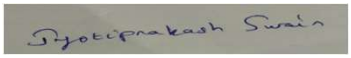
UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE: ETC	SEMESTER: 5th Sem	NAME OF THE TEACHING FACULTY: Er.Jyoti Prakash Swain		
SUBJECT: - ANALOG & DIGITAL COMMUNICATION	No of Days/Per week class allotted: **4** Class P/W**(60)**	Semester From Date:15/09/2022 To Date:22/12/2022 No. Of Weeks: **15**		
WEEK	**CLASS DAY**	**THEORY TOPICS**	**REMARKS**	
1st	1st	Communication Process- Concept of Elements of Communication System & its Block diagram	Date	Dean/Principal
	2nd	Source of information & Communication Channels.		
	3rd	Classification of Communication systems (Line & Wireless or Radio)		
	4th	Modulation Process, Need of modulation and classify modulation process		
2nd	1st	Doubt clear class		
	2nd	Analog and Digital Signals & its conversion.		
	3rd	Basic concept of Signals & Signals classification (Analog and Digital)		
	4th	Bandwidth limitation		
3rd	1st	Amplitude modulation & derive the expression for amplitude modulation signal, power relation in AM wave & find Modulation Index.		
	2nd	Generation of Amplitude Modulation(AM)- Linear level AM modulation only		
	3rd	Demodulation of AM waves (liner diode detector, square law detector & PLL)		
	4th	Explain SSB signal and DSBSC signal		
4th	1st	**Revision of last few class**		
	2nd	Methods of generating & detection SSB-SC signal (Indirect method only) 2.6 Methods of generation DSB-SC signal (Ring Modulator) and detection of DSB-SC signal (Synchronous detection)		

	3rd	Concept of Balanced modulators		
	4th	Vestigial Side Band Modulation		
5th	1st	Class Test		
	2nd	Concept of Angle modulation & its types (PM & FM)		
	3rd	Basic principle of Frequency Modulation & Frequency Spectrum of FM Signal.		
	4th	Expression for Frequency Modulated Signal & Modulation Index and sideband of FM signal		
6th	1st	Explain Phase modulation & difference of FM & PM)- working principle with Block Diagram		
	2nd	Compare between AM and FM modulation (Advantages & Disadvantages)		
	3rd	Methods of FM Generation (Indirect (Armstrong) method only) working principle with Block Diagram		
	4th	Methods of FM Generation (Indirect (Armstrong) method only) working principle with Block Diagram		
7th	1st	Methods of FM Demodulator or detector (Forster-Seely & Ratio detector)- working principle with Block Diagram		
	2nd	Revision of Last class		
	3rd	Network Configurations (T & pie)., Open circuit (Z-Parameter)& Short Circuit(Y-Parameter) Parameters- Calculate open & short Circuit Parameters for Simple Circuits & its conversion		
	4th	Classification of Radio Receivers , Define the terms Selectivity, Sensitivity, Fidelity and Noise Figure		
8th	1st	AM transmitter - working principle with Block Diagram		
	2nd	Concept of Frequency conversion, RF amplifier & IF amplifier ,Tuning, S/N ratio		
	3rd	Working of super heterodyne radio receiver with Block diagram		
	4th	Working of FM Transmitter & Receiver with Block Diagram		
9th	1st	Working of FM Transmitter & Receiver with Block Diagram		
	2nd	**Revision of Last Class**		
	3rd	Concept of Sampling Theorem , Nyquist rate & Aliasing		
	4th	Sampling Techniques (Instantaneous, Natural, Flat Top)		

10th	1st	Analog Pulse Modulation - Generation and detection of PAM, PWM & PPM system with the help of Block diagram & comparison of all above.		
	2nd	Concept of Quantization of signal & Quantization error		
	3rd	Generation & Demodulation of PCM system with Block diagram & its applications.		
	4th	Companding in PCM & Vocoder		
11th	1st	Time Division Multiplexing & explain the operation with circuit diagram.		
	2nd	Class Test		
	3rd	Generation & demodulation of Delta modulation with Block diagram.		
	4th	Generation & demodulation of DPCM with Block diagram.		
12th	1st	Comparison between PCM, DM , ADM & DPCM		
	2nd	Concept of Multiplexing (FDM & TDM)- (Basic concept , Transmitter & Receiver) & Digital modulation formats.		
	3rd	Advantages of digital communication system over Analog system		
	4th	Digital modulation techniques & types.		
13th	1st	Generation and Detection of binary ASK, FSK, PSK, QPSK, QAM, MSK, GMSK.		
	2nd	Working of T1-Carrier system		
	3rd	Spread Spectrum & its applications		
	4th	Working operation of Spread Spectrum Modulation Techniques (DS-SS & FH-SS).		
14th	1st	Last Class Discussion		
	2nd	Last Class Discussion		
	3rd	Define bit, Baud, symbol & channel capacity formula.(Shannon Theorems) 6.9 Application of Different Modulation Schemes.		
	4th	Define bit, Baud, symbol & channel capacity formula.(Shannon Theorems) 6.9 Application of Different Modulation Schemes.		
15th	1st	Types of Modem & its Application		
	2nd	Types of Modem & its Application		
	3rd	Discussion Sample paper question		
	4th	Discussion Sample paper question		



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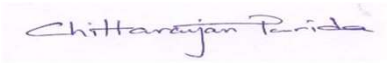

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