

N 1166

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2004.

Fourth Semester

Information Technology

IF 251 — TELECOMMUNICATION SWITCHING TECHNIQUES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is an SPC switching system?
2. List four telecommunication standards organisation.
3. Define a space switch with a simple diagram.
4. What are the four major functional blocks of a digital switching system hardware?
5. What are the four layers or levels of SSN07 protocol?
6. Why is a blocking system preferred to non blocking system for speech communication?
7. What is the major advantage of ADSL?
8. What is the need for equalization in transmission network?
9. What are the two important features of packet switching?
10. What is an ATM network?

PART B — (5 × 16 = 80 marks)

11. (i) Clearly describe the occurrence of echo in a telephone circuit.
(ii) With a block diagram describe a PCM codec.

12. (a) Describe call processing software of a telecommunication switching system.

Or

- (b) Describe ISDN in terms of architecture, protocol and application capabilities.

13. (a) Establish that telephone traffic is a Poisson process with relevant analytical expressions.

Or

- (b) Describe the traffic model suitable for data communication based on queuing system.

14. (a) Describe in detail the principles of Frequency Division Multiplexing and Time Division Multiplexing.

Or

- (b) Describe the methods adopted for network synchronization.

15. (a) Describe the architecture of TCP/IP.

Or

- (b) Write notes on : (i) Channel associated signalling (ii) Partial availability and grade of service (iii) Connection oriented protocol (iv) TDMA.