

2011

Time : 3 hours

Full Marks : 80

Candidates are required to give their answers in their own words as far as practicable.

The questions are of equal value.

Answer any **five** *questions in which Q. No. 9 is compulsory.*

1. What is transmission impairment ? Discuss various transmission impairments.

2. Explain the various data encoding techniques for generating Digital Signals using analog data.

3. Explain and compare time division multiplexing and frequency division multiplexing.

4. What is TCP/IP ? Explain the functions performed by various layers of TCP/IP.

5. Compare and explain circuit switching and packet switching.

6. How flow control is achieved using sliding-window flow control technique ? Explain with diagram.

7. Channel access is handled at the MAC sublayer of the data link layer in the OSI model. Discuss the five major types of channel access.

8. Explain any **two** of the following :

   (a) Frame relay

   (b) Network security

   (c) Transmission characteristics of optical fibre

9. (a) As data travels through the USI model, the Transport _____ layer is responsible for splitting data into segments.

   (b) Which transport layer reduces overhead ?

   (i) [illegible]

   (ii) TCP

   (iii) IP

   (iv) DNS

(c) Asynchronous protocols are widely used in :

(i) Repeaters

(ii) Routers

(iii) Modems

(iv) Bridges

(d) When message data is mistakes for control data, this is called a lack of _____.

(i) Synchronization

(ii) Flow control

(iii) Data transparency

(iv) Line discipline

(e) An HDLC _____ station sends commands.

(f) A collision cannot occurs in a _____ LAN.

(i) Ethernet

(ii) Token ring

(iii) FDDI

(iv) (ii) or (iii)

(g) Thick coaxial cable is the medium for the _____ standard.

(i) 10 Base 5

(i) 10 Base T

(ii) 10 Base 2

(iii) 1 Base 5

(b) In FDM, if 5 signals are to be multiplexed at least _____ carriers, each of a different frequency, must be modulated :

(i) 1

(ii) 5

(iii) 6

(iv) 10