TELECOMMUNICATION SWITCHING SYSTEMS (404187)

Teaching Scheme
Lectures / Week: 4Hrs
Practical /Week: 2Hrs.

Examination Scheme
Paper: 100 Marks
Oral: 50 Marks

Unit 1: Development of Telecommunication Switching Systems

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

Unit 2: Telecommunication Traffic


Unit 3: Switching Networks


Unit 4: Network Synchronization and Management

Unit 5: Networks

Data Networks: Data Transmission in PSTN, Data Communication Architecture, Link to link layers, End to End layers, Satellite based Data networks, LANs, MANs, Fibre optic networks, Data network Standards, Protocol stacks, Interworking. Integrated Services Digital Networks: ISDN, Network and protocol Architecture, Transmission Channels, User network interfaces, signaling, Numbering and Addressing, ISDN Standards, Broadband ISDN, Voice Data Integration

Unit 6: Cellular Telephone Concepts

Mobile telephone services, cellular telephone, Frequency reuse, Interference, Cellular system topology, Roaming and handoffs, Cellular telephone network components, Cellular telephone call processing. Cellular Telephone systems: Digital cellular telephone, IS–95. GSM GPRS for Mobile communications, Personal Satellite communication system

Books

1. J. E. Flood, “Telecommunications Switching, Traffic and Networks”, Pearson Education
3. Thiagarajan Vishwanathan, “Telecommunication Switching Systems and Networks”; PHI Publications

List of Practicals

1. Study of PSTN TST switch
2. Study of CDMA Trainer
3. Study of Mobile phone trainer
4. Study of AT commands
5. Study of VOIP implementation
6. Study of 3G Mobile trainer Kit
7. Visit to Mobile Switching Office (MTSO)