CSE 311 – Part 2: Rough outline

Serial	Title and author	Short form for reference
1	Modern Digital and Analog Communication Systems, 4th edition, B P Lathi and Zhi Din	LZ
2	Information, transmission, modulation and noise, 4th edition, Mischa Schwartz	MS
3	An Introduction to Analog and Digital Communications, 2nd Edition, Simon Haykin and Michael Moher	SM

Class No.	Topic	Reference
11	Angle modulation: -Effect of nonlinear distortion -FM generation (Direct & Indirect) -FM demodulation using envelope detection	LZ: Section 5.3, 5.4 Class lecture
10	Angle modulation: -Quick review -B/W analysis of FM (wide-band)	See slide uploaded in moodle Class lecture
9	Angle modulation: -generalized angle -Instantaneous frequency -FM, PM - B/W analysis of FM (Narrow-band)	LZ: Section 5.1, 5.2, Example 5.1, 5.2 Class lecture
8	FDM: -Idea -North American Hierarchy, AT&T's implementation	MS: Section 4.12 SM: Section 3.9 (see the last topic) Class lecture
7	SSB: -Challenges & Applicability VSB: -Challenges -Modulation --How to design sideband shaping filter? -Demodulation: similar to DSB-SC	See pdf files uploaded in moodle Class lecture
6	SSB: -Hilbert Transform -Time domain representation of SSB -Modulation: Phase shift method -Demodulation: similar to DSB-SC	LZ: Section 4.4, Example 3.7, Example 4.6 Class lecture
5	Quadrature amplitude modulation SSB: -Introduction -Modulation: Sharp filtering	LZ: Section 4.4 Class lecture

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4	DSB-SC vs. DSB-WC: - Adv. / Disadv. - Applicability Square law modulator -Generates DSB-WC Costas phase locked loop -Resolve phase error in the detection of DSB-SC	LZ: Section 4.8 (first few pages). Figure 4.30 SM: Drill problem 3.4 Class lecture
3	DSB-SC DSB-WC/AM -Envelope detection	LZ: Section 4.2, 4,3, Example 4.1 SM: Section 3.1-3.3, Example 3.1, Drill problem 3.4 Class lecture
2	How to perform modulation? Introduction to amplitude modulation? -DSB-SC --Product modulator --Coherent/Synchronous demodulator	Class lecture
1	Introduction to Modulation: -Outline -Motivation	Class lecture

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