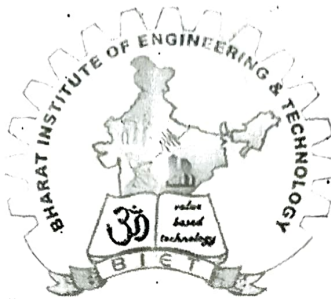


BHARAT INSTITUTE OF ENGINEERING & TECHNOLOGY

**SIVARAM VIHAR, GHATAKESWAR HILLS
MOHADA, BERHAMPUR (GM.)**



STUDENT'S ATTENDANCE REGISTER

Time	9:05	9:55	10:45	11:35		
Day	9:05 9:55	9:55 10:45	10:45 11:35			
Mon	ADC					
Tue			ADC			
Wed		ADC				
Thu						
Fri			ADC			
Sat	ADC					

Year/ Session : 2023 (winter)

Semester from Date: 01/08/2023 To Date : 30/11/2023

Semester & Branch

5th SEMESTER, [E&TC]

Subject with Code

ANALOG & DIGITAL COMMUNICATION

Name of the Faculty Member

PURNA CH. NAHAK

No of Weeks:

No of Class Allotted/Week : 05

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
			<u>UNIT - 1</u> <u>ELEMENTS OF COMMUNICATION SYSTEM</u>
AUG	1 st	01/08/23	1.1. Communication process - concept of elements of communication system & its block diagram.
		02/08/23	
		04/08/23	1.2. Communication process - source of information & communication channels.
AUG		05/08/23	1.3. Classification of communication systems (Line & wireless or radio)
		07/08/23	1.4. Modulation process, need of modulation and classify modulation process.
			<i>Seem Jodhgar</i>

Signature of the Faculty: *Janus*
01/08/23

Signature of the Principal/Course Co-ordinator/HOD: *[Signature]*
16/8/23

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
AUG	2nd	08/08/23	1.5. Analog & digital signals & its conversion.
		09/08/23	1.6. Basic concept of signals & signals classification (Analog & digital)
AUG	2nd	11/08/23	1.7. Bandwidth limitation
		12/08/23	<p style="text-align: center;"><u>UNIT-2</u></p> <p style="text-align: center;"><u>AMPLITUDE (LINEAR) MODULATION SYSTEM:-</u></p> <p>2.1. Amplitude modulation & derive the expression for amplitude modulation signal, power relation in AM wave & find modulation index.</p>

AUG

AUG

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21/08/23

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16/8/23

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
AUG	3 rd	14/08/23	2.2. Generation of amplitude modulation (AM) - Linear level AM modulation only.
		16/08/23	2.3. Demodulation of AM waves (linear diode detector, square law detector & PLL)
		18/08/23	
		19/08/23	2.4. Explain SSB signal & DSB-SC signal.
		21/08/23	
22/08/23	2.5. Methods of generating & detection SSB-SC signal (indirect method only).		
AUG	4 th	23/08/23	2.6. Methods of generation DSB-SC signal (Ring modulator) and detection of DSB-SC signal (synchronous detection)
		25/08/23	

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21/08/23

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16/8/23

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
AUG	4th	26/08/23	2.7. Concept of Balanced modulators.
		28/08/23	2.8. Vestigial side band modulation.
			<u>UNIT - 3</u>
			<u>ANGLE MODULATION SYSTEMS</u>
SEPT.	1st	29/08/23	3.1. Concept of angle modulation & its types. (PM & FM)
		01/09/23	3.2. Basic Principle of frequency modulation & frequency spectrum of FM signal.
		02/09/23	3.3. Expression for frequency modulated signal & modulation index and sideband of FM signal.

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Signature of the Faculty: *P. Srinivas*
01/08/23

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
SEPT.	1 st	04/09/23	3.4. Explain phase modulation & difference of FM & PM) - working principle with block diagram.
		05/09/23	
SEPT.	2 nd	08/09/23	3.5. Compare between AM & FM modulation (Advantages and disadvantages)
		09/09/23	3.6. Methods of FM generation (indirect (Armstrong) method only) working principle with block diagram.
		11/09/23	3.7. Methods of FM demodulation or detector (Foster-seely & Ratio detector) - working principle with block diagram.
12/09/23			

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
SEPT	3 rd		<u>UNIT-4</u> <u>AM & FM TRANSMITTER & RECEIVER</u>
		13/09/23	4.1. Classification of radio receivers.
		15/09/23	4.2. Define the terms selectivity, sensitivity, Fidelity & noise figure.
		16/09/23	4.3. AM transmitter - working principle with block diagram.
SEPT		18/09/23	4.4. Concept of frequency conversion, RF amplifier, IF amplifier, tuning, S/N ratio

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B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	
SEPT.	3 rd	22/09/23	4.5. working of super heterodyne radio receiver with block diagram.	
		23/09/23	4.6. working of FM transmitter & receiver with block diagram.	
		25/09/23		
		<u>UNIT-5</u> <u>ANALOG TO DIGITAL CONVERSION & PULSE MODULATION SYSTEM</u>		
		26/09/23	5.1. Concept of sampling theorem, Nyquist rate & Aliasing.	
		27/09/23	5.2. Sampling techniques (Instantaneous, Natural, Flat top)	
OCT.	1 st	30/09/23	5.3. Analog pulse modulation - Generation & detection of PAM, PWM, & PPM with the help of block diagram & comparison of all above.	
		02/10/23		
		07/10/23		

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01/10/23

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1/10/23

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic	
OCT.	2 nd	09/10/23	5.4. Concept of quantization of signal & quantization error.	
		10/10/23	5.5. Generation & demodulation of PCM system with block diagram & its applications.	
		11/10/23		
			13/10/23	5.6. Companding in PCM & vocoder.
	OCT.	3 rd	16/10/23	5.7. Time division multiplexing and explain the operation with circuit diagram.
17/10/23			5.8. Generation & demodulation of Delta modulation with block diagram.	
18/10/23				

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01/08/23

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11/08/23

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
OCT	1st	30/10/23	5.9. Generation & demodulation of DPCM with block diagram.
		31/10/23	
		01/11/23	5.10. Comparison between PCM, DM, ADM & DPCM.
NOV	1st		<u>UNIT-6</u> <u>DIGITAL MODULATION TECHNIQUES</u>
		03/11/23	6.1. Concept of multiplexing (FDM & TDM) - (Basic concept, Transmitter & Receiver) & digital modulation formats.
		04/11/23	
		06/11/23	6.2. Advantages of digital communication system over analog system.

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11/11/23

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
Nov.	3 rd	07/11/23	6.3. Digital modulation techniques & types.
		17/11/23	6.4. Generation & detection of binary ASK, FSK, PSK, QPSK, QAM, MSK, GMSK.
		18/11/23	6.5. working of T-1 carrier system.
		20/11/23	6.6. spread spectrum & its applications.
		21/11/23	6.7. working operation of spread spectrum modulation techniques (DS-SS & FH-SS).
22/11/23			
Nov.	4 th		

Signature of the Faculty:

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01/02/23

Signature of the Principal/Course Co-ordinator/HOD:

Aruna
11/02/23

B.I.E.T., COURSE PLAN

Month	Week	Class Day	Theory/Practical Topic
NOV.	4th	24/11/23	6.8. Define bit, Band, symbol, & channel capacity formula. (Shannon Theorems)
		25/11/23	6.9. Application of different modulation schemes.
		28/11/23	6.10. Types of Modem & its application.

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21/08/23

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1/8/23