GANDHI ACA~~DEMY OF TECHNOLOGY AND ENGINEERING~~,BERHAMPUR

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION

LESSON PLAN FOR THE SESSION- 2023-24

SUBJECT- ADVANCED COMMUNICATION ENGINEERING **BRANCH-E&TC**

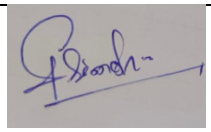
NAME OF THE FACULTY- MR. SARADA PRASANNA SINGH **SEMESTER -6TH**

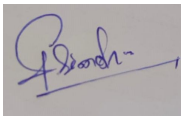
UNIT	DATE	LECTURE NO.	TOPIC TO BE COVERED
1	16/01/2024	1	Basic Radar,applications, Working principle of Simple Radar system, its types
	17/01/2024	2	Radar range equation & Performance factor of radar
	18/01/2024	3	Working principle of Pulsed Radar system
	19/01/2024	4	Working principle of moving target indicator, Define Doppler effect & Working principle of C.W Radar.
	20/01/2024	5	Radar aids to Navigation
		6	MTI Radar
	24/01/2024	7	Navigation Satellite System (NAVSAT) & GPS System
	25/01/2024	8	Aircraft landing system
2	27/01/2024	9	Basic Satellite Transponder & Kepler's Laws
	30/01/2024	10	Satellite Orbital patterns and elevation (LEO,MEO&GEO) categories
	31/01/2024	11	Concept of Geostationary Satellite, calculate its height & velocity
	01/02/2024	12	Round trip time delay & their advantage & disadvantage
	02/02/2024	13	Working of the Satellite sub system
	03/02/2024	14	Satellite frequency allocation and frequency bands, General structure of satellite Link system
		15	Working principle of direct broadcast system(DBS), Working principle of VSAT system

	06/02/2024	16	Define multiple accessing & name various types, Time Division Multiple Accessing (TDMA), its advantages & dis-advantages.
	07/02/2024	17	Code Division Multiple Accessing (CDMA), its advantages & dis-advantages
	08/02/2024	18	Communication Satellite (MSAT)
	09/02/2024	19	Satellite Application- Digital Satellite Radio
	10/02/2024	20	Working principle of GPS Receiver & Transmitter
		21	Application of GPS, Optical Satellite Link transmitter & Receiver
3	13/02/2024	22	Basic principle of Optical communication, Compare the advantage and disadvantage of optical fibers & metallic cables
	15/02/2024	23	Electromagnetic Frequency and wave line spectrum, Principles of propagation in a fiber using Ray Theory
	16/02/2024	24	Optical fiber construction, Define terms: Velocity of propagation, Critical angle, Acceptance angle, numerical aperture
	17/02/2024	25	Optical fiber communication system
		26	Types of optical fiber configuration: Single-mode step index, Multi-mode step index, Multi-mode Graded index
	20/02/2024	27	Modes of propagation and index profile of optical fiber
	21/02/2024	28	Attenuation in optical fibers – Absorption losses, scattering, losses, bending losses, core and cladding losses
	22/02/2024	29	Dispersion
	23/02/2024	30	Optical sources (Transmitter) & types– working of LED
	24/02/2024	31	LASER-its working principles, block diagram using laser feedback control circuit
		32	Optical detectors–PIN diode
	27/02/2024	33	APD diodes
	28/02/2024	34	Connectors and splices
	29/02/2024	35	Optical cables– Couplers
	01/03/2024	36	Optical repeater & Single Channel system

	02/03/2024	37	Applications of optical fibers, Concept of Wave Length Division Multiplexing (WDM) principles
4		38	Working of Electronic Telephone System(Telephone Set)
	06/03/2024	39	Function of switching system & Call procedures
	07/03/2024	40	Space and time switching
	09/03/2024	41	Numbering plan of telephone networks
		42	Working principle of a PBX
	12/03/2024	43	Digital EPABX, Units of Power Measurement
	13/03/2024	44	Working principle of Internet Protocol Telephone
	14/03/2024	45	Working principle of Internet Telephone
5	15/03/2024	46	Basic concept of Data Communication
	16/03/2024	47	Protocols, Standards
		48	Architecture
	19/03/2024	49	Data Communication Circuits
	20/03/2024	50	Types of Transmission& Transmission Modes
	21/03/2024	51	Data Communication codes
	22/03/2024	52	Multilevel scheme, Block coding, scrambling
	23/03/2024	53	Error control
		54	Error detection (Simple Parity, two dimensional parity and Checksum)
	27/03/2024	55	CRC method
	28/03/2024	56	MODEM & its basic block diagram & common features of Voice Band Modem
	30/03/2024	57	Solve the problems related to error detection
6		58	Basic concept of Cell Phone, frequency reuse channel assignment strategic
	02/04/2024	59	Handoff
	03/04/2024	60	Co-channel Interference and system capacity of a Cellular Radio

			systems
	04/04/2024	61	Concept of improving coverage and capacity in cellular system
	05/04/2024	62	Wireless Systems and its Standards ,Discuss the GSM (Global System for Mobile) service and features
	06/04/2024	63	Architecture of GSM system & GSM mobile station
	09/04/2024	64	Channel types of GSM system.
	10/04/2024	65	working of forward and reverse CDMA channel, the frequency and channel specifications
	12/04/2024	66	Architecture and features of GPRS
	13/04/2024	67	Discuss the mobile TCP, IP protocol
	16/04/2024	68	Working of Wireless Application Protocol (WAP)
	18/04/2024	69	Features of SMS, MMS
	19/04/2024	70	1G, 2G, 3G, 4G & 5G Wireless network
	20/04/2024	71	Smart Phone and discuss its features indicate through Block diagram
	23/04/2024	72	**PREVIOUS SEMESTER QUESTION DISCUSSION**
	24/04/2024	73	**PREVIOUS SEMESTER QUESTION DISCUSSION**
	25/04/2024	74	**OMR TEST**
	26/04/2024	75	CLASS TEST QUESTION DISCUSSION & DISTRIBUTION OF EVALUATED ANSWER SHEET TO THE STUDENT FOR THEIR REFERENCES





SIGNATURE OF FACULTY MEMBER **COUNTER SIGNATURE OF H.O.D.**

DATE 16/01/2024