



C. U. SHAH UNIVERSITY – WADHWAN CITY

**FACULTY OF TECHNOLOGY AND ENGINEERING
DEPARTMENT OF COMPUTER ENGINEERING
M. TECH. SEMESTER: - I**

SUBJECT NAME: Wireless Networking (WNT)

SUBJECT CODE: 5TE01WNT1

Teaching & Evaluation Scheme: -

Subject Code	Subject Name	Teaching Scheme (Hours)				Credits	Evaluation Scheme								
		Th	Tu	Pr	Total		Theory				Practical (Marks)				Total
							Sessional Exam		University Exam		Internal		University		
							Marks	Hours	Marks	Hours	Pr/Viva	TW	Pr		
5TE01WNT1	Wireless Networking	4	0	2	6	5	30	1.5	70	3.0	-	20	30	150	

Objectives:

- To understand basics of wireless communication networks.
- To understand cellular technologies
- To study Different cellular technologies such as GSM and CDMA, etc.

Prerequisites:

- Basic Knowledge of Communication and computer Networks/System.

Course outline:

Sr. No.	Course Contents
1	Introduction: Introduction of Wireless Communication Network systems and different evaluations
2	Radio wave propagation mechanisms: Review of Antenna Theory and radio wave propagation, Spread Spectrum, Coding and Error Control in Wireless Communication, Diversity and smart receiving techniques, Satellite Communications
3	Basics of Cellular Wireless Networks: Basics of Cellular Wireless Networks, Cellular network organization, Wireless network topology, cellular topology, cell fundamentals, signal to interference ratio calculation, Power Control
4	Global System for Mobile communication: Global System for Mobile Communication (GSM), GSM Services and signaling, GSM Mobility Management, GSM Call Management, GSM Radio Link
5	CDMA Technology, IS-95: IS-95 standard based CDMA system, IS-95 CDMA Channels, Radio Link Signaling
6	IEEE 802.11 WLANs: Mobile IP and WAP, Wireless LAN Technology and Introduction to IEEE 802.11 WLAN

	Standard, PAN, Infrared, Blue tooth, Zigbee
7	Adhoc Networks and PAN: What is IEEE 802.15 WPAN, Bluetooth technology

Learning Outcomes:

At the end of this module the student should be well familiar with:

- Wireless networks and technologies
- Issues related to Wireless Communications
- Different Cellular technologies (GSM and CDMA)

Books Recommended:

1. Principles of Wireless Networks, **Kavesh Pahlavan and Prashant Krishnamurthy**, Prentice Hall-PTR-2002.
2. Wireless Communications and Networks, **William Stallings**
3. Wireless Communication Technology, **Blake**
4. Principles of GSM, **Vijay Garg**
5. Evolution of 2G-3G Networks, **Vijay Garg**