

BE (IT) 6th Semester Examination, 2010

IT 602: Telecommunication Systems

Answer any SEVEN questions.

FM: 70

Time: 3 Hrs

1. What do you mean by the stored program control concept used in electronic switching systems? What were the early system problems? Mention the features of today's systems. Explain the role of Real Time Control used in these systems. 2+2+3+3
2. How the processor structure is organized in modern day electronic switching systems? Explain briefly how does a basic centralized SPC system work? Mention different modes of operation of a multiprocessor CSPC system. 3+5+2
3. How does a multiprocessor CSPC system work in Standby mode? What are the primary problems in this mode of operation? How these are improved in Synchronous Duplex mode and Load Sharing mode? 4+2+4
4. For a single processor CSPC system, given, MTBF = 150 hour and MTTR = 2 hour. Calculate the followings
 - a. Availability of single processor system
 - b. Unavailability of single processor system
 - c. Availability of dual processor system
 - d. Unavailability of dual processor system 2+2+3+3
5. How is a 3 level prioritized interrupt facility implemented inside a CSPC system? Briefly explain the major functions of a distributed SPC system. 5+5
6. How does time division switching differs from the space division one? Classify time division switching. How does a basic time division switching system operate? 3+3+4
7. What is control memory used in Input Controlled TDSS system? How is its dimension determined? With a neat diagram briefly explain the principle of operation of such a system. 2+3+5
8. Mention different types of dialing. Explain principle of DTMF dialing briefly. What is decadal pulse dialing? What is DIVA? Mention two advantages of tone dialing over pulse dialing, 2+4+1+1+2
9. Classify different switching systems. Clearly explain the principle of operation of a strowger switching system with a neat flowchart. 4+6
10. Explain the principle of operation of a selector hunter and line finder. Which one is better? Compare. +
11. In a pulse dialing arrangement, pulse-in-time is 30 u.s. Find the total time required to dial the number 9830024365. Assume, duty cycle (OFF) = 50% and inter digit gap = 400 us. Explain the principle of operation of crossbar switching briefly. 5+5