

LESSON PLAN-2021-22 (SUMMER-2022)
SWAMI VIVEKANANDA SCHOOL OF ENGG & TECH, BBSR

DISCIPLINE-ETC	Semester- 6th	Name of teaching faculty-ASHOK KUMAR PRUSTY
SUBJECT-ADC	No of days/ per week class allotted-5	SEM From date- 14.03.2022 No of weeks-16
Week	Class day	Theory Topics
3RD	14.03.22	RADAR & NAVIGATION AIDS, Basic Radar, advantages & applications
	15.03.22	Working principle of Simple Radar system, its types
	16.03.22	Radar range equation & Performance factor of radar.
	17.03.22	Working principle of Pulsed Radar system, Function of radar indication and Working principle of moving target indicator.
	18.03.22	Function of radar indication and Working principle of moving target indicator.
4TH	21.03.22	Define Doppler effect & Working principle of C.W Radar.
	22.03.22	Radar aids to Navigation, MTI Radar- working principle, Aircraft landing system
	23.03.22	Navigation Satellite System.(NAVSAT) & GPS System
	24.03.22	SATELLITE COMMUNICATION, Basic Satellite Transponder & Kepler's Laws
	25.03.22	Satellite Orbital patterns and elevation(LEO, MEO & GEO) categories
5TH	28.03.22	Concept of Geostationary Satellite, calculate its height, velocity & round trip time delay & their advantage & disadvantage
	29.03.22	Working of the Satellite sub system, Satellite frequency allocation and frequency bands.
	30.03.22	General structure of satellite Link system (Uplink, Down link, Transponder, Crosslink)
	31.03.22	Working principle of direct broadcast system (DBS), Working principle of VSAT system. Working principle of VSAT system.
2ND	04.04.22	Define multiple accessing & name various types.
	05.04.22	Time Division Multiple Accessing(TDMA) & Code Division Multiple Accessing (CDMA) – block diagram, its advantages & dis-advantages.
	06.04.22	Satellite Application- Communication Satellite(MSAT), Digital Satellite Radio.
	07.04.22	Working principle of GPS Receiver & Transmitter & applications.
	08.04.22	Optical Satellite Link transmitter & Receiver, OPTICAL FIBER COMMUNICATION.
3RD	11.04.22	Basic principle of Optical communication. Compare the advantage and disadvantage of optical fibres & metallic cables
	12.04.22	Electromagnetic Frequency and wave line spectrum, Types of optical fibres & principles of propagation in a fibre using Ray Theory
	13.04.22	Optical fiber construction, Define terms: Velocity of propagation, Critical angle, Acceptance angle numerical aperture
	18.04.22	Optical fibre communication system- block diagram & working principle
	19.04.22	Modes of propagation and index profile of optical fiber
	20.04.22	Types optical fiber configuration: Single-mode step index, Multi-mode step index, Multi-mode Graded index
	21.04.22	Attenuation in optical fibers – Absorption losses, scattering, losses, bending losses, core and cladding losses- Dispersion – material Dispersion, waveguide dispersion, Intermodal dispersion
4TH	22.04.22	Optical sources(Transmitter) & types – LED- semiconductor laser diodes
	25.04.22	LASER -its working principles, block diagram using laser feedback control circuit
	26.04.22	Optical detectors – PIN and APD diodes & Block diagram using APD Connectors and splices – Optical cables - Couplers
	27.04.22	Optical repeater & Single Channel system
	28.04.22	Applications of optical fibres – civil, Industry and Military application
5TH	29.04.22	Concept of Wave Length Division Multiplexing (WDM) principles.
	02.05.22	TELECOMMUNICATION SYSTEM
	04.05.22	Working of Electronic Telephone System. (Telephone Set)

	05.05.22	
	06.05.22	Function of switching system.& Call procedures
	09.05.22	Space and time switching.
2ND	10.05.22	Numbering plan of telephone networks (National Schemes & International Numbering)
	11.05.22	Working principle of a PBX & Digital EPABX.
	12.05.22	Units of Power Measurement. 4.7 Working principle of Internet Protocol Telephone 4.8 Working principle of Internet Telephone
	13.05.22	Data Communication
	16.05.22	Basic concept of Data Communication
3RD	17.05.22	Architecture, Protocols and Standards
	18.05.22	Data Communication Circuits
	19.05.22	Types of Transmission & Transmission Modes
	20.05.22	Data Communication codes
	23.05.22	Basic idea of Error control & Error Detection
4TH	24.05.22	MODEM & its basic block diagram& common features Voice Band Modem
	25.05.22	WIRELESS COMMUNICATION, Basic concept of Cell Phone, frequency reuse channel assignment strategic handoff co-channel Interference and system capacity of a Cellular Radio systems.
	26.05.22	Concept of improving coverage and capacity in cellular system (Cell Splitting, Sectoring)
	27.05.22	Wireless Systems and its Standards.
	30.05.22	Discuss the GSM (Global System for Mobile) service and features.
5TH	31.05.22	Architecture of GSM system & GSM mobile station & channel types of GSM system.
	01.06.22	working of forward and reverses CDMA channel
1ST	02.06.22	the frequency and channel specifications
	03.06.22	Architecture and features of GPRS.
	06.06.22	Discuss the mobile TCP, IP protocol.
2ND	07.06.22	Working of Wireless Application Protocol (WAP).
	08.06.22	Features of SMS, MMS, 1G, 2G, 3G, 4G & 5G Wireless network.
		Smart Phone and discuss its features indicate through Block diagram.

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