NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI-15

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

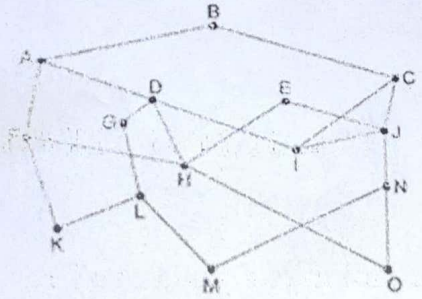
V SEMESTER B.TECH, RETEST

CSPC53 COMPUTER NETWORKS

DATE: 11/11/2024 **Answer All Questions** **MAX. MARKS: 20**

1. The TCP source and destination devices are connected with five intermediate devices. How many times the TCP checksum and IP checksum are calculated? Justify your answer. (2)

2. If B starts the broadcast using reverse path forwarding, how many times the packets are received in the network shown below? (4)



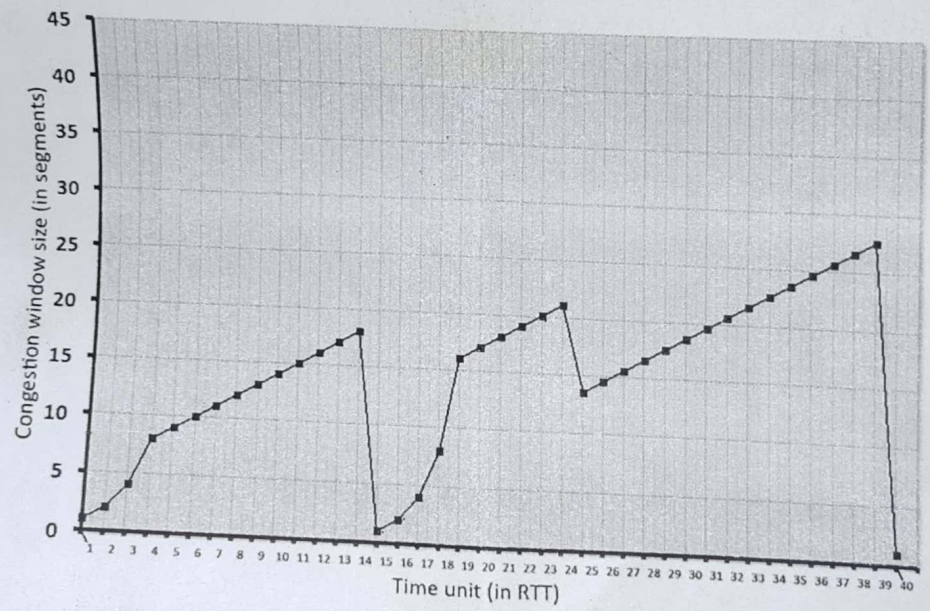
3. Assume that there are 16 stations (1 to 16) are in the network and use limited contention protocol for accessing the shared channel. If the stations whose addresses are multiples of 3 are ready to transmit at the same time, how many minimum number of bit slots are required to resolve the contention? (4)

4. There are 8 stations (1 to 8) and their addresses are 85, 204, 29, 226, 245, 10, 188 and 51 respectively. Assume that 8-bit representation is used and binary countdown protocol to resolve the contention. How many stations win the contention during 4^{th} bit time?

(4)

5. In the following figure, how many times did TCP Reno experience loss with timeout? (Assume the initial ssthreshold value is 8)

(4)



6. Draw the state transition diagram for TCP connection termination.

(2)