

Cpr E 489 (Spring 2020) Online Exam #1 Review

Topic 4: Data Link Layer

- Medium Access Control (MAC) Schemes [Chapters 6.0, 6.1, 6.2]
 - ALOHA, Slotted ALOHA
 - Vulnerable Period
 - Load vs. Throughput
 - CSMA
 - Vulnerable Period
 - CSMA options
 - CSMA/CD
 - How does CD work?
 - Ethernet LAN and IEEE 802.3 [Chapter 6.7]
 - IEEE 802.3 MAC protocol
 - IEEE 802.3 frame format
 - Minimum frame size
 - Why ALOHA → Slotted ALOHA → CSMA → CSMA/CD?
 - Performance comparison
- LAN structure [Chapter 6.6.1]
- Repeater, bridge, router, gateway [Chapter 6.11.0]

Topic 5: Network Layer

- Name vs. Address
- IPv4 addressing [Chapters 8.2.2, 8.2.3, 8.2.4, 8.2.5]
 - Classful Addressing
 - Subnet Addressing
 - Supernet Addressing, CIDR
 - IP Routing: how does a router look up its routing table to forward an IP packet?