LESSON PLAN, SESSION-SUMMER-2023
SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

DISCIPLINE-E.T.C. ENGG.	SEMESTER- 6th	NAME OF THE FACULTY - ER. ASHOK KUMAR PRUSTY	
SUBJECT - ADC	NO. OF CLASSES ALOTTED/WEEK - 5	SEMESTER FROM - 14/02/2023 NO. OF WEEKS -16	
WEEK	DATE	TOPICS COVERED	
3RD	14.02.2023	**RADAR & NAVIGATION AIDS**	
	15.02.2023	Basic Radar, advantages & applications	
	16.02.2023	Working principle of Simple Radar system , its types	
	17.02.2023	Radar range equation &Performance factor of radar.	
4TH	20.02.2023	Working principle of Pulsed Radar system	
	21.02.2023	Function of radar indication and Working principle of moving target indicator	
	22.02.2023	Define Doppler effect&Working principle of C.W Radar	
	23.02.2023	Radar aids to Navigation	
	24.02.2023	MTI Radar- working principle	
5TH	27.02.2023	Aircraft landing system	
	28.02.2023	Navigation Satellite System.(NAVSAT) & GPS System	
1ST	01.03.2023	**SATELLITE COMMUNICATION**	
	02.03.2023	Basic Satellite Transponder & Kepler's Laws	
	03.03.2023	Class Test	
2ND	06.03.2023	Satellite Orbital patterns and elevation(LEO,MEO & GEO) categories	
	07.03.2023	Concept of Geostationary Satellite, calculate its height, velocity & round trip time delay & their advantage & disadvantage	
	09.03.2023	Working of the Satellite sub system	
	10.03.2023	Satellite frequency allocation and frequency bands	
3RD	13.03.2023	General structure of satellite Link system (Uplink, Down link, Transponder, Crosslink)	
	14.03.2023	Revision	
	15.03.2023	Working principle of direct broadcast system (DBS)	
	16.03.2023	Working principle of VSAT system	
	17.03.2023	Define multiple accessing & name various types	
4TH	20.03.2023	Time Division Multiple Accessing(TDMA) & Code Division Multiple Accessing (CDMA) – block diagram, its advantages & dis-advantages	
	21.03.2023	Satellite Application- Communication Satellite(MSAT), Digital Satellite Radio	
	22.03.2023	Revision	
	23.03.2023	Working principle of GPS Receiver & Transmitter& applications	
	24.03.2023	Optical Satellite Link transmitter & Receiver	
5TH	27.03.2023	**OPTICAL FIBER COMMUNICATION**	
	28.03.2023	Basic principle of Optical communication	
	29.03.2023	Compare the advantage and disadvantage of optical fibres&metallic cables	
	30.03.2023	Electromagnetic Frequency and wave line spectrum	
	31.03.2023	Types of optical fibres&principles of propogation in a fibre using Ray Theory	
	03.04.2023	Optical fiber construction	

	Date	Topic
3RD	04.04.2023	Define terms: Velocity of propagation, Critical angle, Acceptance angle numericalaperture
	05.04.2023	Optical fibre communication system- block diagram & working principle
	06.04.2023	Modes of propagation and index profile of optical fiber
	07.04.2023	Types optical fiber configuration: Single-mode step index, Multi-mode step index, Multi-mode Graded index
	10.04.2023	Attenuation in optical fibers – Absorption losses, scattering, losses, bending losses, core and cladding losses- Dispersion – material Dispersion, waveguide dispersion, Intermodal dispersion
	11.04.2023	Optical sources(Transmitter) & types – LED- semiconductor laser diodes
	12.04.2023	Revision
	13.04.2023	LASER -its working principles, block diagram using laser feedback control circuit
	14.04.2023	Optical detectors – PIN and APD diodes &Block diagram using APDConnectors and splices –Optical cables - Couplers
4TH	17.04.2023	Optical repeater & Single Channel system
	18.04.2023	Applications of optical fibres – civil, Industry and Military application
	19.04.2023	Concept of Wave Length Division Multiplexing (WDM) principles
	20.04.2023	**TELECOMMUNICATION SYSTEM**
	21.04.2023	Working of Electronic Telephone System. (Telephone Set)
5TH	24.04.2023	Function of switching system.& Call procedures
	25.04.2023	Space and time switching
	26.04.2023	Numbering plan of telephone networks (National Schemes & International Numbering)
	27.04.2023	Working principle of a PBX & Digital EPABX
	28.04.2023	Units of Power Measurement
1ST	01.05.2023	Working principle of Internet Protocol Telephone
	02.05.2023	Working principle of Internet Telephone
	03.05.2023	**DATA COMMUNICATION**
	04.05.2023	Basic concept of Data Communication
	05.05.2023	Architecture, Protocols and Standards
2ND	08.05.2023	Data Communication Circuits
	09.05.2023	Types of Transmission & Transmission Modes
	10.05.2023	Data Communication codes
	11.05.2023	Basic idea of Error control & Error Detection
	12.05.2023	MODEM & its basic block diagram& common features Voice Band Modem
3RD	15.05.2023	**WIRELESS COMMUNICATION**
	16.05.2023	Basic concept of Cell Phone,frequency reuse channel assignment strategic handoff co-channel Interference and system capacity of a Cellular Radio systems
	17.05.2023	Concept of improving coverage and capacity in cellular system (Cell Splitting, Sectoring)
	18.05.2023	Wireless Systems and its Standards. Discuss the GSM (Global System for Mobile) service and features.
	19.05.2023	Architecture of GSM system & GSM mobile station &channel types of GSM system. working of forward and reveres CDMA channel,the frequency and channel specification
4TH	22.05.2023	Architecture and features of GPRS. Discuss the mobile TCP, IP protocol. Working of Wireless Application Protocol (WAP
	23.05.2023	Features of SMS, MMS, 1G,2G, 3G, 4G& 5G Wireless network. Smart Phone and discuss its features indicate through Block diagram.

HOD   DEAN(ACADEMICS)   PRINCIPAL

H.O.D
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