

B-Tech Computer Science & Engineering

Course Structure and Syllabus (Batch 2017)

Semester-VIII

Subject Code	Course Title	L –P	Credit
CSE-811T	Wireless Communication	4-0	4
XXX-ExxX	Elective–VII	-	X
XXX-ExxX	Elective–VIII	-	Y
XXX-GxxX	Elective–IX	-	Z
CSE-813P	Major Project	-	12
			16+X+Y+Z

Wireless Communication
CSE 811T

L - P
4 - 0

Unit – I

Introduction To Wireless Communication Systems: Evolution of mobile radio communications; examples of wireless comm. systems; paging systems; Cordless telephone systems; overview of generations of cellular systems, comparison of various wireless systems.

Unit -II

Introduction to Personal Communication Services (PCS): PCS architecture, Mobility management, Networks signaling. A basic cellular system, multiple access techniques: FDMA, TDMA, CDMA.

Introduction to Wireless Channels and Diversity: Fast Fading Wireless Channel Modeling, Rayleigh/Ricean Fading Channels, BER Performance in Fading Channels, Introduction to Diversity modeling for Wireless Communications.

Unit - III

2G Networks: Second generation, digital, wireless systems: GSM, IS_136 (D-AMPS), IS-95 CDMA. Global system for Mobile Communication (GSM) system overview: GSM Architecture, Mobility Management, Network signaling, mobile management, voice signal processing and coding. Spread Spectrum Systems- Cellular code Division Access Systems-Principle, Power Control, effects of multipath propagation on code division multiple access.

Unit - IV

2.5G Mobile Data Networks: Introduction to Mobile Data Networks, General Packet Radio Services (GPRS):GPRS architecture, GPRS Network nodes, EDGE, Wireless LANs, (IEEE 802.11), Mobile IP.

Third Generation (3G) Mobile Services: Introduction to International Mobile Telecommunications 2000 (IMT 2000) vision, Wideband Code Division Multiple Access (W-CDMA), and CDMA 2000, Quality of services in 3G, Introduction to 4G.

Unit – V

Wireless Local Loop (WLL): Introduction to WLL architecture, WLL technologies. Wireless personal area networks (WPAN): Blue tooth, IEEE 802.15, architecture, protocol stack. Wi-Max, introduction to Mobile Adhoc Networks. Global Mobile Satellite Systems.

Text Books:

1. William Stallings “Wireless Communications & Networks”
2. Theodore S. Rappaport, “Wireless Communication- Principles and practices,” 2nd Ed., Pearson Education Pvt. Ltd, 5th Edition, 2008.

Reference Books:

1. T.L.Singhal “Wireless Communication”, Tata McGraw Hill Publication.
2. Jochen Schiller, “Mobile communications,” Pearson Education Pvt. Ltd., 2002.
3. Lee, W.C.Y., “Mobile Cellular Telecommunication”, 2nd Edition, McGraw Hill,1998.
4. Smith & Collins, “3G Wireless Networks,” TMH, 2007.