GANDHI SCHOOL OF ENGINEERING

BHABANDHA,BERHAMPUR<u>PROPOSED WORK</u>

6th SEM ETC SUBJECT-Th.1 ADVANCE COMMUNICATION ENGINEERING

Name of Faculty- ER. PRABHAMAYEE ACHARYA

SL NO. CHAPTER	TOPICS	NO OF PERIODS ASSIGNED BY SCTE&VT	PLANNING DATES	REMARKS
1	**RADAR & NAVIGATION AIDS** 1.1 Basic Radar, advantages & applications 1.2 Working principle of Simple Radar system , its types 1.3 Radar range equation &Performance factor of radar. 1.4 Working principle of Pulsed Radar system. 1.5 Function of radar indication and Working principle of moving target indicator. 1.6 Define Doppler effect&Working principle of C.W Radar. 1.7 Radar aids to Navigation 1.8 MTI Radar- working principle 1.8 Aircraft landing system. 1.9 Navigation Satellite System.(NAVSAT) & GPS System	**10**	**10/03/2022** **To** **29/03/2022**	

2	**SATELLITE COMMUNICATION** 2.1 Basic Satellite Transponder & Kepler's Laws 2.2 Satellite Orbital patterns and elevation(LEO,MEO & GEO) categories 2.3 Concept of Geostationary Satellite, calculate its height, velocity &round trip time delay & their advantage & disadvantage 2.4 Working of the Satellite sub system 2.5 Satellite frequency allocation and frequency bands. 2.6 General structure of satellite Link system (Uplink, Down link, Transponder, Crosslink) 2.7 Working principle of direct broadcast system (DBS) 2.8 Working principle of VSAT system. 2.9 Define multiple accessing & name various types. 2.10 Time Division Multiple Accessing(TDMA) & Code Division Multiple Accessing (CDMA) – block diagram, its advantages & dis-advantages. 2.11 Satellite Application- Communication Satellite(MSAT), Digital Satellite Radio. 2.12 Working principle of GPS Receiver & Transmitter& applications. 2.13 Optical Satellite Link transmitter & Receiver	**15**	**25/03/2022** **To** **18/04/2022**	
3	**OPTICAL FIBER COMMUNICATION.** 3.1 Basic principle of Optical communication. **3.2** Compare the advantage and disadvantage of optical fibres&metallic cables **3.3** Electromagnetic Frequency and wave line spectrum	**15**	**20/04/2022** **To** **09/05/2022**	

	3.4 Types of optical fibres&principles of propogation in a fibre using Ray Theory **3.5** Optical fiber construction **3.6** Define terms: Velocity of propagation, Critical angle, Acceptance angle numericalaperture **3.7** Optical fibre communication system-block diagram & working principle **3.8** Modes of propagation and index profile of optical fiber **3.9** Types optical fiber configuration: Single-mode step index, Multi-mode step index, Multi-mode Graded index **3.10** Attenuation in optical fibers – Absorption losses, scattering, losses, bending losses, core and cladding losses-Dispersion – material Dispersion, waveguide dispersion, Intermodal dispersion **3.11** Optical sources(Transmitter) & types – LED- semiconductor laser diodes **3.12** LASER -its working principles, block diagram using laser feedback control circuit 3.13Optical detectors – PIN and APD diodes &Block diagram using APDConnectors and splices –Optical cables - Couplers 3.14 Optical repeater & Single Channel system 3.15Applications of optical fibres – civil, Industry and Military application **3.16** Concept of Wave Length Division Multiplexing (WDM) principles.			
4	**TELECOMMUNICATION SYSTEM** 4.1 Working of Electronic Telephone System. (Telephone Set) 4.2 Function of switching system.& Call	**10**	**09/05/2022 To 23/05/2022**	

	procedures 4.3 Space and time switching. 4.4 Numbering plan of telephone networks (National Schemes & International Numbering) 4.5 Working principle of a PBX & Digital EPABX. 4.6 Units of Power Measurement. 4.7 Working principle of Internet Protocol Telephone 4.8 Working principle of Internet Telephone			
5	**Data Communication** 5.1 Basic concept of Data Communication 5.2 Architecture, Protocols and Standards 5.3 Data Communication Circuits 5.4 Types of Transmission & Transmission Modes 5.5 Data Communication codes 5.6 Basic idea of Error control & Error Detection 5.7 MODEM & its basic block diagram& common features Voice Band Modem	**10**		
6	**WIRELESS COMMUNICATION** 6.1 Basic concept of Cell Phone,frequency reuse channel assignment strategic handoff co-channel Interference and system capacity of a Cellular Radio systems. 6.2 Concept of improving coverage and capacity in cellular system (Cell Splitting, Sectoring) 6.3 Wireless Systems and its Standards. 6.4 Discuss the GSM (Global System for Mobile) service and features. 6.5 Architecture of GSM system & GSM mobile station &channel types of GSM system.	**15**	**03/06/2022** **To** **10/06/2022**	

	6.6 working of forward and reveres CDMA channel,the frequency and channel specifications 6.7 Architecture and features of GPRS. 6.8 Discuss the mobile TCP, IP protocol. 6.9 Working of Wireless Application Protocol (WAP). 6.10 Features of SMS, MMS, 1G,2G, 3G, 4G& 5G Wireless network. 6.11Smart Phone and discuss its features indicate through Block diagram.			

HOD
Electronics & TC. Engg.
Gandhi School of Engg.
Berhampur (Gm.)

HOD