

S.Y. M.Sc. Semester III**Departmental Elective Paper - 8 (CSA5304): Mobile Technology****[Credits-4]****Course Outcomes**

At the end of this course, students will be able to

- CO1** Learn about the concepts and importance of wireless communication.
- CO2** Acquire the knowledge about medium access control layer, various physical properties.
- CO3** Understand various telecommunication systems and their working
- CO4** Learn about various wireless technologies like Bluetooth, WATM etc.
- CO5** Understand the role and behaviour of Network layer and Transport layer in Wireless technologies.
- CO6** Acquire the knowledge about various wireless applications.

Unit	Details	Lectures
I	Wireless communication 1.1 Introduction 1.2 Types of wireless communication 1.3 Need and Application of wireless Communication 1.4 Wireless Data Technologies Market for mobile	[3]
II	Wireless transmission 2.1 Frequency for radio transmission signal antennas 2.2 Signal propagation 2.3 Multiplexing Modulation 2.4 Spread and Cellular system	[4]
III	Medium Access Control 3.1 Specialized MAC: Hidden and Exposed terminals, Near and Far terminals 3.2 SDMA 3.3 FDMA 3.4 TDMA: Fixed TDM, Classical ALOHA, Slotted ALOHA Carrier Sense Multiple Access , CDMA	[8]
IV	Telecommunication Systems 4.1 Introduction to GSM 4.2 GSM Architecture 4.3 DECT systems, Architecture and protocols 4.4 Tetra frame structure 4.5 UMTS basic architecture and UTRA modes	[5]
V	Wireless LAN 5.1 Introduction 5.2 Infrared v/s Radio transmission 5.3 Infrastructure and ad-hoc network 5.4 IEEE 802.11 5.5 HIPERLAN 5.6 Bluetooth	[6]

VI	Wireless ATM 6.1 WATM services 6.2 Location Reference model function radio access layer handover Location management 6.3 Addressing 6.4 Mobile QoS 6.5 Access point control protocol	[6]
VII	Mobile Network Layer 7.1 Introduction 7.2 Mobile IP: IP Packet Delivery, Agent Discovery, Agent Advertisement, Registration 7.3 Mobile Ad-hoc Networks 7.4 DHCP	[5]
VIII	Mobile Transport Layer 8.1 TCP 8.2 Fast and selective retransmission and recovery 8.3 Transaction oriented TCP	[3]
IX	Support for Mobility 9.1 File systems 9.2 World Wide Web 9.3 Wireless Application Protocol with example Applications	[3]
X	Wireless Telephony Applications 10.1 Overview of the WTA Architecture 10.2 The WTA client Framework 10.3 The WTA Server and security 10.4 Design considerations 10.5 Application Creation Toolbox	[5]

Books-

1. Jachan Schiller, Mobile Communications, ISBN: 9788131724262 , Pearson Education, 2003.
2. Sandeep Sighat Jari Alvinen and group, The Wireless Application Protocol, Addison Wesley, 2001.
3. Pater T. Davis Carig R. Mc.Guffin, Wireless Local Area Networks, McGraw-Hill, 1995.

Web references

1. <https://er.yuvayana.org/wireless-telephony-objective-features-and-application>
2. <https://www.getkisi.com/blog/media-access-control>
3. https://www.tutorialspoint.com/wireless_communication