CSE421: Assignment 4 - Subnetting

Total points 13/15

CSE421: Computer Networks; Fall 2025;
Marks: 15, Deadline: 11:59pm, 26/12/2025

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0 of 0 points

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Consider an IP address of 100.32.65.175 with the subnet mask of 255.255.128.0.

2 of 2 points

✓ Q1. Identify the network address. * 1/1

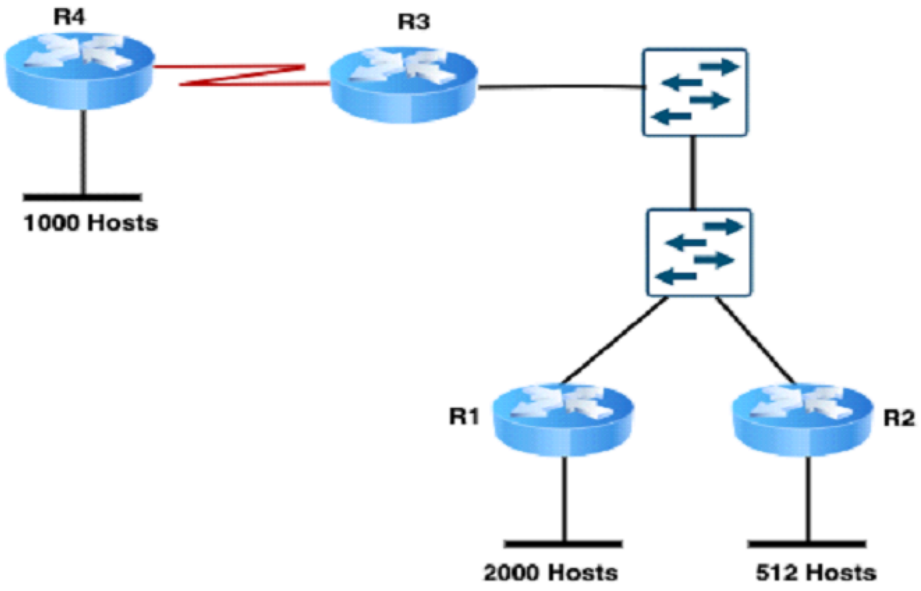
- (●) 100.32.0.0/17 ✓
- ( ) 100.32.65.0/17
- ( ) 100.32.65.0/18
- ( ) 100.32.0.0/16

✓ Q2. Identify the number of hosts possible in this IP block. * 1/1

- ○ 32768
- ◉ 32766 ✓
- ○ 16384
- ○ 16382

Using the network address of (Q1), use VLSM to determine the subnetwork addresses of the networks in the following topology. 11 of 13 points

Topology



✓ Q3. How many subnets are required in the above scenario? * 1/1

- ○ 4
- ◉ 5 ✓
- ○ 6
- ○ 8

✓ Q4. What is the Network address of the LAN of size 2000 Hosts? * 2/2

- ○ 100.32.0.0/17
- ◉ 100.32.0.0/21 ✓
- ○ 100.32.0.0/18
- ○ 100.32.0.0/22

✓ Q5. What is the Broadcast address of the LAN of size 1000 Hosts? * 2/2

- ○ 100.32.8.0/22
- ○ 100.32.8.255/22
- ○ 100.32.11.0/22
- ◉ 100.32.11.255/22 ✓

✓ Q6. What is the First valid Host IP address of the LAN of size 512 Hosts? *2/2

- ○ 100.32.8.1/22
- ◉ 100.32.12.1/22 ✓
- ○ 100.32.16.0/29
- ○ 100.32.16.8/29

✗ Q7. What is the network address of the switched network? * 0/2

- ○ 100.32.8.0/28
- ○ 100.32.8.0/29
- ◉ 100.32.16.0/28 ✗
- ○ 100.32.16.0/29

Correct answer

- ◉ 100.32.16.0/29

✓ Q8. How many hosts are required in the switched network? * 1/1

- ○ 2
- ◉ 3 ✓
- ○ 4
- ○ 5

✓ Q9. What is the network address of the WAN network? * 2/2

- ○ 100.32.16.0/29
- ◉ 100.32.16.8/30 ✓
- ○ 100.32.0.0/21
- ○ 100.32.16.8/29

✓ Q10. How many hosts are required in the WAN network? * 1/1

- ◉ 2 ✓
- ○ 3
- ○ 4
- ○ 5

Upload your calculations for all the questions in pdf format: *

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