

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E

Communication Engineering

Subject Name: **Wireless and Mobile Communication**

Sr.No	Course content
1	Introduction to mobile communication. Past, present and Future wireless– Mobile technology. Introduction to GSM and CDMA Technology. GSM system architecture overview, call management and system operation. CDMA based cellular system.
2	Cellular radio system design, frequency assignment, frequency reuse channels, Concept of cell splitting. Handover in cellular systems. Handoff algorithms.
3	Radio wave propagation, propagation models, reflection, scattering, fading, shadowing multi-path effects Path loss over hilly and flat terrain, Power prediction over flat and hilly terrain. RF design, received signal phase and envelope characteristic. Simulation of wireless channel.
4	Bandwidth and power spectral density, pulse shaping techniques, BPSK, QPSK, QQPSK, MSK, GMSK

Reference Books:

1. William C. Y. Lee, Mobile Communication Engineering, Theory and Applications, McGraw Hill.
2. Raj Pandya, Mobile and Personal Communication Systems and Services, PHI
3. Theodore S. Rappaport, Wireless Communications Principles and Practice, PE India.
4. WCY Lee, Mobile Cellular Telecommunications, McGraw Hill International Edition.
5. Raymond Steele, Mobile Radio Communications, IEEE Press, New York.
6. AJ Viterbi, CDMA: Principles of Spread Spectrum Communications, Addison Wesley, New York.
7. VK Grag, and JE Wilkes, Wireless and Personal Communication Systems, Prentice Hall.