

Lesson Plan

Name of faculty: **Dr. Sunil Kumar Dahiya, Lecturer**

Discipline /Semester/ Subject: **ECE/ 5th Sem / WMC**

Lesson Plan Duration: **from August, 2024 to Dec., 2024**

Work Load (Lecture& Practical) per week (in hours): **Lectures: 02 hours per week & Practical: 04 hours per week**

	Theory	Practical
Week	Topic (Including assignment/ test)	Topic
1	Basics of wireless	Study the features, specification and working of cellular mobile
	Advantages of wireless communication	
2	Electromagnetic waves, Frequency Spectrum used	Viva -Voce
	Cellular Network Systems	
3	Introduction to Propagation considerations- Range and Fading	Measurement of signal strength at various points from a transmitting antenna.
	Assignment/ Revision	
4	Cellular Concept	Viva -Voce
	Cell area, Cell Site Structure	
5	Capacity of cell	Demonstration of Base Trans Receiver (BTS) with nearby cellular tower.
	Concept of Frequency Reuse	
6	Co-channel Interference	Viva -Voce
	Adjacent channel Interference	
7	Power Control for reducing Interference	Observing call processing of GSM mobile phones.
	Fundamentals of Cell splitting	
8	Sectoring	Viva -Voce
	Introduction to Multiple Access Techniques for Wireless Communication	
9	Frequency Division Multiple Access (FDMA)	Visit to Mobile Switching Centre.
	Time Division Multiple Access (TDMA)	
10	Code Division Multiple Access (CDMA)	Viva -Voce
	WCDMA	
11	Introduction to OFDMA	Troubleshooting of GSM mobile phones
	Introduction of Global Systems for Mobile Communication (GSM)	
12	Architecture of GSM	Study of LTE mobile communication using trainer kit
	Introduction of GPRS	
13	EDGE	Study of LTE mobile communication using trainer kit
	Bluetooth, Wi-Fi	
14	Assignment/ Revision/ 2nd Sessional	Viva -Voce
	Introduction to 3G & 4G	
15	Introduction to Architecture and Features of OF UMTS	Study and demonstration of AT commands of LTE using trainer kit.
	Features and Architecture of LTE (Long Term Evolution).	
16	Introduction to 5G	Study and demonstration of AT commands of LTE using trainer kit.
	Concept of New Radio Technology, Comparison of 4G and 5G	
17	Revision/3rd Sessional	Viva -Voce