

Lesson Plan

Name of faculty : Rahul Kaushik
Discipline : Computer Engineering
Semester : 3rd Sem
Subject : **DATA COMMUNICATION**
Lesson Plan Duration : 15 Weeks
Work Load(Lecture/ Practical) per week (in hours): Lectures-03, Practicals – Nil

Week	Theory	
	Lecture day	Topics
1st	1st	Data Communication- Components
	2nd	Data representation
	3rd	Data flow Networks- Distributed processing,
2nd	4 th	Network criteria
	5 th	Physical structures Network Category- LAN, WAN, MAN
	6 th	Physical structures Network Category- LAN, WAN, MAN
3rd	7 th	Analog and Digital data
	8 th	Analog and digital signals
	9 th	Periodic and Non Periodic signals
4th	10 th	periodic analog signals Digital Signals
	11 th	Bit rate, Bit length
	12 th	Digital signal as a composite analog signal, transmission of digital signals
5th	13 th	Transmission Impairment- Attenuation, Distortion
	14 th	noise Performance- bandwidth, throughput, latency, jitter
	15 th	Revision
6th	16 th	Analog transmission- Digital to Analog Conversion- - Analog to digital conversion
	17 th	ASK, PSK, FSK
	18 th	Analog to Analog Conversion- AM, PM,FM(No mathematical treatment)
7th	19 th	Digital transmission
	20 th	Digital to digital conversion- coding and schemes
	21 st	PCM and Delta Modulation (DM) Transmission modes- Serial and parallel transmission
8th	22 nd	Multiplexing – FDM,

	23 rd	WDM,
	24 th	TDM
9 th	25 th	Revision
	26 th	Revision
	27 th	Guided media
10 th	28 th	Twisted pair cable, Co-axial cable, fibre optics cable
	29 th	Unguided Media- radio wave, Microwave, Infrared
	30 th	Revision
11 th	31 st	Revision
	32 nd	Types of Errors
	33 rd	redundancy, detection v/s correction
12 th	34 th	Forward error correction v/s retransmission
	35 th	Error detection through Parity bit
	36 th	Error detection through Parity bit
13 th	37 th	block parity to detect double errors and correct single errors
	38 th	block parity to detect double errors and correct single errors
	39 th	General principles of error detection and correction using cyclic redundancy check
14 th	40 th	General principles of error detection and correction using cyclic redundancy check
	41 st	Revision
	42 nd	Revision
15 th	43 rd	Revision
	44 th	Revision
	45 th	Revision