

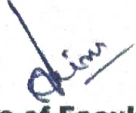
Academic Lesson Plan of Winter 2026

Department : CSE	Semester : 5TH	Name of the teaching faculty: NALINIKANTA MOHAPATRA
Subject: MOBILE COMPUTING	No.of days/per week class allotted . 3p/week.	Semester from : 1ST July 2026
		No. of weeks:15 weeks
		Topics to be covered:
1 st week	1 st	Introduction to Wireless and Mobile Network
	2 nd	Historic background, Cellular Industry
	3 rd	advantages &disadvantages of Mobile systems
2 nd week	1 st	advantages &disadvantages of Mobile systems
	2 nd	Cell concepts, Wireless Network
	3 rd	Wire based and wireless systems
3 rd week	1 st	Infrared systems, cellular radio
	2 nd	Concepts of wireless LANS
	3 rd	Concepts of wireless LANS
4 th week	1 st	voice signals-its characteristics
	2 nd	Frequency spectrum, digitalsignal
	3 rd	Broadband and base band signals
5 th week	1 st	Cell layout, path-loss, propagation delay
	2 nd	fading size and shape of cell, Concepts of frequency reuse
	3 rd	spectrum efficiency, Cell capacity to handle calls
6 th week	1 st	Call demand in a cell, channel requirement
	2 nd	Call demand in a cell, channel requirement
	3 rd	cell splitting, cell sectoring concept
7 th week	1 st	Concepts of Multiplexing: FDM
	2 nd	FDMA, TDD
	3 rd	TDM, TDMA, CDMA
8 th week	1 st	TDM, TDMA, CDMA
	2 nd	Concepts of spread spectrum and frequency hopping
	3 rd	Introductory idea on AMPS
9 th week	1 st	Compression operations - voice compression and data compression
	2 nd	V.42
	3 rd	V.42
10 th week	1 st	fax compression-introductory idea
	2 nd	Global System for Mobile Communication
	3 rd	Historical background
11 th week	1 st	SIM and GSM
	2 nd	Overview of GSM operationsRegistration
	3 rd	Call Establishment
12 th week	1 st	Call Establishment
	2 nd	Roaming
	3 rd	GSM channel and operations
13 th week	1 st	Need of compatibility, Bluetooth concepts, Comparison with IR system
	2 nd	Architecture, potential applications
	3 rd	IEEE802.11x Wireless LAN standard-basic configuration and architecture
14 th week	1 st	concepts of wireless home networking
	2 nd	concepts of wireless home networking
	3 rd	Introduction, frequency hopping spread spectrum, Encryption concepts
15 th week	1 st	Introduction, frequency hopping spread spectrum, Encryption concepts
	2 nd	Public Key Encryption, Authentication Model
	3 rd	Smart Card, Biometric Authentication

COURSE OUTCOMES

CO.1	Explain the fundamentals, evolution, and architecture of wireless and mobile communication systems, including cellular concepts and wireless networks.
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CO.2	Analyze cellular system design parameters such as frequency reuse, propagation characteristics, cell capacity, channel allocation, cell splitting, and sectoring.
CO.3	Describe multiplexing and multiple access techniques (FDM, FDMA, TDM, TDMA, CDMA), spread spectrum methods, and basic data and voice compression concepts used in wireless communication.
CO.4	Understand the operation of GSM, Bluetooth, and IEEE 802.11 wireless LAN technologies, including their architecture, protocols, and practical applications.
CO.5	Evaluate security and privacy mechanisms in wireless networks, including encryption, authentication models, smart cards, biometric authentication, and frequency hopping techniques.


Signature of Faculty


HOD, CSE