PNS SCHOOL OF ENGINEERING & TECHNOLOGY, MARSHAGHAI

SEMESTER : 5 TH	BRANCH : ELECTRONICS AND TELECOMMUNICATION	NAME OF THE TEACHING FACAULTY : **AMARENDRA SAHOO**
NO. OF DAYS PER WEEK: 6 CLASS ALLOTTED	**SUBJECT:ANALOG & DIGITAL COMMUNICATION**	**SEMESTER FROM DATE: 15.09.22 - 22.12.22**

UNIT	MONTH	DATE	THEORY/PRACTICAL TOPICS
UNIT-1 Elements of Communication Systems.	SEPTEMBER	15.09.2022	UNIT-1:Elements of Communication Systems. Communication Process- Concept of Elements of Communication System & its Block diagram
		16.09.2022	Source of information & Communication Channels
		19.09.2022	Classification of Communication systems (Line & Wireless or Radio)
		20.09.2022	Modulation Process, Need of modulation and classify modulation process
		21.09.2022	Analog and Digital Signals & its conversion.
		22.09.2022	Basic concept of Signals & Signals classification (Analog and Digital)
		23.09.2022	Bandwidth limitation
		24.09.2022	REVISION/TEST/DOUBT CLEARING
UNIT-2		26.09.2022	Amplitude modulation & derive the expression for amplitude modulation signal,
		27.09.2022	power relation in AM
		28.09.2022	find Modulation Index.
		29.09.2022	Generation of Amplitude Modulation(AM)- Linear level
		30.09.2022	AM modulation only
		10.10.2022	Demodulation of AM waves -liner diode detector,
		11.10.2022	square law detector & PLL
		12.10.2022	REVISION/TEST/DOUBT CLEARING
		13.10.2022	Explain SSB signal
		14.10.2022	DSBSC signal
	OCTOBER	15.10.2022	Methods of generating & detection SSB-SC signal (Indirect method only)
		18.10.2022	Methods of generation DSB-SC signal (Ring Modulator)
		19.10.2022	detection of DSB-SC signal
		20.10.2022	Synchronous detection
		21.10.2022	Concept of Balanced modulators
		22.10.2022	Vestigial Side Band Modulation
		26.10.2022	REVISION/TEST/DOUBT CLEARING
		27.10.2022	Unit-3: Angle Modulation Systems.3.1 Concept of Angle modulation & its types (PM & FM)
		28.10.2022	Basic principle of Frequency Modulation

UNIT -3		29.10.2022	Frequency Spectrum of FM Signal.
		31.10.2022	Expression for Frequency Modulated Signal
		01.11.2022	Modulation Index and sideband of FM signal
		02.11.2022	Explain Phase modulation & difference of FM & PM)-
		03.11.2022	working principle with Block Diagram
		04.11.2022	Compare between AM and FM modulation
		05.11.2022	Compare between AM and FM modulation
		09.11.2022	Advantages & Disadvantages
		10.11.2022	Methods of FM Generation (Indirect Armstrong) method only) working principle with Block Diagram
		11.11.2022	Methods of FM Demodulator Forster-Seely method
		12.11.2022	Radio detector- working principle with Block diagram
UNIT-4	**NOVEMBER**	14.11.2022	Unit-4: AM & FM TRANSMITTER & RECEIVER Classification of Radio Receivers
		15.11.2022	Define the terms Selectivity, Sensitivity, Fidelity and Noise Figure
		17.11.2022	Sampling Techniques (Instantaneous, Natural, Flat Top)
		18.11.2022	Analog Pulse Modulation - Generation and detection of PAM, PWM
		19.11.2022	PPM system with the help of Block diagram & comparison of all above.
		21.11.2022	Concept of Quantization of signal & Quantization error.
		22.11.2022	REVISION/TEST/DOUBT CLEARING unit- 3
		23.11.2022	Generation & Demodulation of PCM system with Block diagram
		24.11.2022	applications PCM
		25.11.2022	Companding in PCM & Vocoder
		26.11.2022	Multiplexing &Time Division Multiplexingg & explain the operation with circuit diagram.
		28.11.2022	Generation & demodulation of Delta modulation with Block diagram.
		29.11.2022	Generation & demodulation of DPCM with Block diagram.
		30.11.2022	Comparison between PCM, DM , ADM & DPCM
UNIT-5		01.12.2022	Unit-5: ANALOG TO DIGITAL CONVERSION & PULSE MODULATION SYSTEM Concept of Sampling Theorem , Nyquist rate & Aliasing
		02.12.2022	Sampling Techniques (Instantaneous, Natural, Flat Top)
		03.12.2022	Analog Pulse Modulation - Generation and detection of PAM, PWM

		04.09.2022	REVISION/TEST/DOUBT CLEARING
		05.12.2022	PPM system with the help of block diagram
		06.12.2022	Block diagram & comparison of all above.
		07.12.2022	REVISION/TEST/DOUBT CLEARING
		08/12.2022	Unit-6: DIGITALMODULATION TECHNIQUES Concept of Multiplexing (FDM & TDM)
	DECEMBER	09.12.2022	Basic concept ,Transmitter & Receiver & Digital modulation Advantages of digital communication system over Analog system
		10.12.2022	Digital modulation techniques & types
		12.12.2022	Generation and Detection of binary ASK, FSK,
		13.12.2022	PSK, QPSK
		14.12.2022	QAM, MSK, GMSK.
UNIT-6		15.12.2022	Working of T1-Carrier system
		16.12.2022	Working operation of Spread Spectrum Modulation Techniques DS-SS .
		17.12.2022	Working operation of Spread Spectrum Modulation Techniques FH-SS.
		19.12.2022	Define bit, Baud, symbol channel capacity formula.(Shannon Theorems)
		20.12.2022	Application of Different Modulation Schemes.
		21.12.2022	Types of Modem & its Application
		22.12.2022	REVISION/TEST/DOUBT CLEARING

Amarendra Sahoo.

SIGNATURER OF LECTURER

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