- **Print your name.**

- Close-book policy: You may not use the text, my class notes and/or any notes and study guides you have created. You may use a calculator. You may not use a cell phone or computer.

Problem	Points	Score
1	1	
2	1	
3	1	
4	1	
5	1	
Total:	5	

1. (1 point) The cause of network congestion — too many sources attempting to send data at too high a rate — can be treated by

    A. error detection

    B. retransmission

    C. adjust sender's congestion window size

    D. all of the above

2. (1 point) In TCP, define `cwnd` to be the congestion window size, `rwnd` to be the receive window size, the amount of unacknowledged data can not exceed

    A. `rwnd`   B. `cwnd`   **C. min{cwnd,rwnd}**   D. max{cwnd,rwnd}

3. (1 point) During TCP slow start, the sender's initial rate is slow but ramps up exponentially fast.

    A. True   B. False

4. (1 point) The goal(s) of TCP congestion control include

    A. don't congest the network

    B. make use of all the available bandwidth

    C. distributed: realize global objective based only on local information

    D. all of the above

5. (1 point) When the congestion window size is w bytes and the current round-trip time is RTT seconds, TCP's transmission rate is no more than w/RTT.