

## Lesson Plan

**Discipline** : **Computer Engineering**  
**Semester** : **3**  
**Subject** : **DATA COMMUNICATION**  
**Lesson Plan Duration** : **16 Weeks**

**Work Load (Lecture/ Practical) per week (in hours):** Lectures-03

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

	21 <sup>st</sup>	- PCM and Delta Modulation (DM) Transmission modes- Serial and parallel transmission
8 <sup>th</sup>	22 <sup>nd</sup>	Multiplexing – FDM,
	23 <sup>rd</sup>	WDM,
	24 <sup>th</sup>	TDM
<b>Week</b>	<b>Theory</b>	
	<b>Lecture day</b>	<b>Topic (including assignment /test)</b>
9 <sup>th</sup>	25 <sup>th</sup>	Revision
	26 <sup>th</sup>	Revision
	27 <sup>th</sup>	Guided media
10 <sup>th</sup>	28 <sup>th</sup>	Twisted pair cable, Co-axial cable, fibre optics cable
	29 <sup>th</sup>	Unguided Media- radio wave, Microwave, Infrared
	30 <sup>th</sup>	Revision
11 <sup>th</sup>	31 <sup>st</sup>	Revision
	32 <sup>nd</sup>	Types of Errors
	33 <sup>rd</sup>	redundancy, detection v/s correction
12 <sup>th</sup>	34 <sup>th</sup>	Forward error correction v/s retransmission
	35 <sup>th</sup>	Error detection through Parity bit
	36 <sup>th</sup>	Revision
13 <sup>th</sup>	37 <sup>th</sup>	block parity to detect double errors and correct single errors
	38 <sup>th</sup>	block parity to detect double errors and correct single errors
	39 <sup>th</sup>	Revision
14 <sup>th</sup>	40 <sup>th</sup>	General principles of error detection and correction using cyclic redundancy check
	41 <sup>st</sup>	General principles of error detection and correction using cyclic redundancy check
	42 <sup>nd</sup>	Revision
15 <sup>th</sup>	43 <sup>rd</sup> to 45 <sup>th</sup>	Revision
16 <sup>th</sup>	46 <sup>th</sup> to 48 <sup>th</sup>	Revision