GOVERNMENT POLYTECHNIC SECTOR-26,PANCHKULA

Lesson Plan (Odd Semester)

Name of the Faculty : Neha Midha
Discipline : Computer Engineering
Department : Computer Engineering
Semester : 3rd
Subject : Data Communication
Lesson Plan Duration :14 weeks

****Work load (Lecture / Practical) per week(in hours): Lectures-03, Practicals –Nil**

Week	Theory		Practical	
	Lect. day	Topic (Including assignment / test)	Pract. Day	Topic
1st	1st	**1. Introduction** : Data Communication- Components	N/A	N/A
	2nd	Data representation	N/A	N/A
	3rd	Data flow Networks- Distributed processing,	N/A	N/A
2nd	1st	Network criteria	N/A	N/A
	2nd	Physical structures	N/A	N/A
	3rd	Network Category- LAN ,WAN, MAN	N/A	N/A
3rd	1st	**2. Data and Signals** :Analog and Digital data	N/A	N/A
	2nd	Analog and digital signals	N/A	N/A
	3rd	Periodic and Non Periodic signals ,Periodic analog signals	N/A	N/A
4th	1st	Digital Signals- Bit rate, Bit length	N/A	N/A
	2nd	Digital signal as a composite analog signal ,Transmission of digital signals	N/A	N/A
	3rd	Transmission Impairment- Attenuation, Distortion and noise	N/A	N/A
5th	1st	Performance- bandwidth, throughput	N/A	N/A
	2nd	Latency and Jitter	N/A	N/A
	3rd	**3. Digital and Analog Transmission** : Analog transmission- Digital to Analog Conversion- ASK	N/A	N/A
6th	1st	PSK,FSK	N/A	N/A
	2nd	Analog to Analog Conversion- AM ,PM,FM(No mathematical treatment)	N/A	N/A
	3rd	Digital transmission- Digital to digital conversion- coding and schemes	N/A	N/A
7th	1st	Analog to digital conversion- PCM	N/A	N/A
	2nd	Delta Modulation (DM)	N/A	N/A
	3rd	Transmission modes- Serial transmission	N/A	N/A
8th	1st	Parallel Transmission	N/A	N/A

	2nd	Revision	N/A	N/A
	3rd	**4. Multiplexing** – FDM	N/A	N/A
9th	1st	WDM	N/A	N/A
	2nd	WDM	N/A	N/A
	3rd	TDM	N/A	N/A
10th	1st	TDM	N/A	N/A
	2nd	Revision	N/A	N/A
	3rd	**5. Transmission media**: Guided media	N/A	N/A
11th	1st	Twisted pair cable	N/A	N/A
	2nd	Co-axial cable	N/A	N/A
	3rd	Co-axial cable	N/A	N/A
12th	1st	Fibre optics cable	N/A	N/A
	2nd	Unguided Media	N/A	N/A
	3rd	Radio wave, Infrared	N/A	N/A
13th	1st	**6. Error Detection and Correction** : Types of Errors,Redundancy	N/A	N/A
	2nd	Detection v/s correction	N/A	N/A
	3rd	Forward error correction v/s retransmission.	N/A	N/A
14th	1st	Error detection through Parity Bit	N/A	N/A
	2nd	Block parity to detect double errors and correct single errors.	N/A	N/A
	3rd	General principles of error detection and correction using cyclic redundancy check	N/A	N/A