

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B. E. COMPUTER ENGINEERING

B. E SEMESTER – III (CE)

(Effective From June 2006)

CE 302: COMMUNICATION SYSTEMS- I

TEACHING SCHEME:

THEORY 03 HRS/WEEK

PRACT 02 HRS/WEEK

EXAM SCHEME:

THEORY 100 MARKS(3 HRS)

PRACT 25 MARKS

TW/VIVA 25 MARKS

TOTAL 05 HRS/WEEK

TOTAL 150 MARKS

ANALOGUE MODULATION TECHNIQUES:

Principles of Analogue Modulation Techniques VIZ. AM, FM, PM, SSB, their generation principles (Block Schematic and Mathematical derivations), FDM, TDM, PAM, PWM, PFM, Sampling Theory.

DIGITAL COMMUNICATION:

PCM, DPCM, DM, ADM, T1 Carrier System, Bandwidth Requirement, Signaling Rate.

DIGITAL MODULATION TECHNIQUES:

ASK, FSK, CPFSK, PSK, BPSK, QPSK, MSK, their comparison.

ERROR CONTROL:

Error Control Coding Methods, Error Detection and Correction Methods like Parity Check, Repetition Coding, Block Code, Cyclic Code etc.

LIGHT COMMUNICATIONS:

Principles of Light Communication in Fiber, Losses in Fiber, Dispersion Losses, Light Sources and Photo Detector, Connectors and Splicers.

SATELLITE COMMUNICATION:

Definitions and Terms of Earth Orbiting Satellites, Orbiting Elements, Apogee and Perigee Heights, Geostationary Orbits, Satellite Multiple Access Methods (FDMA, TDMA, SSMA). Satellite Services- INSAT, INTELSAT, DBS, MSAT, VSAT, RADARSAT, INMARSAT, GPS, ORBCOMM, IRIDIUM etc.

FAX:

Fax transmission Principle, Scanning and Printing Methods, Digital Fax transmission and methods of Data Compression.

TELEVISION:

TV Transmission and Reception (Block Diagrams and Working Principles).

REFERENCE BOOKS:

1. ELECTRONIC COMMUNICATIONS {By RODDY AND COOLAN} PHI