TELECOMMUNICATION

DURATION-6 MONTHS

OVERVIEW OF TELECOMMUNICATION NETWORKS

MESSAGE SWITCHING, CIRCUIT SWITCHING, MANUAL SWITCHING, AND ELECTRONIC SWITCHING.

DIGITAL SWITCHING: SWITCHING FUNCTIONS, SPACE DIVISION SWITCHING, TIME DIVISION SWITCHING, TWO DIMENSIONAL SWITCHING, DIGITAL CROSS CONNECT SYSTEMS, DIGITAL SWITCHING IN AN ANALOG ENVIRONMENT

DIGITAL COMMUNICATION AND PCM PRINCIPLE

DIGITAL PAM,BINARY PAM FORMATS, LINE CODING, BANDLIMITED DIGITAL PAM SYSTEMS, NYQUIST PULSE SHAPING, EQUALIZATION, SYNCHRONIZATION TECHNIQUES, BIT AND FRAME SYNCHRONIZATION. CODE PULSE MODULATION, VOICE DIDGITIZATION RATE (VDR) OF PCM, DPCM, DM, ADM, CVSD, LOG PCM, THEIR PERFORMANCE COMPARISON

FIBER OPTIC COMMUNICATION TECHNOLOGY

ELECTROMAGNETIC SPECTRUM & OPTICAL SPECTRAL BANDS, KEY ELEMENTS OF FIBER OPTIC COMMUNICATIONS SYSTEM, ADVANTAGES OF OPTICAL FIBER COMMUNICATION OVER OTHER COMMUNICATION SYSTEMS, RAY THEORY TRANSMISSION: TIR, ACCEPTANCE ANGLE, NUMERICAL APERTURE, ELECTROMAGNETIC MODE THEORY FOR OPTICAL PROPAGATION: PHASE AND GROUP, VELOCITY, CUTOFF WAVELENGTH & GROUP DELAY. FIBER TYPES ACCORDING TO: MATERIALS USED; REFRACTIVE INDEX PROFILES & MODE TRANSMISSION. OPTICAL FIBERS: FIBER MATERIALS, FIBER FABRICATION & CABLE DESIGN. STATE OF ART: MATERIALS & FABRICATION TECHNOLOGY

OPTICAL FIBER FOR TELECOMMUNICATION

TRANSMISSION CHARACTERISTICS OF OPTICAL FIBERS: ATTENUATION DUE TO ABSORPTION, SCATTERING & BENDING, SIGNAL DISTORTION IN OPTICAL FIBERS: INTRA MODAL DISPERSION: MATERIAL & WAVEGUIDE DISPERSION; INTERMODAL DISPERSION: MMSI, MMGI & MODAL NOISE;

FIBER DISPERSION: MM & SM FIBERS. SPECIAL USE FIBERS: DISPERSION SHIFTED (DSF), NZDSF, DISPERSION FLATTENED, POLARIZATION MAINTAINING FIBERS, FIBER NONLINEARITIES. STATE OF ART: FIBER

MOBILE COMMUNICATON

INTRODUCTION TO WIRELESS COMMUNICATION SYSTEMS: EVOLUTION OF MOBILE RADIO COMMUNICATION, EXAMPLES OF WIRELESS COMMUNICATION SYSTEMS, TRENDS IN CELLULAR RADIO & PERSONAL COMMUNICATION. MODERN WIRELESS COMMUNICATION SYSTEM: SECOND GENERATION (2G) AND THIRD GENERATION (3G) CELLULAR NETWORKS. THE CELLULAR CONCEPTS: INTRODUCTION, FREQUENCY REUSE, CHANNEL ASSIGNMENT, HANDOFF, INTERFERENCE & SYSTEM CAPACITY, TRUNKING & GRADE OF SERVICE, IMPROVING COVERAGE & CAPACITY.

GSM TECHNOLOGY

INTRODUCTION, ARCHITECTURE, CALL PROCESSING, SUBSCRIBER MANAGEMENT, VAS ETC

3G/MNP/BLUETOOTH

BTS SITE SELECTION

DATA NETWORKING AND BROADBAND TECHNOLOGY

SWITCHING TECHNOLOGIES IN TELECOM

PC HARDWARE/INSTALLATION

LAN/WAN CABLING

ROUTER CONFIGURATION AND MANAGEMENT ON CISCO 2600/2800

NETWORKING DEVICES AND`WORKING WITH PACKET TRACER/GNS3

SWITCHING LAB (WORKING CDOT EXCHANGE)

PROJECT (BASED ON INSTALLATION)