ITE408	Mobile Computing	L T P C 3 0 0 3

Prerequisite	Basic knowledge of Data communications and Computer Networks only
Objectives	The student would be able to understand the principles and practices of Mobile Communication, Satellite Communication, Medium Access Control techniques, Mobile Devices, Wireless Local Area Networks, HiperLAN and Bluetooth, Wireless ATM operations, mobile network layer and various wirelesses Application Protocol.
Outcomes	
Unit I	**Introduction** 8 **Wireless Transmission** - Frequencies for Radio transmission – signals - Antennas - Signal propagation - multiplexing Modulation - spread spectrum - Cellular systems. **Medium access control** - Motivation for a specialized MAC SDMA-FDMA-TDMA-CDMA comparison of S/T/F/CDMA.
Unit II	**Communication Systems** 11 **Telecommunication Systems** - GSM, DECT, TETRA, UMTS and IMT - 2000, **Satellite Systems** - GEO139, LEO139, MEO140. Routing, Localization, Handover. **Broadcast systems** - Overview - Cyclic Repetition of Data Digital Audio Broadcasting - Digital Video Broadcasting.
Unit III	**Wireless Communication** 10 **Wireless LAN**-Infrared vs. Radio transmission, Infrastructure and ad hoc networks, IEEE802.11, HIPERLAN, Bluetooth. Wireless ATM, Motivation for WATM, Wireless ATM working group, WATM Services, Reference Model, Functions, Radio Access Layer: Handover, Location Management, Addressing, Mobile quality of service, Access point control protocol.
Unit IV	**Mobile Network Layer** 8 **Mobile IP**-Dynamic host configuration protocol-Ad hoc networks. **Mobile transport layer**- Traditional TCP292: Indirect TCP, Snooping TCP. Mobile TCP: Fast Retransmit/Fast recovery, transmission/Timeout Freezing, Selective Retransmission, Transaction oriented TCPU
Unit V	**Support for Mobility** 8 File Systems-Consistency -World Wide Web - Hyper Text markup language (HTML) - approaches that might help wireless access-System architecture - Wireless Application Protocol.
Text Books	Johchen schiller, -Mobile Communication, Pearson Education Ltd, 2003.
References	Asoke K. Talukder, Roopa R.Yavagal, Mobile Computing-Technology, Applications and Service Creation, Tata McGraw Hill, 2010
MoE	CAT, Quiz, Seminar, Assignment, Term-End Examination

Recommendation by the Board of Studies on **:** 17th July 2011
Date of approval by the Academic Council **:**