

Lesson Plan

Name of the Faculty	:	Er. Yashika Kapoor
Discipline	:	Electronics & Communication Engineering
Semester	:	4th
Subject (CSE-206-N)	:	DIGITAL DATA COMMUNICATION
Lesson plan	:	15 Weeks(January, 2018 to April, 2018)
Lecture per Week (in Hours)	:	Lectures-03

Week	Theory	
	Lecture Day	Topic (including Assignment/test)
1 st	1.	Unit 1: Introduction, Communication model, Basic constituents of communication system
	2.	Need of modulation, Amplitude modulation, spectrum of AM wave
	3.	Modulation Index, DSBSC modulation
2 nd	4.	SSB Modulation, vestigial side band modulation
	5.	Angle modulation: Frequency and phase modulation, Assignment No 1: Spectrum of FM wave,
	6.	Modulation Index and bandwidth of FM signal, NBFM and WBFM
3 rd	7.	Test 1: Amplitude and Angle Modulation
	8.	Unit 2: Digital data, Digital signals
	9.	Encoding schemes: NRZ-L, NRZ-I
4 th	10.	Manchester-diff-Manchester encoding, Pseudoternary-Bipolar-AMI
	11.	B8ZS-HDB3-Evaluation factors-Digital Data
	12.	Analog signals: Encoding techniques- ASK-FSK
5 th	13.	Encoding techniques-PSK, QPSK-Performance comparison- Analog data
	14.	Digital signals: Quantization- Sampling theorem
	15.	PCM- Delta Modulation- Errors- comparison- Analog data
6 th	16.	Analog signals: Need for modulation
	17.	Modulation methods- Amplitude modulation- Angle modulation
	18.	Assignment No 2: Comparison- Amplitude modulation- Angle modulation
7 th	19.	Test 2: Encoding Techniques: ASK, FSK, PSK, QPSK
	20.	Unit 3: Introduction: Digital data communication techniques
	21.	Asynchronous and synchronous transmission

8 th	22.	Error detection techniques: Parity checks- cycle redundancy checks
	23.	Parity checks- cycle redundancy checks -checksum
	24.	Error Correcting codes: forward and backward error corrections
9 th	25.	DTE and DCE interface
	26.	Characteristics of DTE- DCE interface
	27.	Interfaces: Rs-232-C, Rs-449/422, A/423-A
10 th	28.	Test 3: Error detection techniques
	29.	Unit 4: Introduction to satellite communication
	30.	Multiplexing: Advantages- Types of multiplexing- FDM
11 th	31.	Statistical TDM or Asynchronous TDM
	32.	Synchronous TDM
	33.	Statistical TDM or Asynchronous TDM
12 th	34.	Study of their characteristics
	35.	Satellite communication systems: satellite parameters and configurations
	36.	Capacity allocation
13 th	37.	FDMA, TDMA
	38.	Fixed assigned multiple access(FAMA)
	39.	Demand assigned multiple access (DAMA)
14 th	40.	The concept of spread spectrum: FHSS,DSSS-CDMA- Transmission and reception
	41.	The concept of spread spectrum: FHSS,DSSS-CDMA- Transmission and reception
	42.	Test 4: FDMA, TDMA, FAMA, DAMA, FHSS, DSSS
15 th	43.	REVISION
	44.	REVISION
	45.	REVISION

Text Books:

- T1. William Stallings, Data and Computer Communications, PHI, Eighth Edition
T2. Forozan, "Data Communication & Networking", Tata McGraw Hill.

Reference Books:

- R1. Proakis, "Digital Communications", Mc Graw Hill.
R2. Stallings, "Data & Computer Communications", PHI.