

AMHE26 MOBILE & WIRELESS NETWORKS

UNIT-1 INTRODUCTION

- 1.1 Fundamentals of Wireless Communication
- 1.2 Transmission fundamentals- Wireless
- 1.3 Communication Technology
- 1.4 Antennas and Propagation,
- 1.5 Spread Spectrum,
- 1.6 Modulation Techniques, Coding and Error Control.

UNIT -2 WIRELESS NETWORKING, WIRELESS LANS & PANS

- 2.1 Wireless Networking
- 2.2 Satellite Communication,
- 2.3 Cellular Wireless Networks,
- 2.4 Mobile IP and Wireless Access Protocol,
- 2.5 Wireless LANs- Wireless LAN Technology, IEEE 802.11
- 2.6 Wireless LAN Standards, Bluetooth, HIPERLAN Standard, HomeRF.

UNIT-3 AD-HOC WIRELESS NETWORKS & SECURITY

- 3.1 Issues in Ad Hoc Wireless Networks
- 3.2 Classifications of MAC Protocols
- 3.3 Classifications of Routing Protocols-
- 3.4 Classifications of Transport Layer Protocols
- 3.5 Classification of Energy Management Schemes
- 3.6 Wired Equivalent Privacy (WEP)
- 3.7 The Extensible Authentication Protocol- Security in Ad Hoc Wireless Networks.

UNIT-4 WIRELESS SENSOR NETWORKS

- 4.1 Sensor Network Architecture
- 4.2 Data Dissemination- Data Gathering-
- 4.3 MAC Protocols for Sensor Networks-
- 4.4 Location Discovery- Quality of a Sensor Network
- 4.5 Evolving Standards- Other Issues.

UNIT- 5 RECENT ADVANCES IN WIRELESS NETWORKS

- 5.1 Ultra-Wide-Band Radio Communication-
- 5.2 Wireless Fidelity Systems
- 5.3 Optical Wireless Networks- The Multimode 802.11- IEEE 802.11a/b/g
- 5.4 The Meghadoot Architecture- Next-Generation Hybrid Wireless Architectures.

UNIT-6 CELLULAR MOBILE WIRELESS NETWORKS:

- 6.1 Systems and Design Fundamentals,
- 6.2 Propagation Models.

- 6.3 Description of cellular system, Frequency Reuse,
- 6.4 Cochannel and Adjacent channel interference,
- 6.5 Propagation Models for Wireless Networks,
- 6.6 Multipath Effects in Mobile Communication, Models for Multipath Reception

UNIT-7 EVOLUTION OF MODERN MOBILE WIRELESS COMMUNICATION SYSTEM

- 7.1 First Generation Wireless Networks,
- 7.2 Second Generation (2G) Wireless Cellular,
- 7.3 Networks, Major 2G standards, 2.5G Wireless Networks,
- 7.4 Third Generation 3G Wireless
- 7.5 Networks, Wireless Local Area Networks (WLANs),
- 7.6 Cellular –WLAN Integration, All- IP Network: Vision for 4G

Reference Books:

1. Siva Ram Murthy C, Manoj B.S, Ad Hoc Wireless Networks: Architectures and Protocols, Prentice Hall, 2004.
2. William C.Y.Lec, Mobile Cellular Telecommunication, Analog and Digital Systems, McGraw Hill Inc.

