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B.Sc./3rd Sem (H)/COMP/22(CBCS)

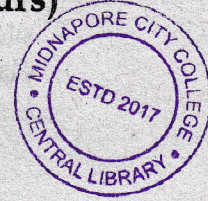
2022

COMPUTER SCIENCE (Honours)

Paper : C 7-T

(Computer Networks)

[CBCS]



Full Marks : 40

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *five* questions : $2 \times 5 = 10$

1. What do you mean by pig-backing?
2. What is ARPANET?
3. Define framing.
4. Define multiplexing techniques.
5. What is data rate and signal rate?
6. What do you mean by half-duplex?
7. Define Routing.
8. State in which layer they work : Repeaters Hubs, Bridges, Routers, switches and gateways.

P.T.O.



Group - B

Answer any *four* questions : 5×4=20

9. What are the different types of error detection methods? Explain the CRC error detection technique using generator polynomial

$x^4 + x^3 + 1$ and data 11100011.

10. Describe the stop and wait flow control technique.

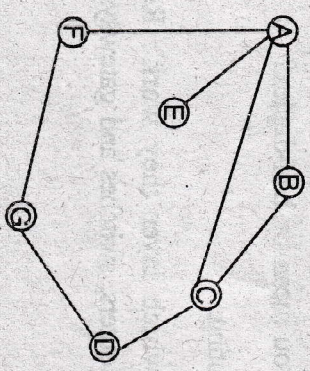
11. Two neighbouring nodes A and B uses sliding window protocol with 3 bit sequence number. As the ARQ mechanism Go Back N is used with window size of 4. Assume A is transmitting and B is receiving. Show window position for the following events :

(i) Before A send any frame.

(ii) After A send frame 0, 1, 2 and receive ACK (Acknowledgement) for B for 0 and 1.

12. Draw NRZ-L encoding for bit pattern 00110110.

13. Complete the final routing table at node A using RIP (Routing Information Protocol) protocol for the following network. Assume the cost of hop count.



Group - C

Distance	Cost	Next hop

14. Explain Delta Modulation (DM) technique with neat diagram.

Answer any *one* question : 10×1=10

15. What is IPv₄ protocol? Explain the IPv₄ Header format with diagram.

16. Write short notes (any *two*) : 5×2=10

(a) SONET

(b) ALOHA

(c) UDP

(d) RPC
