

ROLL NO.

B.E./B.TECH (FULL TIME) DEGREE ARREAR EXAMINATIONS, NOVEMBER/DECEMBER 2012
ELECTRONICS AND COMMUNICATION ENGINEERING BRANCH
SIXTH SEMESTER, REGULATIONS: R-2008
EC 9032 – DIGITAL SWITCHING AND TRANSMISSION

Time: 3 Hours

Answer ALL Questions

Max.Marks: 100

Part-A (10x2=20 Marks)

1. Draw the switching hierarchy of telecommunication network?
2. Write the basic communication principle?
3. Draw the frame structure of 1.544 Mbps which is used in T1 carrier system?
4. What is meant by Trunk Signaling?
5. Distinguish clearly the difference between DSL and ADSL technology?
6. What is meant by GEO satellite system?
7. "A loss of system at times behave like a delay system". Justify.
8. Compare the features of message switching and packet switching.
9. What is meant by Blocking and Delay?
10. Define Numbering and Billing?

Part-B (5x16=80 Marks)

- 11.(i) Explain in detail about the overview of voice data and multimedia networks and services. (12)
(ii) Write short notes about line codes. (4)
- 12.(a) How the lower speed stream is mapped to form a STS-1 (high speed stream) using VT virtual tributary in SONET technology. (16)

OR
- 12.(b) Write explanatory notes about the following:
(i) SDH
(ii) ATM
- 13.(a)(i) What is meant by Local loop transmission. (4)
(ii) Discuss about the features of Analog local loop and ISDN local loop? (12)

OR
- 13.(b) With required diagram explain the ADSL technology in detail. (16)

- 14.(a) Explain in detail about Advances in the following packet switching techniques. (16)
- (i) Shared memory fast packet switches
 - (ii) Shared medium fast packet switches
 - (iii) Space division fast packet switches

OR

- 14.(b) Discuss about the features of Space Switching, Time Switching and Combination Switching and also mention the applications. (16)

- 15.(a)(i) Derive the Erlang B formula (or) loss formula for an infinite source loss system (for LCC system). (12)
- (ii) What do you mean by $M / M / 1$ and $M / M / N$ System in Queuing Theory? (4)

OR

- 15.(b)(i) Establish that telephone traffic is a Poisson process. (12)
- (ii) On average, one call arrives every 5 secs. During a period of 10 secs, what is the probability that
1. No calls arrive
 2. One call arrives
 3. Two call arrives
 4. More than two calls arrive? (4)
