

GOVT. POLYTECHNIC KENDRAPARA

LESSON PLAN

Session(2024-2025)

Discipline: Electronics & Telecommunication Engg.

Semester: 5th, Winter/2024

Name of the Faculty: PRIYANKA DHAL(GUEST FACULTY)

Subject: Analog & Digital Communication, Theory-3

No. of Days/week: 05

Start Date: 01/07/2024
End Date: 08/11/2024

Week	Class Day	Theory Topics
1st week 1st july to 6th july	1st	Introduction to Communication Process.
	2nd	Concept of Elements of Communication System.
	3rd	Block diagram of Communication System.
	4th	Source of information & Communication Channels.
	5th	Classification of Communication systems (Line & Wireless or Radio)
2nd week 08th july to 13th july	1st	Modulation Process and Classify modulation process
	2nd	Need of modulation
	3rd	Analog and Digital Signals & its conversion.
	4th	Basic concept of Signals & Signals classification (Analog and Digital), Bandwidth limitation.
	5th	Revision and Doubt clearing.
3rd week 15th july to 20th july	1st	Amplitude modulation & derive the expression for amplitude modulation signal
	2nd	Power relation in AM wave & find Modulation Index
	3dr	Generation of Amplitude Modulation (AM)- Linear level AM modulation only.
	4th	Demodulation of AM waves -liner diode detector
	5th	Square law detector & .PLL.
4th week 22nd july to 27th july	1st	Explain SSB signal and DSBSC signal.
	2nd	Methods of generating & detection SSB-SC signal (Indirect method only).
	3dr	Methods of generation DSB-SC signal (Ring Modulator).
	4th	Detection of DSB-SC signal (Synchronous detection).
	5th	Concept of Balanced modulators
5th week 29july to	1st	Vestigial Side Band Modulation
	2nd	Doubt clearing and Class test.
	3rd	Concept of Angle modulation & its types (PM & FM)

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3rd week 10th sept to 21st sept	3rd	Companding in PCM & Vocoder.
	4th	Time Division Multiplexing & explain the operation with
	5th	Generation of Delta modulation with Block diagram.
	1st	Demodulation of Delta modulation with Block diagram.
	2nd	Generation of DPCM with Block diagram.
5th week 30th sept to 5th oct	3rd	Demodulation of DPCM with Block diagram.
	4th	Comparison between PCM, DM, ADM & DPCM
	5th	Revision and Doubt clearing.
	1st	Concept of Multiplexing (FDM & TDM) (Basic concept, Transmitter & Receiver).
	2nd	Digital modulation formats.
3rd week 14th oct to 19th oct	3rd	Advantages of digital communication system over Analog system.
	4th	Digital modulation techniques & types.
	5th	Generation and Detection of binary ASK, PSK.
	1st	Generation and Detection of binary PSK, QPSK.
	2nd	Generation and Detection of binary QAM.
4th week 21st oct to 28th oct	3rd	Generation and Detection of binary MSK, GMSK.
	4th	Working of T1-Carrier system.
	5th	Spread Spectrum & its applications.
	1st	Working operation of Spread Spectrum Modulation Techniques (DS-SS & FH-SS).
	2nd	Define bit, Baud, symbol & channel capacity formula (Theorems).
1st week 2nd Nov to 8th Nov	3rd	Application of Different Modulation Schemes.
	4th	Types of Modem & its Application.
	5th	Types of Modem & its Application.

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