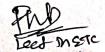
## Bhubanananda Orissa School of Engineering Lesson Plan

Lesson Plan				
Discipline: ETC ENGG	Semester: 5 <sup>th</sup>	Name of the Teaching Faculty: PRADEEP KUMAR DHAL SAMANT, LECTURER IN ETC		
<b>Subject</b> : Analog & Digital Communication	No of Days/ per week class allotted: 05 (Mon, Wed, Thu, Fri, Sat - 1 period each)	Semester from 01.10 2021 to 08.01.2022 No. of weeks:15		
Week No.	Class Day	Theory Topics		
1 <sup>st</sup>		Unit 1: Elements of Communication Systems		
	01-10-2021	Communication Process- Concept of Elements of Communication System & its Block diagram		
	04-10-2021	1.2 Source of information & Communication Channels		
2 <sup>nd</sup>	07-10-2021	1.3 Classification of Communication systems ( Line & Wireless or Radio)		
	08-10-2021	1.4 Modulation Process & Need of modulation		
	09-10-2021	1.4 Classify modulation process		
	21-10-2021	1.5 Analog and Digital Signals & its conversion.		
3 <sup>rd</sup>	22-10-2021	1.6 Basic concept of Signals & Signals classification (Analog and Digital)		
	23-10-2021	1.7 Bandwidth limitation		
4 <sup>th</sup>	25-10-2021	Unit 2: Amplitude (Linear) Modulation System 2.1 Amplitude modulation & derive the expression for amplitude modulation signal		
	27-10-2021	2.1 Power relation in AM wave & find Modulation Index.		
	28-10-2021	2.2 Generation of Amplitude Modulation (AM)- Linear level AM		
	29-10-2021	modulation only		
2	30-10-2021	Cirici diode detector)		
	Q1-11-2021	(Oquare law detector)		
5 <sup>th</sup>	05-11-2021	Table delication of Auto Waves (FEE)		
		Spring and Doboo signal		
	06-11-2021	method only)		
6 <sup>th</sup>	08-11-2021	2.6 Methods of generation DSB-SC signal (Ring Modulator )		
	10-11-2021	2.6 Methods of detection of DSB-SC signal(Synchronous detection)		
0	11-11-2021	2.7 Concept of Balanced modulators		
- 1 - 1	12-11-2021	2.8 Vestigial Side Band Modulation		
3'	13-11-2021	1 <sup>st</sup> Class Test		
7 <sup>th</sup>	15-11-2021	Unit 3: Angle Modulation Systems  3.1 Concept of Angle modulation & its types (PM & FM)		
	17-11-2021	3.2 Basic principle of Frequency Modulation & Frequency Spectrum of FM Signal.		
	18-11-2021	3.3 Expression for Frequency Modulated Signal & Modulation Index and sideband of FM signal		
	20-11-2021	3.4 Explain Phase modulation & difference of FM & PM		



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	22-11-2021	3.4 Working principle of PM with Block Diagram
8 <sup>th</sup>	24-11-2021	3.5 Compare between AM and FM modulation (Advantages & Disadvantages)
	25-11-2021	3.6 Methods of FM Generation (Indirect (Armstrong) method only) working principle with Block Diagram
	26-11-2021	3.7 Methods of FM Demodulator or detector (Forster-Seely)-working principle with BlockDiagram
	27-11-2021	3.7 Methods of FM Demodulator or detector (Ratio detector)-working principle with BlockDiagram
	29-11-2021	Unit 4: AM & FM Transmitter & Receiver
	29-11-2021	4.1 Classification of Radio Receivers
	01-12-2021	4.2 Define the terms Selectivity, Sensitivity, Fidelity and Noise Figure
9 <sup>th</sup>	02-12-2021	4.3 AM transmitter - working principle with Block Diagram
	03-12-2021	4.4 Concept of Frequency conversion, RF amplifier & IF amplifier, Tuning, S/N ratio
	04-12-2021	4.5 Working of super heterodyne radio receiver with Block diagram
	06-12-2021	4.6 Working of FM Transmitter & Receiver with Block Diagram
	08-12-2021	1 <sup>st</sup> Internal Exam
10 <sup>th</sup>	09-12-2021	Unit 5: Analog to Digital Conversion & Pulse Modulation System
	12 12 2021	5.1 Concept of Sampling Theorem , Nyquist rate & Aliasing
	10-12-2021	<ul><li>5.2 Sampling Techniques (Instantaneous, Natural, Flat Top)</li><li>5.3 Analog Pulse Modulation - Generation and detection of PAM</li></ul>
	11-12-2021	PWM & PPM system with the help of Block diagram
	13-12-2021	5.3 Comparison of PAM, PWM & PPM system
	15-12-2021	5.4 Concept of Quantization of signal & Quantization error
11 <sup>th</sup>	16-12-2021	5.5 Generation & Demodulation of PCM system with Block diagram & its applications
	17-12-2021	5.6 Companding in PCM & Decoder
	18-12-2021	5.7 Time Division Multiplexing & explain the operation with circuit diagram
	20-12-2021	5.8 Generation & demodulation of Delta modulation with Block diagram
12 <sup>th</sup>	22-12-2021	5.9 Generation & demodulation of DPCM with Block diagram
	23-12-2021	5.10 Comparison between PCM, DM , ADM & DPCM
	24-12-2021	2 <sup>nd</sup> Class Test
		Unit 6: Digital Modulation Techniques
	27-12-2021	6.1 Concept of Multiplexing (FDM & TDM)- (Basic concept, Transmitter & Receiver) & Digital modulationformats
13 <sup>th</sup>	29-12-2021	<ul><li>6.2 Advantages of digital communication system over Analog system</li><li>6.3 Digital modulation techniques &amp; types</li></ul>
	30-12-2021	6.4 Generation and Detection of binary ASK, FSK, PSK, QPSK, QAM, MSK, GMSK
	31-12-2021	6.5 Working of T1-Carrier system

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14 <sup>th</sup>	03-01-2022	6.7 Working operation of Spread Spectrum Modulation Techniques (DS-SS & FH-SS)
	05-01-2022	6.8 Define bit, Baud, symbol & channel capacity formula.(Shannon Theorems)
	06-01-2022	6.9 Application of Different Modulation Schemes
		6.10 Types of Modem & its Application
	07-01-2022	2 <sup>nd</sup> Internal Exam
	08-01-2022	OVERALL REVISION

Signature of Faculty

**Head of Department** 

**Academic Coordinator** 

Principal