Roll No. .....................

# 22147

## M. E. 1st Semester

## (Electronics & Communication Engg.)

## Examination – January, 2012

### 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.

1. (a) Explain in detail the following :

    (i) Transmission Impairments,

    (ii) Data Encoding.                                  10

    (b) List out various Transmission Media used in communication Network. Also discuss their applications.                                  10

**2.** (a) Differentiate between synchronous and Asynchronous Transmission with example. **10**

(b) Discuss various Error Correction and Detection Techniques used in Communication Networks. **10**

**3.** Explain OSI model in detail ? Differentiate between OSI and TCP/IP model ? Explain in detail about various layers of OSI model. **20**

**4.** (a) Describe briefly about the Token passing ring arrangement of LAN ? **10**

(b) What is meant by TDM ? Describe briefly about statistical and synchronous TDM. **10**

**5.** (a) Explain in detail : **10**

   (i) Circuit Switching,

   (ii) Packet Switching.

(b) Explain in detail the concept of DODB with the help of diagrams. **10**

**6.** Discuss about ISDN concept and Architecture. Also list its various protocols with their applications. **20**

**7.** (a) Discuss the following :

   (i) Error Control and Flow Control,

   (ii) Bit Oriented and Character Oriented Protocol. 10

   (b) Discuss various Data link layer services in detail and also explain where they are used ? 10

**8.** Write short notes on : 20

   (i) FDDI

   (ii) Network Topologies

   (iii) Message Switching