CN LAB Assignment   
Batch -72B

|  |  |
| --- | --- |
| Name: | ID: |

1. Design the following topology in packet tracer using Static, RIP, OSPF routing (separately).

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| --- |
|  |

2. Fill up the following table 1, 2, 3.

**Table 1: Subnet Information**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Subnet Number** | **Subnet Address and Subnet Mask** | **First Host Address** | **Last Host Address** | **Gateway Address** |
| **1 (1024)** | **16.128.0.0/22**  **255.255.252.0/22** | **16.128.0.2/22** | **16.128.3.254/22** | **16.128.0.1/22** |
| **2 (256)** | **16.128.4.0/24**  **255.255.255.0/24** | **16.128.4.2/24** | **16.128.4.254/24** | **16.128.4.1/24** |
| **3 (256)** | **16.128.5.0/24**  **255.255.255.0/24** | **16.128.5.2/24** | **16.128.5.254/24** | **16.128.5.1/24** |
| **4 (36)** | **16.128.6.0/27**  **255.255.255.224/27** | **16.128.6.2/27** | **16.128.6.30/27** | **16.128.6.1/27** |
| **5 (4)** | **16.128.255.240/30**  **255.255.255.252/30** | **16.128.255.242/30** | **16.128.255.243/30** | **16.128.255.241/30** |
| **6 (4)** | **16.128.255.244/30**  **255.255.255.252/30** | **16.128.255.247/30** | **16.128.255.246/30** | **16.128.255.245/30** |
| **7 (4)** | **16.128.255.248/30**  **255.255.255.252/30** | **16.128.255.251/30** | **16.128.255.250/30** | **16.128.255.249/30** |
| **8 (4)** | **16.128.255.252/30**  **255.255.255.252/30** | **16.128.255.255/30** | **16.128.255.254/30** | **16.128.255.253/30** |

**Table 2: Addressing Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Device** | **Interface** | **IP address** | **Subnet Mask** |
| **R1** | **Fa0/0** | **16.128.5.1/24** | **255.255.255.0/24** |
| **Se2/0** | **16.128.255.245/30** | **255.255.255.252/30** |
| **Se3/0** | **16.128.255.250/30** | **255.255.255.252/30** |
| **R2** | **Fa0/0** | **16.128.6.1/27** | **255.255.255.224/27** |
| **Se2/0** | **16.128.255.246/30** | **255.255.255.252/30** |
| **Se3/0** | **16.128.255.241/30** | **255.255.255.252/30** |
| **R3** | **Fa0/0** | **16.128.0.1/22** | **255.255.252.0/24** |
| **Se2/0** | **16.128.255.253/30** | **255.255.255.252/30** |
| **Se3/0** | **16.128.255.242/30** | **255.255.255.252/30** |
| **R4** | **Fa0/0** | **16.128.4.1/24** | **255.255.255.0/24** |
| **Se2/0** | **16.128.255.254/30** | **255.255.255.252/30** |
| **Se3/0** | **16.128.255.249/30** | **255.255.255.252/30** |

**Table 3: Static Routing Table**

|  |  |  |  |
| --- | --- | --- | --- |
| **Router** | **Unknown Network Address** | **Mask Address** | **Next Hop** |
| **R1** | **16.128.6.0** | **255.255.255.224** | **16.128.255.246** |
| **16.128.255** | **255.255.255.252** | **16.128.255.246** |
| **16.128.0.0** | **255.255.252.0** | **16.128.255.246** |
| **16.128.4.0** | **255.255.255.0** | **16.128.255.249** |
| **16.128.255.252** | **255.255.255.252** | **16.128.255.249** |
| **R2** | **16.128.5.0** | **255.255.255.0** | **16.128.255.245** |
| **16.128.255.248** | **255.255.255.252** | **16.128.255.245** |
| **16.128.4.0** | **255.255.255.0** | **16.128.255.245** |
| **16.128.255.252** | **255.255.255.252** | **16.128.255.242** |
| **16.128.0.0** | **255.255.255.0** | **16.128.255.242** |
| **R3** | **16.128.5.0** | **255.255.255.0** | **16.128.255.254** |
| **16.128.255.248** | **255.255.255.252** | **16.128.255.254** |
| **16.128.4.0** | **255.255.255.0** | **16.128.255.254** |
| **16.128.255.244** | **255.255.255.252** | **16.128.255.241** |
| **16.128.6.0** | **255.255.255.224** | **16.128.255.241** |
| R4 | **16.128.5.0** | **255.255.255.0** | **16.128.255.250** |
| **16.128.255.244** | **255.255.255.252** | **16.128.255.250** |
| **16.128.255.240** | **255.255.255.252** | **16.128.255.253** |
| **16.128.6.0** | **255.255.255.224** | **16.128.255.253** |
| **16.128.0.0** | **255.255.252.0** | **16.128.255.253** |

**Table 4: RIP Routing Table**

|  |  |
| --- | --- |
| **Router** | **Neighbor Network Address** |
| **R1** | **16.128.0.0/22** |
| **16.128.4.0/24** |
| **16.128.6.0/27** |
| **16.128.255.240/30** |
| **16.128.255.252/30** |
| **R2** | **16.128.0.0/22** |
| **16.128.4.0/24** |
| **16.128.5.0/24** |
| **16.128.255.248/30** |
| **16.128.255.252/30** |
| **R3** | **16.128.4.0/24** |
| **16.128.5.0/24** |
| **16.128.6.0/27** |
| **16.128.255.244/30** |
| **16.128.255.248/30** |
| R4 | **16.128.0.0/22** |
| **16.128.5.0/24** |
| **16.128.6.0/27** |
| **16.128.255.240/30** |
| **16.128.255.244/30** |

**Table 5: OSPF Routing Table**

|  |  |  |
| --- | --- | --- |
| **Router** | **Neighbor Network Address** | **Wildcard Mask** |
| **R1** |  |  |
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|  |  |
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|  |  |
| **R2** |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| **R3** |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| R4 |  |  |
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|  |  |
|  |  |

**4. Address space according to your Student ID.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Your ID** | **A No. of Hosts** | **B No. of Hosts** | **C No. of Hosts** | **D No. of Hosts** | **Address Space** |
| CSE 058 07094 | 1000 | 2000 | 3000 | 1000 | 172.0.0.0/16 |
| CSE 058 07101 | 100 | 200 | 300 | 200 | 172.0.128.0/17 |
| CSE 061 07337 | 500 | 1000 | 600 | 500 | 172.0.192.0/18 |
| CSE 062 07350 | 10 | 20 | 200 | 100 | 170.0.0.0/8 |
| CSE 062 07363 | 500 | 1000 | 600 | 50 | 10.224.0.0/11 |
| CSE 063 07461 | 50 | 100 | 700 | 50 | 10.240.0.0/12 |
| CSE 064 07564 | 30 | 500 | 4000 | 30 | 120.0.0.0/8 |
| CSE 068 07949 | 2000 | 200 | 20 | 20 | 5.0.0.0/8 |
| CSE 068 07969 | 3000 | 300 | 30 | 30 | 10.128.0.0/9 |
| CSE 070 08114 | 5 | 10 | 150 | 150 | 192.0.0.0/10 |
| CSE 070 08122 | 35 | 150 | 250 | 35 | 192.192.0.0/10 |
| CSE 072 08179 | 2000 | 3000 | 4000 | 2000 | 10.0.0.0/8 |
| CSE 072 08183 | 1000 | 100 | 10 | 10 | 10.0.0.0/8 |
| CSE 072 08193 | 1000 | 2000 | 5 | 5 | 165.16.0.0/16 |
| CSE 072 08205 | 5 | 16 | 8 | 16 | 15.0.0.0/8 |
| CSE 072 08209 | 150 | 25 | 756 | 15 | 16.128.0.0/9 |
| CSE 072 08210 | 700 | 800 | 900 | 800 | 16.192.0.0/10 |
| CSE 072 08213 | 2000 | 2000 | 4000 | 1000 | 10.128.0.0/9 |
| CSE 072 08214 | 512 | 10 | 1000 | 500 | 10.224.0.0/11 |
| CSE 072 08215 | 323 | 123 | 423 | 300 | 170.0.0.0/8 |
| CSE 072 08219 | 15 | 515 | 5000 | 15 | 3.0.0.0/8 |
| CSE 072 08221 | 5 | 10 | 30 | 10 | 192.160.15.0/24 |
| CSE 072 08222 | 100 | 10 | 25 | 10 | 192.160.254.0/23 |
| CSE 072 08223 | 1500 | 1800 | 800 | 800 | 4.0.0.0/9 |
| CSE 072 08224 | 1800 | 2000 | 10 | 800 | 5.0.0.0/8 |
| CSE 072 08225 | 3000 | 4000 | 100 | 110 | 18.0.0.0/8 |
| CSE 072 08226 | 3000 | 2000 | 5000 | 140 | 175.16.0.0/16 |
| CSE 072 08229 | 700 | 800 | 80 | 16 | 15.0.0.0/8 |
| CSE 072 08230 | 150 | 25 | 756 | 150 | 16.128.0.0/9 |
| CSE 072 08231 | 700 | 800 | 900 | 800 | 15.192.0.0/10 |
| CSE 072 08232 | 2000 | 2000 | 4000 | 1000 | 12.128.0.0/9 |
| CSE 072 08233 | 512 | 5150 | 5000 | 500 | 10.224.0.0/11 |
| CSE 072 08234 | 3200 | 123 | 423 | 300 | 19.0.0.0/8 |
| CSE 072 08245 | 512 | 10000 | 978 | 500 | 10.224.0.0/11 |
| If ID not in the list | 2000 | 3000 | 60 | 2000 | 10.0.0.0/8 |