

- (e) Give the frame format of IEEE standards 802 for LAN.
- (f) What are the responsibilities of physical layer data link layer?
- (g) For n devices in a network, what is the number of cable links necessary for mesh, ring, and bus and star networks?
- (h) What is the purpose of the timer at the sender site in systems using ARQ?
- (i) Give data transfer modes of HDLC?
- (j) How TCP differ from the sliding window protocols.

Section-B

Attempt **any five** questions from this sections.

(5×10=50)

- Q2. Explain and compare the performance of different line coding scheme.
- Q3. Explain IPv4 and IPv6 Internet protocol.
- Q4. Explain in short IEEE standards 802 for LAN.

- Q5. Define and explain the various frame type in HDLC. Design a three stage 200 X 200 switch with K=4 and n=20.
- Q6. How do we say collision detection is analog process? Why do we prefer CSMA over ALOHA? Prove that maximum efficiency of ALOHA is 1/e.
- Q7. Discuss the various design issue involved in ATM Technology and also explain the different layers of ATM.
- Q8. Write a short note on:
 - (i) Message Integrity
 - (ii) Digital Signature
 - (iii) Cryptography
- Q9. Explain the CRC error detection technique generator polynomial X^4+X^3+1 and data is 11100011.

Section-C

Attempt **any two** questions.

(2×15=30)

- Q10. What is the various design issues involved in the network layer? What do you mean by intradomain and interdomain routing techniques? Explain link state routing with suitable example.