

2008-PUNJAB TECHNICAL UNIVERSITY

COMPUTER COMMUNICATION NETWORKS

TIME-3HOUR
MARKS-100

ANSWER ALL QUESTIONS.

PART-A [1082=20 MARKS]

1. Which of the ISO layer handles each of the following:
 - (a) Error free transmission
 - (b) Transmission rate
 - (c) Dialogue discipline
 - (d) Data security
2. What are the major disadvantages of NRZ encoding?
3. Why do you need bit stuffing in HDLC protocol
4. Differentiate between synchronous and asynchronous protocols.
5. What are the functions of logical link control sublayer?
6. List the services offered by SMDS
7. Differentiate between virtual circuit and datagram routing methods.
8. What are the functions of repeaters and bridges?
9. What are the three FTP transmission modes?
10. What is a nonce? Explain.

PART-B [5*16=80 MARKS]

- 11.(a) (i) Explain ISO - OSI seven layer network architecture giving the functions of each layer.
 - 12.(a) With the help of neat sequence diagrams, explain
 - (i) Stop and wait and
 - (ii) Go - back - N ARQ sliding window protocol.
- Or
- (b)(i) Explain HDLC frame format in detail.
 - (ii) With the help of an example, show how two stations A and B communicate with each other using HDLC protocol
13. (a) (i) Explain CSMA/CD Ethernet, token bus token ring protocols and compare them,

Or

(b) Write notes on

(i) FDDI and

(ii) Distributed queue dual bus protocols.

14. (a) (i) With the help of block diagrams X.25 and frame relay protocols. Also explain how a higher bit rate transmission is

achieved in frame relay compared to X.25 protocols.

Or

(b) Write notes on

(i) ISDN and

(ii) ATM protocol

15. (a) Distinguish between secret key and public key cryptography. also explain data encryption standard and RSA algorithm for encryption.

Or

(b) Write notes on

(i) SMTP

(ii) FTP

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