

*Time allowed : 3 hours]**[Maximum marks : 100**Note: Attempt five questions in total. All questions carry equal marks.*

1. (a) Draw the block diagram of simplified data communication model and explain working of each block. 10
- (b) Discuss in detail ATM switching model for data communication. 10
2. (a) Explain the TCP header format and explain briefly function of each layer. 10
- (b) Why a model is required for data communication? Also enumerate applications of TCP/IP model. 10
3. (a) What are the important design issues for Data link layer? Explain why these issues are addressed. 10
- (b) Discuss in details IEEE standards for LAN and WAN. 10
4. (a) A TCP segment consisting of 1500 bits of data and 160 bits of header is sent to the IP layer, which appends another 160 bits of header. This is then transmitted through two networks, each of which

uses a 24-bit packet header. The destination network has a maximum packet size of 800 bits. How many bits, including headers, are delivered to the network layer protocol at the destination?

<http://www.HaryanaPapers.com> 10

- (b) Discuss in detail the Satellite network. Also enumerate its advantages. 10
5. (a) What do you understand by addressing scheme? Discuss IP v6 header scheme. 10
- (b) Discuss briefly about internet working and subnetting mechanism. 10
6. (a) What are various design issues as far as Application layer is concerned? Discuss them briefly. 10
- (b) Discuss functioning of transport protocol on top of X.25. Also enumerate the limiting issues. 10
7. (a) Write in detail about Public cryptography. How it gets executed? Also enumerate the basic requirement for implementation. 10
- (b) Discuss in detail the authentication need and its implementation. 10
8. Write short notes on: 10×2=20
  - (a) Burke's theorem.
  - (b) Poisson process.