M.Tech 1st Semester Examination
Jan. 2014
Subject – Data Communication Networks
Subject Code – ECL - 507

Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

Note: Question No. 1 is Compulsory and attempt two questions from each section. All questions carry equal marks.

1(a) Differentiate analog and digital transmission. (4)
(b) What is the role of data link layer? How this layer differs from physical layer? (4)
(c) Briefly explain the term process-to-process delivery. (4)
(d) What do you mean by the term FTP? (4)
(e) Write the short notes on LAN protocol. (4)

SECTION-A

2(a) Explain data communication and networking in detail. (10)
(b) What are the switching techniques used in communication? (10)

3(a) Describe any two error detection and correction techniques with example. (10)
(b) Discuss: ARP, IPv6 and ICMPv6. (10)

4(a) What is congestion in Data communication? How quality of service can be improved? (12)
(b) Explain the various functions of transport layer. (8)

SECTION-B

5. Write the short notes on the following: (4*5=20)
(a) DNS
(b) SMTP
(c) Client-Server Model
(d) HTTP and multimedia

6(a) What is LAN? Compare the various types of topologies. (12)
(b) Explain the difference between Backbone Networks and virtual LANs in detail. (8)

7(a) What do you understand by Cryptography? Why is it required in Data Communication? (5)
(b) What is user Authentication and Key Management? (8)
(c) Why secret key encryption and decryption cannot be used for authentication? (7)