional Models, Query processing, Data Recovery Process & QoS Issues.	11
5	V	<b>Data Dissemination and Synchronization :</b> Communications Asymmetry, Classification of Data Delivery Mechanisms, Data Dissemination, Broadcast Models, Selective Tuning and Indexing Methods, Data Synchronization – Introduction, Software, and Protocols.	7

6	VI	<b>Mobile Ad hoc Networks (MANETs) :</b> Introduction, Applications & Challenges of a MANET, Routing, Classification of Routing Algorithms, Algorithms such as DSR, AODV, DSDV, etc. , Mobile Agents, Service Discovery. <b>Protocols and Platforms for Mobile Computing :</b> WAP, Bluetooth, XML, J2ME, JavaCard, PalmOS, Windows CE, SymbianOS, Linux for Mobile Devices,Android.	12
<b>Total No.of Hrs. Required:</b>			52

**Text Books:**

1. Jochen Schiller, "Mobile Communications", Addison-Wesley, Second Edition, 2009.
2. Raj Kamal, "Mobile Computing", Oxford University Press, 2007, ISBN: 0195686772.

**Reference Books:**

1. ASOKE K TALUKDER, HASAN AHMED, ROOPA R YAVAGAL, "Mobile Computing, Technology Applications and Service Creation" Second Edition, Mc Graw Hill.
2. UWE Hansmann, Lothar Merk, Martin S. Nocklous, Thomas Stober, "Principles of Mobile Computing," Second Edition, Springer.

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