CMSC 417: Computer Networks
Spring 2024

Midterm exam# 1
Date: February 22nd, 2024
Time and Location: In-class (CSI 2117, 2pm)
Duration: 1 hour

Instructions:

1) You should be in the class at 2 pm.
2) You must bring your University ID card. The proctors may not allow you to sit for the exam without your University ID card.
3) This is a closed book and closed computing device exam.
4) You may not discuss with other students during the exam.
5) You must maintain academic integrity and code of conduct.

Exam syllabus:

1. Networks Overview (Chapter 1)
        a) Basic components of a computer network (Section: 1.2.2)
        b) Interconnection, internet, the Internet (Section: 1.2.2)
        c) Importance and challenges of computer networks (Refer to class slides and notes)
        d) Network architecture, abstractions, and protocol stacks/layers (Section: 1.3)
        e) Resource sharing, Circuit switching and packet switching (Section: 1.2.3)
        f) Network edge and network core (Refer to class slides and notes)
        g) Access networks (Refer to class slides and notes)
        h) Failures, delay, throughput, bandwidth (Section: 1.2.4, 1.5)

2. Routing Protocols (Chapter:3, Section: 3.3)
        a) Network as a graph (Section: 3.3.1)
        b) Distance Vector Routing (Section: 3.3.2)
        c) Link State Routing (Section: 3.3.3)

3. Internet Protocol (IP) (Chapter:3, Section: 3.2)
        a) Data plane and control plane (Refer to class slides and notes)
        b) IP datagram format (Section: 3.2.2)
        c) Fragmentation and reassembly (Section: 3.2.2)
        d) IPv4 address (Section: 3.2.3)
        e) IP datagram forwarding (Section: 3.2.4)
        f) Subnetting (Section: 3.2.5)

Expect "problem solving" type questions on:
a) IP fragmentation and reassembly
b) IP addresses and Subnetting
c) Routing protocols

Please note that exam questions will include topics discussed in response to various questions asked in the class.