

**CSE 461 Midterm
Winter 2018**

Your Name: _____

UW Net ID: _____

General Information

This is a closed book/laptop examination. You have **50 minutes** to answer as many questions as possible. The number in parentheses at the end of each question indicates the number of points given to the question. There are **5 questions** on this exam (check to make sure you have all of them), and there are a total of **50 points**. Write all of your answers directly on this paper. Make your answers as concise as possible. If there is something in the question that you believe is open to interpretation, then please go ahead and interpret, but state your assumptions in your answer. Remember to **READ THE ENTIRE QUESTION** before answering, as later questions will build on earlier answers.

Problem 2: Modern transport protocols (10 points)

a) Describe MPTCP (multipath TCP) and how it differs from TCP. (5 points)

b) Describe QUIC and how it differs from TCP. (5 points)

Problem 3: IP primitives (10 points)

a) What is ICMP used for? (2 points)

b) Describe two advantages and two disadvantages of NAT (4 points)

c) What was the primary motivation for developing IPv6? (1 point)

d) How can IPv6 traffic be carried over a network that does not support IPv6? (3 points)

Problem 5: Distance vector and link state (10 points)

a) Describe how distance vector and link state routing algorithms differ? (6 points)

b) Which of the two algorithms converges faster? (1 point)

c) Which of the two algorithms requires more computation (1 point)

d) Give an example of a routing protocol that uses distance vector algorithm (1 point)

e) Give an example of a routing protocol that uses link state algorithm. (1 points)