

CISC450/CPEG419: Computer Networks I
Final Exam
May 20, 2020 1:00PM-7:00PM

Name:

UD ID:

Grade in Points:

True or False (3 points each)

1. The link utilization ratio of any stop-and-wait protocol is strictly lower than one. (F)
2. During TCP connection establishment, three segments are sent between two hosts, and the first two segments carry no application-layer data. (T)
3. The flow table at a SDN-controlled switch is either computed by its routing component or configured by a remote logically centralized controller. (T)
4. Routers in the same autonomous systems (AS) can run different intra-domain routing protocols. (T)
5. Two-dimensional parity scheme is able to detect and correct a single bit error. (T)

Multiple Choices (5 points each)

6. (Multiple answers) Which of the following statements about TCP are true? (D)
 - (A) During congestion avoidance, the value of `cwnd` is increased by one MSS every RTT. (X)
 - (B) During congestion avoidance, the value of `cwnd` is increased by one MSS for every ACK received. (X)
 - (C) During slow start, the value of `cwnd` is creased by one MSS every RTT. (X)
 - (D) During slow start, the value of `cwnd` is creased by one MSS for every ACK received. (D)
7. (Single answer) Consider a datagram network using 5-bit host addresses. Suppose a router uses longest prefix matching and has the following forwarding table:

(D)

Prefix Match	Interface
01	0
101	1
1	2
111	3
otherwise	2

What is the address range of destination host addresses for interface 2? ()

- (A) 00000 ~ 00111 and 10000 ~ 11111. (X)
- (B) 00000 ~ 00111 and 10000 ~ 10011. (X)
- (C) 00000 ~ 00111, 10000 ~ 10011, and 11000 ~ 11111. (X)
- (D) 00000 ~ 00111, 10000 ~ 10011, and 11000 ~ 11011. (D)