

Course Code	Course Name	Hours per Week			Total	Total
		L	T	P	Hrs.	Credits
EC5EL01	Wireless Mobile Communication	4	0	0	4	4

Unit 1. Introduction to mobile radio systems, Paging systems, cordless telephone system, Cellular telephone systems – Cellular concept, frequency reuse, channel assignment strategies, Interference and system capacity, trunking and grade of service. cell splitting, sectoring, microcell zone concept, HO strategies.

Unit 2. Mobile radio propagation: mechanism, free space path loss, log-distance path loss models, Okumara model, Hata model, PCS model, Wideband PCS microcell model, indoor propagation models, Jake’s channel model, Multipath characteristics of radio waves, signal fading, Time dispersion, Doppler spread, coherence time LCR, fading statistics, diversity techniques.

Unit 3. Introduction to spread spectrum communication, multiple access techniques used in mobile wireless communication: FDMA/TDMA/CDMA, Cellular CDMA, packet radio protocols, CSMA, reservation protocols, capacity of cellular CDMA, soft HO

Unit 4. Wireless systems and standards – GSM standards, signaling and call control, mobility management, location tracing, wireless data networking, packet error modeling on fading channels,

Unit 5. Performance analysis of link and transport layer protocols over wireless channels, mobile data networking (mobile IP), wireless data services, IS-95, GPRS

TEXT BOOKS:

1. W.C. Jakes: Microwave Mobile Communication, IEEE Press
2. T.S. Rappaport : Wireless Communications: Principles and practices, Prentice Hall

REFERENCES:

1. William C.Y. Lee: Mobile Cellular Telecommunications, Analog and Digital Systems, MGH.
2. Kaveh Pahlavan & Allen H. Levesque: Wireless Information Networks, Wiley series in Telecommunications and signal processing.
3. Kamilo Feher: Wireless Digital communications, Modulation and Spread Spectrum Applications. PHI