

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

Time: 3 hours

Max Marks: 80

**Answer any FIVE Questions
All Questions carry equal marks**

1. (a) Mention the typical centralized stored program control organization and mention various levels of controls
(b) Given that MTBF = 2000 hours and MTTR = 4 hours calculate the unavailability for single dual processor. [10+6]
2. Give the basic time division time switching principle with the help of neat sketch. Distinguish between phased operation and slotted operation. [16]
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. [8+8]
4. Write short notes on
 - (a) Ionospheric Communication
 - (b) Microwave Communication
 - (c) Tropospheric Communication
 - (d) Satellite Communication [4+4+4+4]
5. (a) Explain about Message Switching and Packet Switching in data transmission?
(b) Explain about Data Communication Architecture? [8+8]
6. Write Short notes on
 - (a) Network PDUs (NPDUs) used in X.25 in data networks
 - (b) Fiber Distributed Data Interface(FDDI) in data networks
 - (c) Distributed Queue Dual Bus(DQDB) in data networks [5+5+6]
7. (a) Explain ISDN protocol architecture with a neat diagram?
(b) Explain about Basic information channel and Signaling channel in ISDN? [10+6]
8. (a) What is an Expert system? Distinguish between Expert System software and conventional programs. How to justify that an AI system is truly intelligent?
(b) Write in detail about the components of an Expert System in ISDN? [8+8]
