

13-EC580 BROAD BAND ACCESS TECHNOLOGIES

SYLLABUS

Review Of Access Technologies: Phone-Line modem, cable-access, ISDN, Emerging Broad band Technologies, Cable DSL, Fiber and Wireless **Digital Subscriber Lines:** Asymmetric Digital subscriber lines (ADSL) – Rate Adaptive subscriber line (RADSL)-ISDN Digital subscriber line (IDSL) - High bit rate DSL (HDSL)-Single line DSL (SDSL)- very high bit rate DSL (VDSL)-Standards for XDSL & Comparison. **Cable Modem:** Cable Modem, DOCSIS – Physical Cabling, Dual Modem Operation, Hub Restriction, Upstream Operation – Downstream operation – Access control – framing Security sub layer – Data link layer – LLC & Higher layers – ATM centric VS IP – centric cable modem. **Fiber Access Technologies:** Optical Fiber in access networks, Architecture and Technologies- Hybrid fiber – Coax (HFC) system, Switched Digital Video (SDV) – Passive optical networks (PON) – FTTX (FTTH, FTTB, FTTC, FTT cab) comparison. **Broad Band Wireless:** Fixed Wireless, Direct Broadcast Satellite (DBS), Multi channel multi point distribution services (MMDS), Local multi point distribution services (LMDS), and Wideband integrated Digital Interactive Services (WIDIS), Mobile Wireless 3G – IMT 2000.

TEXT BOOKS

- 1.Niel Ransom and Albert A. Azzam, “Broadband Access Technologies: ADSL, VDSL Cable Modem, Fiber and LMDS, McGraw Hill 1999.
- 2.Gilbert Held, “Next Generation Modems: A Professional Guide to DSL and cable modems”, John Wiley & sons.

REFERENCE BOOKS

- 1.Walter j Woralski, “ADSL and DSL Technologies”, McGraw Hill computer Communication series, 1998.
- 2.William Webb, “Introduction to Wireless Local Loop broadband and narrow band system”, Artech House, 2000.
- 3.Martin P. Clarke, “Wireless Access Network: Fixed Wireless Access and WLL network Design and operation”, John Wiley & Sons 2000.