

C.V. RAMAN POLYTECHNIC BBSR



LESSON PLAN

Discipline: Diploma Branch: ETC	Semester: 5 th	Name of the Teaching Faculty: Sabyasachi Patra
Subject: ANALOG & DIGITAL COMMUNICATION (TH-3)	No. of Days/per week class allotted: 75days/ 5 class per week	Semester From Date: 14/07/2025 To Date: 15/11/2025 No. of Weeks: 15
Week	Class Day	Theory
1 st	1 st	1.1 Elements & Block Diagram of Communication System
	2 nd	1.2 Information Sources and Channels
	3 rd	1.3 Classification of Communication Systems
	4 th	1.4 Modulation Process: Need & Types
	5 th	1.5 Analog and Digital Signals & Conversion
2 nd	1 st	1.6 Signal Classification
	2 nd	1.7 Bandwidth Limitation
	3 rd	2.1 AM: Expression & Modulation Index
	4 th	2.2 Generation of AM (Low level)
	5 th	2.3 AM Demodulation Techniques
3 rd	1 st	2.4 SSB and DSBSC Signals
	2 nd	2.5 SSB-SC Generation & Detection
	3 rd	2.6 DSB-SC Generation & Detection
	4 th	2.7 Balanced Modulators
	5 th	2.8 Vestigial Side Band
4 th	1 st	3.1 Angle Modulation Concepts
	2 nd	3.2 Frequency Modulation & Spectrum
	3 rd	3.3 FM Expression, Index & Sidebands
	4 th	3.4 Phase Modulation & FM vs PM
	5 th	3.5 Comparison of AM & FM
5 th	1 st	3.6 FM Generation (Armstrong)
	2 nd	3.7 FM Demodulation: Foster-Seely, Ratio Detector
	3 rd	4.1 Radio Receiver Classification
	4 th	4.2 Receiver Parameters: Selectivity, Sensitivity
	5 th	4.3 AM Transmitter Block Diagram
6 th	1 st	4.4 Frequency Conversion, RF/IF Amplifiers
	2 nd	4.5 Superheterodyne Receiver
	3 rd	4.6 FM Transmitter & Receiver
	4 th	5.1 Sampling Theorem, Nyquist & Aliasing, 5.2 Sampling Techniques
	5 th	5.2 Class Test
7 th	1 st	5.3 PAM, PWM, PPM Generation/Detection

	2 nd	5.4 Quantization & Error
	3 rd	5.5 PCM Block Diagram & Application
	4 th	5.6 Companding & Vocoder
	5 th	5.7 TDM – Operation & Circuit
	1 st	5.8 Delta Modulation
8 th	2 nd	5.9 DPCM Generation & Detection
	3 rd	5.10 Compare PCM, DM, ADM, DPCM
	4 th	6.1 FDM & TDM – Concept, Tx & Rx
	5 th	6.2 Advantages of Digital Comm.
	1 st	6.3 Digital Modulation Techniques
9 th	2 nd	6.4 ASK, FSK, PSK, QPSK
	3 rd	6.4 QAM, MSK, GMSK
	4 th	6.5 T1-Carrier System
	5 th	6.6 Spread Spectrum Applications
	1 st	6.7 DS-SS Working
10 th	2 nd	6.8 FH-SS Working
	3 rd	6.9 Bit, Baud, Channel Capacity (Shannon)
	4 th	6.10 Modems – Types & Applications
	5 th	Revision: Unit 1
	1 st	Revision: Unit 2
11 th	2 nd	Revision: Unit 3
	3 rd	Revision: Unit 4
	4 th	Revision: Unit 5
	5 th	Revision: Unit 6
	1 st	Class Test
12 th	2 nd	Doubt Clearing – Unit 1 & 2
	3 rd	Doubt Clearing – Unit 3 & 4
	4 th	Doubt Clearing – Unit 5 & 6
	5 th	Quiz Test
	1 st	Extra Class: AM/FM/PM Comparison
13 th	2 nd	Extra Class: Digital vs Analog Modulation
	3 rd	Extra Class: Multiplexing Techniques
	4 th	Extra Class: Receiver Parameters Deep Dive
	5 th	Extra Class: PCM Applications
	1 st	Practice Problems: Signal Class & Bandwidth
14 th	2 nd	Practice: Sampling & Quantization
	3 rd	Practice: Analog & Digital Modulation
	4 th	Practice: FDM, TDM, Carrier Systems
	5 th	Practice: ASK, PSK, QPSK, GMSK
	1 st	Quiz & Answer Discussion
15 th	2 nd	Previous Year Question Discussion
	3 rd	Career Applications of ADC Concepts
	4 th	Previous Year Question Discussion
	5 th	Reserve for Extra Class / Doubt Session

Signature of Faculty

Signature of HOD (ETC)

