BAIT1013 Introduction To Computer Networks

Tutorial 7: IP Addressing

Q1. Identify the network portion and host portion for the following IP addresses based on the subnet mask given.

(i) 122.10.100.0/24 *(201705 TAR UC, resit)* (2 marks)

Network Portion	Host Portion

(ii) 180.80.0.0/16 *(201705 TAR UC, resit)* (2 marks)

Network Portion	Host Portion

Q2. Outline the first octet range (decimal format) for Class A, B, C addresses.

(201603 TAR UC, resit) (6 marks)

Class	First octet range
A	
B	
C	

Q3. Identify the address class and the default subnet mask of the following IP addresses.

(i) 192.168.10.10 *(201705 TAR UC, resit)* (2 marks)

Address Class	Default Subnet Mask

(ii) 172.16.5.5 *(201705 TAR UC, resit)* (2 marks)

Address Class	Default Subnet Mask

(iii) 10.10.10.10 *(201705 TAR UC, resit)* (2 marks)

Address Class	Default Subnet Mask

Q4. Convert the IPv4 address of 209.165.200.228/30 into binary IPv4 address and binary subnet mask respectively. *(201509 TAR UC, Main)* (4 marks)

Binary IP address	
Binary Subnet Mask	

Q5. Identify the class, default mask and network address for IPv4 address of 172.30.100.88. *(201509 TAR UC, Main)* (3 marks)

Class	
Default mask	
Network address	

Q6. Describe how a router uses the addressing field in an IP header to determine where to forward a packet. *(201409 TAR UC, Main)* (6 marks)

Q7. Provide the compressed format for each of the following IPv6 addresses. Show both *rule 1* and *rule 2* of your answer. *(202003 TAR UC, resit)*

(i) 2001:0DB8:3C5D:0013:0000:0000:1234:58AE (2 marks)

(ii) 2001:0000:0000:0011:020D:BDFF:0000:0D80 (2 marks)

(iii) FE80:0000:0000:0000:020D:BDFF:FE3B:0D80 (2 marks)

Q8. With reference to Figure 2, answer the following questions.

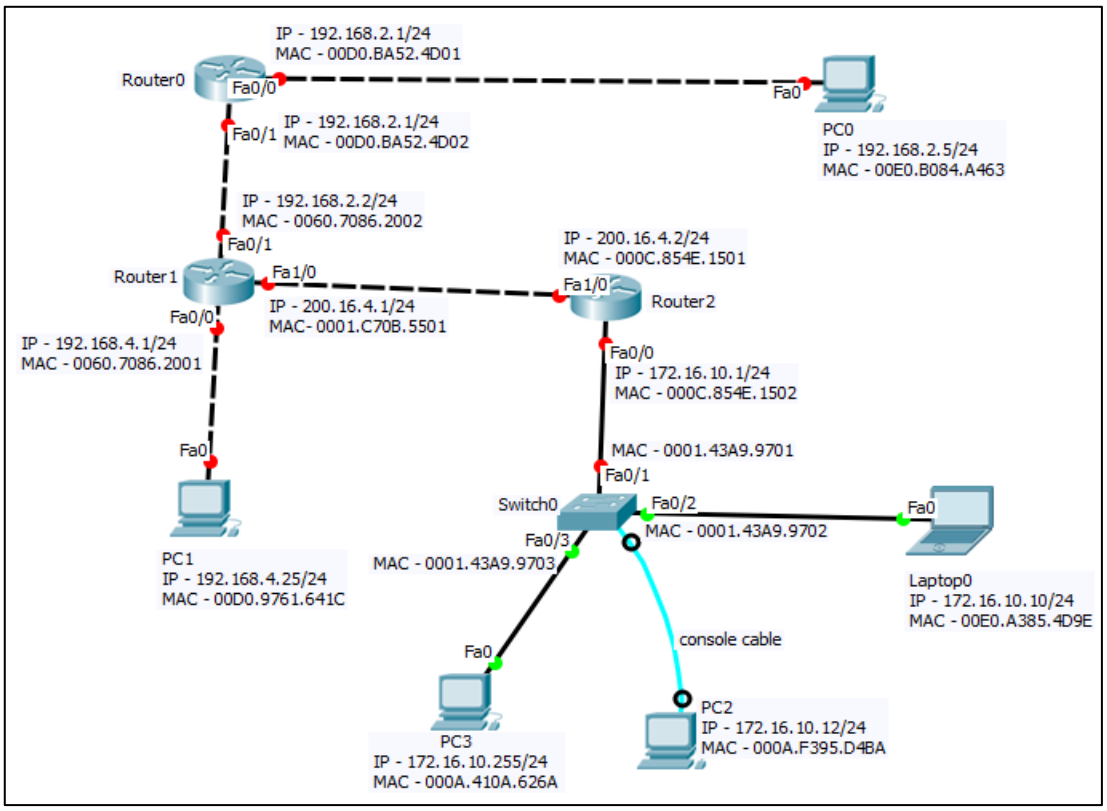

Figure 2: A Network Topology

(i) How many networks shown in Figure 2? *(201605 TAR UC, resit)* (1 mark)

(ii) "PC0 and PC2 are in the same network." Do you agree with this statement? Justify your answer. *(201703 TAR UC, resit)* (3 marks)

(iii) Laptop0 is trying to ping PC2. What will be the expected result? Explain your answer. *(201703 TAR UC, resit)* (3 marks)

(iv) Laptop0 is trying to ping PC3. What will be the expected result? Explain your answer. *(201703 TAR UC, resit)* (3 marks)

Q10. Identify the address class and the default subnet mask of the following IP addresses. (*201709 TAR UC main*)

(i) 192.14.6.0 (2 marks)

Address Class	Default Subnet Mask

(ii) 126.6.150.0 (2 marks)

Address Class	Default Subnet Mask