

ITS 323 – QUIZ 6 (IT) ANSWERS

First name: _____ Last name: _____

ID: _____

Total Marks: _____

out of 10

Question 1 [4 marks]

Assume Classful Addressing is used.

- a) Computer A has IP address 129.64.32.8. What class is it? _____
- b) Computer B has IP address 129.63.32.9. Are A and B on the same network? YES / NO
- c) What IP address identifies the network of Computer A? _____
- d) Is the computer with the following IP address on the same network as A? YES / NO
10000001 01000000 00000001 00000000

Answers

- a. Class B – 129 in binary is 10000001, so the first two bits are 10 meaning Class B.
- b. No. For a class B address, the first 16 bits (or the first two parts of the dotted decimal notation) identify the network. Since they are different, the computers on different networks.
- c. 129.64.0.0
- d. Yes, the IP address begins with decimal 129.64, hence the same network.

Question 2 [3 marks]

Assume Classless Addressing is used.

- a) What subnet mask should be used to create the same network size as that of Computer A in Question 1?

- b) Computer C has IP address 72.45.8.16. What is the network address for this computer if the subnet mask is 255.255.128.0?

- c) What is the broadcast address for computer C with subnet mask 255.255.128.0?

Answer

- a. 255.255.0.0 – With a Class B address, the split between network and host portion is after the first 16 bits.

- b. 72.45.0.0 – With this subnet mask the first 18 bits are the network portion
- c. 72.45.127.255 – Host bits are 1.

Question 3 [3 marks]

Multiple choice (circle the correct answer):

- a) Which protocol provides error reporting capabilities in the Internet:
- i. ICMP
 - ii. ARP
 - iii. IP
 - iv. UDP
- b) For a network with a maximum of 450 hosts, which subnet mask is most appropriate?
- i. /18
 - ii. /23
 - iii. /25
 - iv. /9
- c) For an IP datagram with destination address 150.102.12.10/24 at a router with the following routing table, what next router will the datagram be sent to:

Destination Network	Next Router
150.102.7.* /24	A
150.102.*.* /24	B
150.*.7.10/24	C
*	D

- i. A
- ii. B
- iii. C
- iv. D

Answer

- a. ICMP – Internet Control Message Protocol
- b. /23 – This leaves 9 bits for the host portion, giving a possible 510 addresses, which is enough for a network with 450 hosts.
- c. B – This will be the first entry that matches (the entries are tested row by row).