

Lecture Plan

Name of Subject: Wireless Communications

Class: B.Tech (ECE)

Semester: 6th

| Unit/Section No. | Name of Topic | Number of Lectures Required |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 1 | History & Evolution of Mobile Radio Communications, Mobile Radio Telephony | 2 |
| 1 | Mobile Radio Systems around the world Examples of Wireless Communication System | 2 |
| 1 | Comparison of Common Wireless Communication Systems | 3 |
| 2 | 1G,2G,3G and 4G networks Channel Assignment strategies and handoff strategies, Interference & system capacity, trunking and grade of service, Improving coverage & Capacity in cellular systems | 8 |
| 2 | Wireless in local loop, WLAN, Bluetooth and PAN | 4 |
| 3 | Spectrum Allocation and basic cellular system, performance criterion | 3 |
| 3 | Operation of cellular system, Analog and digital Cellular system | 3 |
| 3 | Architecture of GSM | 2 |
| 4 | Frequency reuse, channel Assignment, | 2 |
| 4 | Handoff, Interference and system capacity | 2 |
| 4 | Tracking and grade off services, improving service and conerage | 2 |
| 5 | Introduction to multiple access FDMA, TDMA | 2 |
| 5 | SDMA, Capacity of cellular system | 2 |
| 5 | Spread Spectrum | 2 |
| 5 | CDMA | 1 |
| 6 | Difference between wireless and fixed | 2 |

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| | telephone networks | |
| 6 | Fixed network transmission hierarchy, common channel signaling | 2 |
| 6 | Traffic routing and ISDN, advanced intelligent network, intelligent cell concept | 2 |

Text Book:

Title & Author: Wireless Communication Principles & Practice - Theodore S. Rappaport, Edition: 2nd, Publisher:PHI,Year: 2005.

Reference Book:1

Wireless digital Communications–Modulation & spread spectrum applications; Dr Kamilo Feher, Publisher: PHI, Year: 1995.

Reference Book –2

Mobile Communication Engineering Theory & applications–William C Y Lee, Edition: 2nd:Publisher: McGraw Hill, Year: 2002.