



# STANLEY

## COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN

( Approved by AICTE , New Delhi | Affiliated to Osmania University ,Hyderabad)  
Address : Chapel Road, Abids ,Hyderabad

**BIT-404**

### **WIRELESS & MOBILE COMMUNICATIONS**

#### **UNIT -I**

Introduction to Wireless Communication Systems: Evolution of Mobile Radio Communications,  
Examples of Wireless Communication Systems. Modern Wireless Communication Systems :  
Second Generation (2G) Cellular Networks, Third Generation (3G) Wireless Networks,  
Wireless local Loop, Wireless Local Area Networks. The Cellular Concept: Introduction,  
Frequency Reuse, Channel Assignment Strategies, Handoff Strategies, Interference and  
Systems Capacity, Trunking and Grade of Service, Improving Coverage & Capacity in  
Cellular Systems.

#### **UNIT -II**

Mobile Radio Propagation : Large Scale - :Path Loss : Introduction to Radio Wave Propagation,  
Free Space Propagation Model, Three Basic Propagation Mechanisms, Reflection, Ground  
Reflection, Diffraction, Scattering, Outdoor Propagation Models, Indoor Propagation Models,  
Signal Penetration into Buildings.

#### **UNIT -III**

Modulation Techniques for Mobile Radio : Digital Modulation, Linear  
Modulation Techniques, Constant Envelop Modulation, Spread Spectrum  
Modulation Techniques.

#### **UNIT -IV**

Multiple Access Techniques for Wireless Communications : FDMA, TDMA, Spread Spectrum  
Multiple Access, Space Division Multiple Access, Capacity of Cellular Systems. Wireless  
Networking : Introduction, Difference between Wireless and Fixed Telephone Networks,  
Development of Wireless Networks. Wireless Systems and Standards: Global System for  
Mobile (GSM), GPRS, CDMA Digital Cellular Standard

## **UNIT -V**

Mobile Network Layer: Mobile IP : Goals & Requirements, Terminology, IP Packet Delivery, Agent Advertisement & Discovery, Registration, Tunneling and Encapsulation, Optimizations, Reverse Tunneling. Dynamic Host Configuration protocol. Mobile Transport Layer: Traditional TCP, Snooping TCP, Mobile TCP, Fast Retransmit/Fast Recovery, Transmission/Time-Out Freezing, Selective retransmission, Transaction oriented TCP

### ***Suggested Reading:***

- 1) Theodore S. Rappaport, “Wireless Communications Principles and Practice”, 2<sup>nd</sup> Edition, Pearson Education, 2003.
- 2) Jochen Schiller, “Mobile Communication”, 2nd Edition, Pearson Education.