

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: I

M.E. Information Technology

Subject Name: **Ubiquitous Computing (Major Elective-I)**

Sr.No	Course content
1.	Wireless transmission – Frequencies for radio transmission , signals, Antennas, Signal propagation, Multiplexing, Modulation, Spread spectrum , Cellular system
2.	Telecommunication systems – GSM, Digital enhanced cordless telecommunications(DECT)
3.	Wireless Medium Access control and CDMA- based communication – Medium access control, Introduction to CDMA-based systems, Spread spectrum in CDMA systems, coding methods in CDMA
4.	Wireless LAN – Infra red vs radio transmission, infrastructure and ad hoc networks, IEEE 802.11, Bluetooth
5.	Mobile network layer – Mobile IP, Dynamic host configuration protocol, Mobile ad-hoc networks, Wireless sensor networks
6.	Mobile transport layer – Traditional TCP, Classical TCP improvements, snooping TCP, Mobile TCP, TCP over 2.5/3G wireless networks
7.	Mobile internet connectivity – WAP 1.1, Layers of WAP, Wireless Application Environment, WML and WMLScript , wireless telephony application, WAP 2.0 architecture , XHTML-MP(Extensible Hypertext Markup Language Mobile profile)
8.	Mobile Operating System ,Mobile file system, Security in mobile computing
9.	Wireless network simulator such as ns2

Reference Books:

1. Mobile Communication By Jochen Schiller (Pearson Education)
2. Mobile Computing By Raj Kamal (Oxford)
3. Handbook of Wireless Networks and Mobile Computing (WILEY-INDIA edition)
4. Mobile Computing By Asoke Talukder