

LESSON PLAN(Summer -2026)**VENUS GROUP OF EDUCATIONAL & RESEARCH INSTITUTES,BAHANAGA,BALASORE-756042**

Discipline:Electronics & telecomm.engg		Semester:4th	Name of teaching faculty: Sulochana Das
Subject:Analog and Digital communication		No. of days per week class allotted:5	Semester from 22.12.2026 To date: 18.04.2026 No of weeks: 12
SL.NO	WEEK	CLASS DAY	TOPICS
1	1st	1ST	Communication Process
2		2nd	Concept of Elements of Communication System & its Block diagram
3		3rd	Source of information & Communication Channels
4		4th	Classification of Communication systems
5		5th	Modulation Process
6	2nd	1ST	Need of modulation and classify modulation process
7		2nd	Analog and Digital Signals & its conversion
8		3rd	Basic concept of Signals & Signals classification (Analog and Digital)
9		4th	Bandwidth limitation
10		5th	Amplitude (linear) Modulation System
11	3rd	1st	Amplitude modulation
12		2nd	Derive the expression for amplitude modulation signal, power relation in AM wave
13		3rd	Modulation Index
14		4th	Generation of Amplitude Modulation (AM)- Linear level AM modulation
15		5th	Demodulation of AM waves- Envelope detector
16	4th	1st	Concept of SSB signal and DSBSC signal
17		2nd	Concept of Balanced modulators
18		3rd	Vestigial Side Band Modulation
19		4th	Angle Modulation Systems
20		5th	Concept of Angle modulation & its types (PM & FM)
21	5th	1st	Basic principle of Frequency Modulation
22		2nd	Frequency Spectrum of FM Signal
23		3rd	Expression for Frequency Modulated Signal & Modulation Index and sideband of FM signal
24		4th	Explain Phase modulation & difference of FM & PM)- working principle with Block Diagram
25		5th	Compare between AM and FM modulation (Advantages & Disadvantages)
26	6th	1st	(Indirect (Armstrong) method only) working principle with Block Diagram

27		2nd	Methods of FM Demodulator or detector (Forster-Seely)
28		3rd	AM & FM TRANSMITTER & RECEIVER
29		4th	Classification of Radio Receivers
30		5th	Define the terms Selectivity, Sensitivity, Fidelity and Noise Figure
31		1st	AM transmitter - working principle with Block Diagram
32	7th	2nd	Concept of Frequency conversion, RF amplifier & IF amplifier, Tuning, S/N ratio
33		3rd	Working of super heterodyne radio receiver with Block diagram
34		4th	Working of FM Transmitter & Receiver with Block Diagram
35		5th	ANALOG TO DIGITAL CONVERSION & PULSE MODULATION
36		1st	Concept of Sampling Theorem, Nyquist rate & Aliasing
37	8th	2nd	Sampling Techniques (Instantaneous, Natural, Flat Top)
38		3rd	Analog Pulse Modulation - Generation and detection of PAM, PWM
39		4th	PPM system with the help of Block diagram & comparison of all above
40		5th	Concept of Quantization of signal & Quantization error
41	9th	1st	Generation & Demodulation of PCM system with Block diagram & its applications.
42		2nd	Companding in PCM & Vocoder
43		3rd	Time Division Multiplexing & explain the operation with circuit diagram
44		4th	Generation & demodulation of Delta modulation with Block diagram
45		5th	Generation & demodulation of DPCM with Block diagram
46	10th	1st	Comparison between PCM, DM , ADM & DPCM
47		2nd	DIGITALMODULATION TECHNIQUES
48		3rd	Concept of Multiplexing (FDM & TDM)- (Basic concept, Transmitter
49		4th	Advantages of digital communication system over Analog system
50		5th	Digital modulation techniques & types
51	11th	1st	Generation and Detection of binary ASK, FSK, PSK,
52		2nd	Concept of QPSK, QAM, MSK, GMSK
53		3rd	Working of T1-Carrier system
54		4th	Spread Spectrum & its applications
55		5th	Concept of Spread Spectrum Modulation Techniques
56	12th	1st	Define bit, Baud, symbol
57		2nd	channel capacity formula (Shannon Theorems
58		3rd	Digital modulation techniques & types
59		4th	Working of T1-Carrier system
60		5th	Types of Modem & its Application

Sign.Of Faculty

Sign.OF Principal