

**Chapter 1 : Introduction to Wireless Communication Systems 1-1 to 1-44**

**Syllabus :** Evolution of mobile communications, Mobile Radio System around the world, Types of Wireless communication System, Comparison of Common wireless system, Trend in Cellular radio and personal communication. Second generation Cellular Networks, Third Generation (3G) Wireless Networks , Wireless Local Loop(WLL),Wireless Local Area network(WLAN), Bluetooth and Personal Area Networks.

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**Chapter 2 : The Cellular Concept 2-1 to 2-32**

**Syllabus : The Cellular Concept : System Design Fundamentals :** Cellular system, Hexagonal geometry cell and concept of frequency reuse, Channel Assignment Strategies, Distance to frequency reuse ratio, Channel and co-channel interference reduction factor, S/I ratio consideration and calculation for Minimum Co-channel and adjacent interference, Handoff Strategies, Umbrella Cell Concept, Improving Coverage and Capacity in Cellular System-Cell splitting, Cell sectorization, Repeaters, Micro cell zone concept, Channel antenna system design considerations.

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**Chapter 3 : Mobile Radio Propagation 3-1 to 3-42**

**Syllabus : Mobile Radio Propagation Model, Small Scale Fading and diversity :** Large scale path loss : Free Space Propagation loss equation, Path-loss of NLOS and LOS systems, Reflection, Ray ground reflection model, Diffraction, Scattering, Link budget design, Maximum Distance Coverage formula, Empirical formula for path loss, Indoor and outdoor propagation models, Small scale multipath propagation, Statistical models for multipath fading channels and diversity techniques in brief.

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