

III B.Tech II Semester Supplementary Examinations, April/May 2005
TELECOMMUNICATION SWITCHING SYSTEMS & NETWORKS
(Electronics & Telematics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) How are switching systems classified? In what way is stored program control superior to hard-wired control?
(b) An electrical communication system uses a channel that has 20 dB loss. Estimate the received power, if the transmitted power is one watt.
2. (a) Explain the principle of time-multiplexed switches.
(b) Calculate the number of trunks that can be supported on a time multiplexed space switch, given the
 - i. 32 channels are multiplexed in each stream
 - ii. control memory access time 100ns
 - iii. Bus switching and transfer time is 100 ns per transfer.
3. (a) Define the following terms Busy hour call attempts(BHCA), Time Consistent busy Hour, Call completion rate (CCR), Traffic intensity.
(b) An exchange serves 2000 subscribers. If the average BHCA is 10,000 and CCR is 60% , calculate the busy hour calling rate, average busy hour calls.
4. (a) Write about Coaxial Cable Communication? Describe the steps involved in the design of coaxial system in Telecommunications?
(b) What is the necessity for Equalization? Explain about coaxial cable amplitude equalizers in Telecommunications?
5. What are the main sources of error in a system? What are the two types of errors? Explain in detail the three error control mechanisms in data networks?
6. (a) Discuss about Carrier Sense Multiple Access schemes used in LANs?
(b) Explain about Token Passing Bus LAN?
7. (a) Distinguish between User Level and Network level signaling in ISDN. List out the categories of network level messages?
(b) Explain about User Level Signaling message structure in ISDN?
8. (a) Write about Expert Systems in ISDN?
(b) What is Artificial Intelligence? Write about the Turing test for intelligence in ISDN? Distinguish between Expert System softwares and conventional programs?
