## MERI COLLEGE OF ENGINEERING AND TECHNOLOGY

Asanda, Near Sampla

(www.meri.edu.in/engineering/)

## **LESSON PLAN**

Name of the faculty : Dr. Umesh Gupta

**Discipline** : Electronics and Communication Engineering

**Semester** : 7<sup>th</sup>

**Subject** : Wireless Communication

**Lesson Plan Duration**: 15 weeks (From August, 2018 to November 2018)

Work Load (Lecture/ Practical) per week (in hours): Lecture-04, Practical-02

Week	Theory		Practical	
	Lecture day	Topic(Including assignment/test)	Practical Day	Topic
1 <sup>st</sup>	1 <sup>st</sup>	Introduction To Wireless Communication Systems	1 <sup>st</sup>	WIRELESS PATH LOSS COMPUTATIONS
	2 <sup>nd</sup>	Evolution of mobile radio communications		
	3 <sup>rd</sup>	Examples of wireless comm. systems		
	4 <sup>th</sup>	Paging systems		
2 <sup>nd</sup>	1 <sup>st</sup>	Cordless telephone systems,	2 <sup>nd</sup>	Free Space Propagation –
	2 <sup>nd</sup>	Comparison of various wireless systems.		Path Loss Model
	3 <sup>rd</sup>	Comparison of various wireless systems.		
	4 <sup>th</sup>	<b>Modern Wireless Communication</b>		
		Systems		
3 <sup>rd</sup>	1 <sup>st</sup>	Second generation cellular networks	3 <sup>rd</sup>	Link Budget Equation for
	2 <sup>nd</sup>	Second generation cellular networks		Satellite Communication
	3 <sup>rd</sup>	Third generation wireless networks		
	4 <sup>th</sup>	Third generation wireless networks		
4 <sup>th</sup>	1 <sup>st</sup>	Wireless in local loop	4 <sup>th</sup>	Carrier to Noise Ratio in Satellite Communication
	2 <sup>nd</sup>	Wireless local area networks		
	3 <sup>rd</sup>	Wireless local area networks		
	4 <sup>th</sup>	Blue tooth and Personal Area networks.		
5 <sup>th</sup>	1 <sup>st</sup>	<b>Introduction To Cellular Mobile Systems</b>	5 <sup>th</sup>	Outdoor Propagation – Okumura Model
	2 <sup>nd</sup>	Spectrum Allocation		
	3 <sup>rd</sup>	Spectrum Allocation		
	4 <sup>th</sup>	Basic of Cellular Systems		
6 <sup>th</sup>	1 <sup>st</sup>	Basic of Cellular Systems	6 <sup>th</sup>	Study of wireless

	2 <sup>nd</sup>	Performance Criteria		Communications using
	3 <sup>rd</sup>	Operation of cellular systems	1	Communication Trainer
	4 <sup>th</sup>	Analog cellular systems		Kits
7 <sup>th</sup>	1 <sup>st</sup>	Analog cellular systems	7 <sup>th</sup>	BASEBAND COMMUNICATION
	2 <sup>nd</sup>	Digital Cellular Systems		
	3 <sup>rd</sup>	Digital Cellular Systems		
	4 <sup>th</sup>	Ellular System Design Fundamentals		
8 <sup>th</sup>	1 <sup>st</sup>	Frequency Reuse	8 <sup>th</sup>	Adaptive Linear Equalizer
	2 <sup>nd</sup>	Channel assignment strategies		
	3 <sup>rd</sup>	channel assignment strategies		
	4 <sup>th</sup>	Handoff Strategies		
9 <sup>th</sup>	1 <sup>st</sup>	Interference and system capacity	9 <sup>th</sup>	Code Division Multiple Access (CDMA) - Multipath
	2 <sup>nd</sup>	Tracking and grade off service		
	3 <sup>rd</sup>	Improving coverage and capacity		
	4 <sup>th</sup>	Multiple Access Techniques For Wireless		
		Communication		
10 <sup>th</sup>	1 <sup>st</sup>	Introduction to Multiple Access	10 <sup>th</sup>	Code Division Multiple Access (CDMA) – Multiuser
	2 <sup>nd</sup>	Introduction to FDMA	1	
	3 <sup>rd</sup>	Introduction to TDMA	-	
	4 <sup>th</sup>	Spread Spectrum multiple Access		
11 <sup>th</sup>	1 <sup>st</sup>	Space division multiple access	11 <sup>th</sup>	Global System for Mobile Communication (GSM)
	$2^{\text{nd}}$	Packet ratio		
	3 <sup>rd</sup>	Capacity of a cellular systems		
	4 <sup>th</sup>	Wireless Networking		
12 <sup>th</sup>	1 <sup>st</sup>	Difference between wireless and fixed	12 <sup>th</sup>	Spread Spectrum
		telephone networks		
	2 <sup>nd</sup>	Development of wireless networks		
	3 <sup>rd</sup>	Fixed network transmission hierarchy		
	4 <sup>th</sup>	Traffic routing in wireless networks		
13 <sup>th</sup>	1 <sup>st</sup>	Wireless data services	13 <sup>th</sup>	DSSS Modulation & Demodulation
	2 <sup>nd</sup>	Common channel signaling		
	3 <sup>rd</sup>	ISDN (Integrated Services digital Networks)		
	4 <sup>th</sup>	Advanced intelligent networks		
14 <sup>th</sup>	1 <sup>st</sup>	Intelligent cell concept and application	14 <sup>th</sup>	Revision
	2 <sup>nd</sup>	Intelligent cell concept		
	3 <sup>rd</sup>	Applications of intelligent micro-cell		
		Systems		
	4 <sup>th</sup>	in-Building Communication		
15 <sup>th</sup>	1 <sup>st</sup>	CDMA cellular Radio Networks	15 <sup>th</sup>	Internal Examination
	2 <sup>nd</sup>	Discussion on previous year question papers	1	
	3 <sup>rd</sup>	Discussion on previous year question papers		
	4 <sup>th</sup>	Discussion on previous papers		