

RKCAT POLYTECHNIC , BALASORE , NILAGIRI**DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION****LESSON PLAN FOR THE SESSION- 2024-25****SUBJECT- ADVANCE COMMUNICATION ENGINEERING****BRANCH-E&TC****NAME OF THE FACULTY- BISWA KALAYNI DAS****SEMESTER-6TH**

UNIT	DATE	LECTURE NO.	TOPIC TO BE COVERED
1	04/02/25	1	Basic Radar, applications, Working principle of Simple Radar system, its types
	06/02/25	2	Radar range equation & Performance factor of radar
	07/02/25	3	Working principle of Pulsed Radar system
	10/02/25	4	Working principle of moving target indicator, Define Doppler effect & Working principle of C.W Radar.
	11/02/25	5	Radar aids to Navigation
	12/02/25*	6	MTI Radar
	13/02/25	7	Navigation Satellite System (NAVSAT) & GPS System
	14/02/25	8	Aircraft landing system
2	15/02/25	9	Basic Satellite Transponder & Kepler's Laws
		10	Satellite Orbital patterns and elevation (LEO, MEO & GEO) categories
	17/02/25	11	Concept of Geostationary Satellite, calculate its height & velocity
	18/02/25	12	Round trip time delay & their advantage & disadvantage
	19/02/25*	13	Working of the Satellite sub system
	20/02/25	14	Satellite frequency allocation and frequency bands, General structure of satellite Link system
	21/02/25	15	Working principle of direct broadcast system (DBS), Working principle of VSAT system
	24/02/25	16	Define multiple accessing & name various types, Time Division Multiple Accessing (TDMA), its advantages & dis-advantages.

	25/02/25	17	Code Division Multiple Accessing (CDMA), its advantages & disadvantages
	27/02/25	18	Communication Satellite (MSAT)
	28/02/25	19	Satellite Application- Digital Satellite Radio
	01/03/25	20	Working principle of GPS Receiver & Transmitter
		21	Application of GPS, Optical Satellite Link transmitter & Receiver
3	03/03/25	22	Basic principle of Optical communication, Compare the advantage and disadvantage of optical fibers & metallic cables
	04/03/25	23	Electromagnetic Frequency and wave line spectrum, Principles of propagation in a fiber using Ray Theory
	06/03/25	24	Optical fiber construction, Define terms: Velocity of propagation, Critical angle, Acceptance angle, numerical aperture
	07/03/25	25	Optical fiber communication system
	10/03/25	26	Types of optical fiber configuration: Single-mode step index, Multi-mode step index, Multi-mode Graded index
	11/03/25	27	Modes of propagation and index profile of optical fiber
	12/03/25*	28	Attenuation in optical fibers – Absorption losses, scattering, losses, bending losses, core and cladding losses
	13/03/25	29	Dispersion
	17/03/25	30	Optical sources (Transmitter) & types– working of LED
	18/03/24	31	LASER-its working principles, block diagram using laser feedback control circuit
	19/03/25*	32	Optical detectors–PIN diode
	20/03/25	33	APD diodes
	21/03/25	34	Connectors and splices
	24/03/25	35	Optical cables– Couplers
	25/03/25	36	Optical repeater & Single Channel system
	26/03/25*	37	Applications of optical fibers, Concept of Wave Length Division Multiplexing (WDM) principles
4	27/03/25	38	Working of Electronic Telephone System(Telephone Set)

	28/03/25	39	Function of switching system & Call procedures
	29/03/25	40	Space and time switching
		41	Numbering plan of telephone networks
	02/04/25*	42	Working principle of a PBX
	03/04/25	43	Digital EPABX, Units of Power Measurement
	04/04/25	44	Working principle of Internet Protocol Telephone
	05/04/25	45	Working principle of Internet Telephone
5		46	Basic concept of Data Communication
	07/04/25	47	Protocols, Standards
	08/04/25	48	Architecture
	09/04/25*	49	Data Communication Circuits
	10/04/25	50	Types of Transmission& Transmission Modes
	11/04/25	51	Data Communication codes
	15/04/25	52	Multilevel scheme, Block coding, scrambling
	16/04/25*	53	Error control
	17/04/25	54	Error detection (Simple Parity, two-dimensional parity and Checksum)
	19/04/25	55	CRC method
		56	MODEM & its basic block diagram & common features of Voice Band Modem
	21/04/25	57	Solve the problems related to error detection
6	22/04/25	58	Basic concept of Cell Phone, frequency reuse channel assignment strategic
	24/04/25	59	Handoff
	25/04/25	60	Co-channel Interference and system capacity of a Cellular Radio systems
	28/04/25	61	Concept of improving coverage and capacity in cellular system
	29/04/25	62	Wireless Systems and its Standards ,Discuss the GSM (Global System for Mobile) service and features

	01/05/25	63	Architecture of GSM system & GSM mobile station
	02/05/25	64	Channel types of GSM system.
	03/05/25	65	working of forward and reverse CDMA channel, the frequency and channel specifications
		66	Architecture and features of GPRS
	05/05/25	67	Discuss the mobile TCP, IP protocol
	06/05/25	68	Working of Wireless Application Protocol (WAP)
	08/05/25	69	Features of SMS, MMS
	09/05/25	70	1G, 2G, 3G, 4G & 5G Wireless network
	13/05/25	71	Smart Phone and discuss its features indicate through Block diagram
	15/05/25	72	PREVIOUS SEMESTER QUESTION DISCUSSION
	16/05/25	73	PREVIOUS SEMESTER QUESTION DISCUSSION
	17/05/25	74	OMR TEST
		75	CLASS TEST QUESTION DISCUSSION & DISTRIBUTION OF EVALUATED ANSWER SHEET TO THE STUDENT FOR THEIR REFERENCES