

Roll No.

22147

**M.E. 1st Semester (Electronics &
Communication Engineering)
Examination – December, 2014**

Data Communication Network

Paper : MEEC-515

Time : Three Hours]

[Maximum Marks :100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any *five* questions in all. All questions carry equal marks.

1. (a) What is meant by data communication system? Identify the five components of a data communications system.
(b) Define analog and digital transmission. Explain various transmission modes.
2. Define error in data communication. What are its different types? Discuss the concept of redundancy in error detection and correction.

3. Define multiplexing. Describe the goals of multiplexing. List three main multiplexing techniques and explain any one technique in detail.
 4. Define switch. Describe the need for switching. List the three traditional switching methods. Explain the packet switching in detail.
 5. Define network topology. Explain different topologies with their characteristics and limitations.
 6. What is a layered architecture? What is the necessity of creating layers? Compare the layered architecture used in OSI and TCP/IP reference models for computer architecture.
 7. Write short notes on the following :
 - (a) Data link layer services
 - (b) CSMA/CD
 8. Define ISDN? What are the principles of ISDN? Explain the layers of ISDN?
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