

- (d) How can you compare pure ALOHA and Slotted ALOHA ?
- (e) Explain about CSMA/CD and CSMA/CA and its uses.
- (f) Differentiate between 802.3, 802.4 and 802.5 IEEE Standards.

3. Attempt any **two** parts of the following : **(10×2=20)**

- (a) What is meant by fragmentation ? Is fragmentation needed in concentrated virtual circuit internets, or in any datagram system.
- (b) Give an IP address, how will you extract its net-id and host-id and compare IPv4 and IPv6 with frame format.
- (c) (i) What is meant by unicast and multicast routing with suitable diagrams ?
(ii) Write a short note on Leaky bucket algorithm.

4. Attempt any **two** parts of the following : **(10×2=20)**

- (a) Explain about the TCP header and working of TCP protocol and differentiate between TCP and UDP with frame format.
- (b) Define cryptography with the help of block diagram of Symmetric and Asymmetric key cryptography.
- (c) Write short notes on :
 - (i) Digital audio
 - (ii) Audio compression
 - (iii) Streaming audio.

5. Attempt any **two** parts of the following : (10×2=20)

(a) Explain the two mail access protocols in brief :

(i) POP3

(ii) IMAP

(iii) SMTP

(b) Write a short note on :

(i) FTP

(ii) DNS

(iii) MIME

(iv) TFTP

(c) Explain about e-mail architecture and services.