



GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLYTECHNIC)
Mathasahi , Jagatpur , Cuttack - 754200


DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
LESSON PLAN(2026-2027)

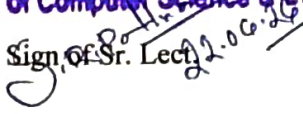
Discipline: Computer Science & Engineering	Semester:5th Winter/2025	Name of the Teaching Faculty: Suraj Kumar Bhujabal
Subject: Mobile Computing Theory-04	No. Of Days/Week:03	Start Date:-01.07.2026 End Date:05.11.2026

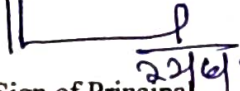
Week	Class Day	Theory Topics
1st	1st	Unit-1: Introduction to Wireless networks & Mobile Computing Historic background, Cellular Industry
	2nd	advantages & disadvantages of Mobile systems
	3rd	Cell concepts, Wireless Network
2nd	1st	Class test
	2nd	Unit-2: Basics of Wireless & Mobile System Wire based and wireless systems
	3rd	Infrared systems, cellular radio,
3rd	1st	Concepts of wireless LANs, voice signals- its characteristics
	2nd	Frequency spectrum, digital signal,
	3rd	Broadband and base band signals
4th	1st	Class test
	2nd	Unit-3: Cellular Systems Cell layout, path-loss
	3rd	
5th	1st	propagation delay
	2nd	fading size and shape of cell, Concepts of frequency reuse
	3rd	spectrum efficiency

6th	1st	Cell capacity to handle calls, Call demand in a cell
	2nd	channel requirement
	3rd	cell splitting, cell sectoring concept
7th	1st	Class test
	2nd	Unit-4: Channel Utilization Scheme Concepts of Multiplexing: FDM, FDMA, TDD, TDM, TDMA, CDMA
	3rd	Concepts of Multiplexing: FDM, FDMA, TDD, TDM, TDMA, CDMA
8th	1st	Concepts of spread spectrum and frequency hopping
	2nd	Introductory idea on AMPS; Compression operations - voice compression and data compression
	3rd	V.42, fax compression-introductory idea
9th	1st	Class test
	2nd	Unit-5: Global System for Mobile Communication (GSM): Historical background, SIM and GSM
	3rd	Call Establishment
10th	1st	Overview of GSM operations- Registration
	2nd	GSM channel and operations
	3rd	Class test
11th	1st	Unit-6: Blue tooth and Wireless LANS: Need of compatibility, Bluetooth concepts
	2nd	Comparison with IR system, Architecture
	3rd	potential applications , IEEE802.11x Wireless LAN standard-basic configuration and architecture
12th	1st	IEEE802.11x Wireless LAN standard-basic configuration and architecture
	2nd	concepts of wireless home networking
	3rd	Unit-7: Security and Privacy introduction

13th	1st	frequency hopping spread spectrum,
	2nd	Encryption concepts
	3rd	Public Key Encryption
14th	1st	Authentication Model
	2nd	Smart Card
	3rd	Biometric Authentication
15th	1st	Class test
	2nd	Revision and Discussion of Question Answer.
	3rd	Revision and Discussion of Question Answer.


 Sign of faculty
 22.06.2026

Sr. Lecturer
Dept. of Computer Science & Engg

 Sign of Sr. Lect. 22.06.26


 Sign of Principal
 22/6/26