

ITS 323 – QUIZ 6

First name: _____ Last name: _____

ID: _____

Total Marks: _____

out of 10

Question 1 [2 marks]

Assume Classful Addressing is used.

a) Computer A has IP address 223.131.16.5. What class is it?

b) Computer B has IP address 223.131.91.5. Are A and B on the same network?

YES NO

c) What IP address identifies the network of Computer A? (answer in dotted decimal notation)

Question 2 [3 marks]

Assume Classless Addressing is used.

a) Computer A has the IP address 63.19.125.5/17. If computer B is outside of computer A's network, then what address would B send to in order to reach all computers on A's network? (answer must be in dotted decimal notation)

b) A company IP network currently has 200 hosts attached. The company plans to double the number of hosts attached to the network in the next year, however the company realised their current IP subnet mask would not support that many hosts. What is the company's current subnet mask? (answer must be in dotted decimal notation)

c) If computer C does not know its own IP address, but wants to send an IP datagram, what value can it use for a source address? (answer in dotted decimal notation)

Question 3 [5 marks]

Multiple choice. Select the (one) answer that is most accurate.

- a) A host:
 - i. Will not forward IP datagrams
 - ii. Does not have a routing table
 - iii. Does not implement IP software
- b) The Time To Live field in a IP datagram header:
 - i. Is used for flow control in IP
 - ii. Is decremented by each router that forwards a datagram
 - iii. Is used to measure the throughput between source and destination hosts
- c) What protocol is used to map IP addresses to physical addresses?
 - i. ICMP
 - ii. ARP
 - iii. IP
- d) An IP datagram is sent from host S to host D, via routers A then B. If the subnet between A and B is Ethernet then:
 - i. The header of the IP datagram from A to B contains the IP address of B as destination
 - ii. The header of the Ethernet frame from A to B contains the MAC address of B as destination
 - iii. The header of the Ethernet frame from A to B contains the MAC address of D as destination
- e) If IP fragmentation and re-assembly is used in the following network, where Source has 5000 Bytes of data to send, what is the size of the fragments (or datagrams) sent over subnet3? (You may ignore headers)
 - i. All 1000 Bytes
 - ii. Two are 2000 Bytes and one is 1000 Bytes
 - iii. One is 3000 Bytes and one is 2000 Bytes
 - iv. All 5000 Bytes

