

Lesson Plan

Government Polytechnic Kendrapara

Department of Electronics and Tele-communication Engineering

Discipline: ETC		Semester-6th Summer-2026	Name of the Teaching Faculty: Sri.Jogeswar Naik(Lect. S-II ETC Engg.)
Sl. No.	Subject-Th.1. (ADVANCE COMMUNICATION ENGINEERING)	No. Of Days/Week class alloted:04	Semester From date:-22.12.2025 To date: 18.04.2026 (No of weeks: 15)
	Weeks/Months	Class Day	Topic
1	4th week 22dec to 31st dec	1st	RADAR & NAVIGATION AIDS , Explain basic Radar,
		2nd	Explain working principle of Simple Radar system , its types
		3rd	Derive maximum Radar range equation & explain the Performance factor of radar
		4th	Explain Working principle of Pulsed Radar system
		5th	Explain Function of radar indication and Working principle of moving target indicator
2	1st week 2nd jan To 09th jan	1st	Explain Doppler effect & Working principle of C.W Radar
		2nd	Explain Radar aids to Navigation
		3rd	Explain MTI Radar- working principle
		4th	Explain Aircraft landing system
		5th	Explain Aircraft landing system
3	2nd week 12th jan To 17th jan	1st	Explain Navigation Satellite System.(NAVSAT) and GPS
		2nd	Explain Navigation Satellite System.(NAVSAT) and GPS
		3rd	3D RADAR and Doppler RADAR
		4th	SATELLITE COMMUNICATION , Explain Basic Satellite Transponder & Kepler's Laws
		5th	Explain Satellite Orbital patterns and elevation(LEO,MEO & GEO) categories
4	3rd week 19th jan To 22th jan	1st	Explain Geostationary Satellite, calculate its height,
		2nd	Explain Working of the Satellite sub system
		3rd	Explain Satellite frequency bands, General structure of satellite Link system (Uplink, Down link, Transponder, Crosslink
		4th	Explain Working principle of direct broadcast system (DBS)
		5th	Explain Working principle of VSAT system
5	4th week 27th jan To 31th jan	1st	Define multiple accessing & name various types
		2nd	Explain Time Division Multiple Accessing(TDMA)
		3rd	Explain Code Division Multiple Accessing (CDMA) – block
		4th	Explain Satellite Application- Communication
		5th	Explain Working principle of GPS Receiver & Transmitter&
6	1st week 2nd feb To 07th feb	1st	Explain Working principle of GPS Receiver & Transmitter&
		2nd	Explain Optical Satellite Link transmitter & Receiver
		3rd	Explain Optical Satellite Link transmitter & Receiver
		4th	OPTICAL FIBER COMMUNICATION , Explain Basic
		5th	State the advantage and disadvantage of optical fibres
7	2nd week 9th feb To 13th feb	1st	Classify optical fibres & state the principles of
		2nd	Explain Optical fiber construction. Define: Velocity of propagation, Critical angle, Acceptance angle, numerical aperture.
		3rd	Explain Optical fibre communication system- block diagram & it's working principle
		4th	State different Modes of propagation and index profile of
		5th	Explain different losses in optical fibers – Absorption losses,

8	3rd week 16th feb To 21th feb	1st	Explain Optical sources(Transmitter) & types – LED
		2nd	Explain semiconductor laser diodes, its working principles, block diagram using laser feedback control circuit
		3rd	Explain PIN and APD diodes & Block diagram using APD Connectors and splices –Optical cables – Couplers, Optical detectors
		4th	Explain Optical repeater & Single Channel system,
		5th	Applications of optical fibres – civil, Industry and Military
9	4th week 23th feb To 27th feb	1st	Explain Wave Length Division Multiplexing (WDM).
		2nd	Explain Wave Length Division Multiplexing (WDM).
		3rd	Explain Wave Length Division Multiplexing (WDM).
		4th	TELECOMMUNICATION SYSTEM , Explain Working of
		5th	Explain Function of switching system.& Call procedures
10	1st week 2nd march To 07th march	1st	Explain Space and time switching
		2nd	Explain Numbering plan of telephone networks (National Schemes & International Numbering
		3rd	Explain Working principle of a PBX
		4th	Explain Digital EPABX, Units of Power Measurement
		5th	Explain Working principle of Internet Protocol Telephone
11	2nd week 9th march To 13th march	1st	Explain Working principle of Internet Telephone
		2nd	Explain Working principle of Internet Telephone
		3rd	DATA COMMUNICATION ,
		4th	Explain Architecture, Protocols and Standards
		5th	Explain Data Communication Circuits
12	3rd week 16th march To 20th march	1st	Explain Types of Transmission & Transmission Modes
		2nd	Explain Data Communication codes
		3rd	Explain Basic idea of Error control & Error Detection
		4th	Explain MODEM & its basic block diagram & common
		5th	Explain MODEM & its basic block diagram & common
13	4th week 23th march To 31th march	1st	Explain MODEM & its basic block diagram & common
		2nd	WIRELESS COMMUNICATION , Explain Basic concept of Cell Phone.
		3rd	Explain Frequency reuse, channel assignment strategies,
		4th	Explain the concept of improving coverage and capacity
		5th	Explain Wireless Systems and its Standards
14	1st week 02th april To 10th april	1st	Discuss the GSM (Global System for Mobile) service and
		2nd	Explain Architecture of GSM system & GSM mobile station &channel types of GSM system
		3rd	Explain working of forward and reverses CDMA channel, the frequency and channel specifications
		4th	Explain Architecture and features of GPRS. 6.8 Discuss the
		5th	Explain Working of Wireless Application Protocol (WAP)
15	2nd week 13th april To 18th april	1st	Explain Working of Wireless Application Protocol (WAP)
		2nd	Explain Features of SMS, MMS, 1G,2G, 3G, 4G& 5G Wireless network
		3rd	Explain Features of SMS, MMS, 1G,2G, 3G, 4G& 5G Wireless network
		4th	Explain Smart Phone and discuss its features indicate through Block diagram
		5th	Explain Smart Phone and discuss its features indicate through Block diagram

7/5/21/2025