

CO2	H	M	M	-	-	-	-	-	-	-	-	-	-	-
CO3	M	L	L	-	-	-	-	-	-	-	-	-	-	-
CO4	H	L	-	-	M	-	-	-	-	-	-	L	-	-
CO5	M	L	-	-	-	-	-	-	-	-	-	M	-	-

g) Course Content

UNIT I Introduction to Wireless Communication 9

History and evolution of mobile radio communication-Mobile radio systems around the world-Examples of wireless communication-Generations –Frequency reuse – Channel Assignment strategies – Handoff strategies – Interference- Trucking and Grade of service-Improving Coverage and capacity of cellular system

UNIT II MOBILE RADIO PROPAGATION 9

Radio wave propagation-Free space propagation model – Basic propagation mechanism-Ground reflection model-Knife edge diffraction model-radar cross section model-Practical Link budget design. Indoor and outdoor propagation model.

UNIT III FADING AND DESIGN PARAMETERS OF BASE AND MOBILE STATION 9

Fading. Multipath propagation. Statistical characterization of multipath fading. Diversity Techniques. Design parameters at the base station: Antenna location-Spacing-height configuration. Design parameters at the Mobile unit: Directional antennas -Antenna Connection and Location

UNIT IV MULTIPLE ACCESS SCHEMES 9

Operation principle and working of FDMA-TDMA-CDMA-WCDMA-OFDM -MC-CDMA –SDMA and its comparison

UNIT V WIRELESS SYSTEMS AND STANDARDS 9

GSM, CDMA - 3G-4G (LTE) - NFC systems-WLAN technology- WLL- Ad hoc networks- Bluetooth-WIFI

Total 45 Hrs

h) Learning Resources

Text Books

1. T.S.Rappaport, "Wireless Communications: Principles and Practice, Second Edition, Pearson Education/ Prentice Hall of India, Third Indian Reprint 2003.
2. W.C.Y.Lee,"Mobile Communication Design Fundamentals",secondedition,john Wiley & sons,1993

Reference Books

1. P. MuthuChidambara Nathan, Wireless Communications, PHI, 1st edition 2008.

2. Goldsmith, Wireless Communications, Cambridge University Press, 1st edition 2005.
3. R. Blake, " Wireless Communication Technology", Thomson Delmar, 1st edition 2000.
4. W.C.Y.Lee, "Mobile Communications Engineering: Theory and applications, Second Edition, McGraw-Hill International, 1998.

Online Resources

1. <http://www.see.ed.ac.uk/~hxx/ADCCourseMaterial/4.rc.2.pdf>
2. <http://www.diva-portal.org/smash/get/diva2:501119/FULLTEXT01.pdf>
3. <http://www.durofy.com/multiple-access-techniques-fdma-tdma-cdma/>