

AIM:

To introduce the concepts of Wireless Communication to explore the various types of existing Wireless Networks and to learn programming in Wireless environment.

OBJECTIVES:

- To understand the concepts of Wireless Communication
- To discuss the features of IEEE 802.11 Wireless LANS
- To learn the various types of cellular telephone systems
- To explain the role of TCP/IP in Mobile networks
- To understand the WAP framework

UNIT I WIRELESS COMMUNICATION 7

Cellular systems- Frequency Management and Channel Assignment- types of handoff and their characteristics, dropped call rates & their evaluation - MAC – SDMA – FDMA – TDMA – CDMA – Cellular Wireless Networks

UNIT II WIRELESS LAN 9

IEEE 802.11 Standards – Architecture – Services – Mobile Ad hoc Networks- WiFi and WiMAX - Wireless Local Loop

UNIT III MOBILE COMMUNICATION SYSTEMS 11

GSM-architecture-Location tracking and call setup- Mobility management- Handover- Security-GSM SMS –International roaming for GSM- call recording functions- subscriber and service data management –Mobile Number portability -VoIP service for Mobile

Networks –GPRS –Architecture-GPRS procedures-attach and detach procedures-PDP context procedure-combined RA/LA update procedures-Billing

UNIT IV MOBILE NETWORK AND TRANSPORT LAYERS 9

Mobile IP – Dynamic Host Configuration Protocol-Mobile Ad Hoc Routing Protocols– Multicast routing-TCP over Wireless Networks – Indirect TCP – Snooping TCP – Mobile TCP – Fast Retransmit / Fast Recovery – Transmission/Timeout Freezing- Selective Retransmission – Transaction Oriented TCP- TCP over 2.5 / 3G wireless Networks

UNIT V APPLICATION LAYER 9

WAP Model- Mobile Location based services -WAP Gateway –WAP protocols – WAP user agent profile- caching model-wireless bearers for WAP - WML – WMLScripts - WTA - iMode- SyncML

TOTAL= 45 PERIODS**TEXT BOOKS:**

1. Jochen Schiller, "Mobile Communications", Second Edition, Pearson Education, 2003.
2. William Stallings, "Wireless Communications and Networks", Pearson Education, 2002.

REFERENCES:

1. Kaveh Pahlavan, Prasanth Krishnamoorthy, "Principles of Wireless Networks", First Edition, Pearson Education, 2003.
2. Uwe Hansmann, Lothar Merk, Martin S. Nicklons and Thomas Stober, "Principles of Mobile Computing", Springer, 2003.
3. C.K.Toh, "AdHoc Mobile Wireless Networks", First Edition, Pearson Education, 2002.