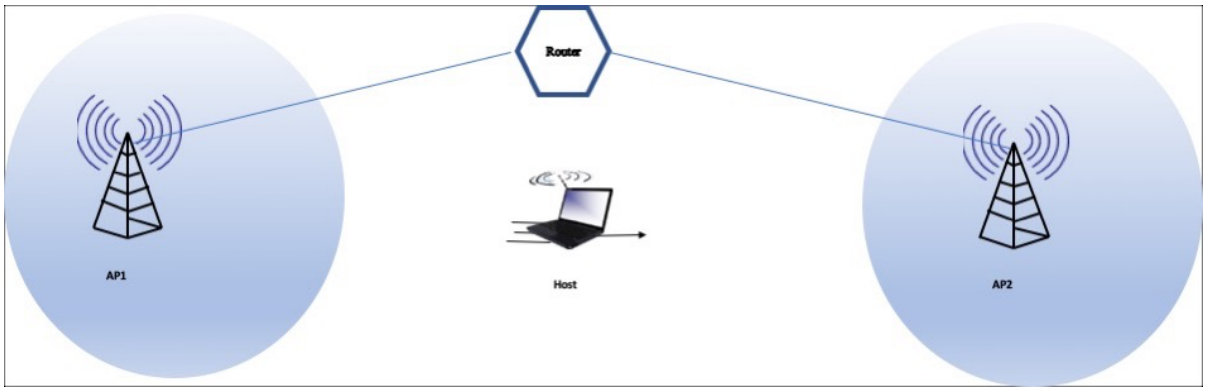
CS 6843 Fall; 2020 Final Exam

Submit you r exam in one file names with your last name, first. Also put your lastname, firstnme as the first line of your answer sheet,

1) Wireless 102.11i



The Ethernet addresses of the AP1, AP2, Router and Host are respectively Mac1, Mac2, MacR and MacH. The IP address of the router is IPR

a) (5 pts) What values are in the ARP table of the host when it is associated with AP1?
b) (5 pts) What is in the ARP table of the host after it moves and is associated with AP2?
c) (5 pts) 802.3 is able to perform frame collisions while 802.11 is not. Why?

2) (5 pts) In MPLS what is a circuit and how is it created? Be specific and make reference to protocols.
3) (10 pts) What is the relationship between an IP Multicast Group and an IP subnet.
4) (5 pts) Why is label switching more efficient the routing?
5) (5 pts) Why is routing more flexible than label switching? Or is it?
6) (10 pts) TCP provides reliability on top of an unreliable IP network. Describe the 5 major features that TCP provides.
7) (5 pts) Describe Nagle's Algorithm and what it does.
8) (5 pts) Describe TCP Delayed Ack and what it does.
8) (5 pts) What is an A record?
9) (5 pts) What is a PTR record and how is it used by some applications?
10) (10 pts) Describe Recursive vs Iterative DNS?
11) (5 pts) Describe a situation where one might be more favorable than the other.
12) (5 pts) In your DNS lab, was your DNS server authoritative for cnlab? Explain.
13 (10 pts) Given the following DNS zone file. For rows i-x describe each of the fields in the rows. In your descriptions make sure you use the fully qualified domain names when describing a field.

i.	$ORIGIN example.com.
ii.	$TTL 1h
iii.	example.com. IN SOA ns.example.com. username.example.com. (2007120710 1d 2h 4w 1h)
iv.	example.com. IN NS ns
v.	example.com. IN NS ns.somewhere.example.
vi.	example.com. IN MX 10 mail.example.com
vii.	example.com. IN A 192.0.2.1
viii.	ns IN A 192.0.2.2
ix.	www IN CNAME example.com.
x.	mail IN A 192.0.2.3