

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Discipline	Semester <u>V</u>	Name of the Teaching Faculty <u>Lietanjali Ashuapuri</u>
Subject <u>Analog & Digital communication</u>	No. of days per Week Class Alloted <u>4 (Four)</u>	Semester from Dt. <u>4/10/2021</u> To Dt. <u>07/01/2022</u> No. of Weeks: <u>14 (Fourteen)</u>
Week	Class Day	Theory / Practical Topics

1st October	1st Day	Communication Process - Concept elements of Comm.
	2nd	Block diagram of communication system.
	3rd	Source of information and communication channels.
	4th	Classification of communication system.
	5th	Modulation Process. Need of modulation.
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3rd	1st	Classification of modulation Process.
	2nd	Analog and Digital Signal & its conversion.
	3rd	Basic concept of Analog and digital signal.
4th	1st	Classification of Analog and Digital signals.
	2nd	Bandwidth Limitation.
	3rd	Amplitude modulation and derive the expression for amplitude modulation signal.
	4th	The power relation in Am wave and Find modulation Index.
	5th	Generation of Amplitude modulation (AM) Linear level AM modulation only.
5th		
(NOVEMBER)	1st	Demodulation of Am waves.
	2nd	Linear diode detector, Square law detector and PLL)
	3rd	Explain SSB signal.
	4th	Explain DSB-SC signal.
	5th	Methods of generating and detection SSB-SC signal (Indirect method only).
6th	1st	Methods of generation DSB-SC signal (Ring Modulation)
	2nd	Detection of DSB-SC signal (Synchronous detection)
	3rd	Concept of Balanced modulations.
	4th	Vestigial Side Band modulation.
7th	1st	Concept of Angle modulation.
	2nd	Types of Angle modulation. (PM and FM)

Lietanjali Ashuapuri
Sig. of Faculty

Srikanthu Ruth
Sig. of H.O.D./Academic Bursar
H.O.D. Electronics & Telecom. Engg
DIP Athgarh

Sig. of Principal

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DISCIPLINE	SEMESTER	NAME OF THE TEACHING FACULTY	SUBJECT
	V	Mitanjali Bhuyan	Analog and Digital Communication
MONTH	WEEK / DAY	THEORY / PRACTICAL TOPIC	
7th NOVEMBER	3rd 4th	Basic Principle of Frequency Modulation- Frequency Spectrum of FM Signal.	
8th	1st	Expression for Frequency Modulated signal.	
	2nd.	Expression for Modulation Index.	
	3rd.	Expression for sideband of FM signal.	
	4th.	Explain Phase modulation.	
	5th.	Explain difference of FM and PM.	
9th NOVEMBER	1st	Working principle with Block diagram of FM and PM.	
	2nd.	Compare between AM and FM modulation	
DECEMBER	3rd.	Advantage and Disadvantages of AM and FM modulation.	
	4th.	Methods of FM Generator (Indirect method only)	
	5th	Working principle of FM Generators.	
10th DECEMBER	1st	Block Diagram of FM method Generators.	
	2nd.	Methods of FM Demodulator or detector.	
	3rd.	Working principle of Demodulation.	
	4th.	Block diagram of FM Demodulator.	
	5th.	Classification of Radio Receivers.	
11th DECEMBER	1st	Define the terms selectivity, Sensitivity, Fidelity and Noise Figure.	
	2nd.	Working principle of AM transmitter.	
	3rd.	Block diagram of AM transmitter.	
	4th.	concept of frequency conversion RF amplifiers and IF amplifiers. Tuning S/N ratio	
	5th.	Working of super heterodyne radio receiver with block diagram.	

Sig. of Faculty

Sikantika Rathi
Sig. of H.O.D./ Academic Bursar
H.O.D. Electronics & Telecomm. Engg
DIP Amara

Sig. of Principal

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DISCIPLINE	SEMESTER	NAME OF THE TEACHING FACULTY	SUBJECT
	<u>V</u>	Uttarajali Bhuyan	Analog and Digital communication
MONTH	WEEK / DAY	THEORY / PRACTICAL TOPIC	
12th DECEMBER	1st.	Working of FM Transmitter and Receiver with Block Diagram.	
	2nd.	concept of Sampling Theorem. Nyquist rate and Aliasing.	
	3rd.	Analog Pulse Modulation. Generation and detection of PAM. PWM and PPM system.	
	4th.	Generation and Demodulation of PCM system with block diagram and its applications.	
	5th.	Generation and Demodulation of Delta modulation with block diagram.	
13th DECEMBER	1st.	Generation & Demodulation of DPCM with Block diagram.	
	2nd.	comparison between PCM, DM, ADM and DPCM.	
	3rd.	concept of Multiplexing. Basic concept of Transmitter and Receiver and Digital modulation formats.	
	4th.	Advantages of digital communication system over Analog system.	
14th JANUARY	1st.	Digital modulation techniques and types.	
	2nd.	Working carrier system.	
	3rd.	Spread Spectrum and its applications.	
	4th.	Application of Different Modulation schemes.	
	5th.	Define bit, Baud, symbol and channel capacity formula.	

Uttarajali Bhuyan
Sig. of Faculty

Sitankanta Raut
Sig. of Head of Academic Bursar
DIP Athgarh

Sig. of Principal