CURSO

–

**Cibersecurity**

UFCD

**–**

**Hardware e redes de computadores**

**EXERCÍCIO**

**–**

**Cálculo de Redes**



**EXERCÍCIOS DE APLICAÇÃO – CÁLCULO DE SUB-REDES**

1. Which of the following is the valid host range for the IP address 192.168.168.188 255.255.255.192?
   1. 192.168.168.129-190
   2. 192.168.168.129-191
   3. 192.168.168.128-190
   4. 192.168.168.128-192

Classe C = /24

192-128 = 64

2 bits emprestados

Nº de hosts: 64-2=62

Nº de subredes: 22 = 4

Intervalo de todos (com IPs rede e IPs Broadcast):

* 192.168.168.0 – 192.168.168.63
* 192.168.168.64 -192.168.168.127
* 192.168.168.128-192.168.168.191
* 192.168.168.192-192.168.168.255

1. What is the subnet address of the IP address 192.168.100.30 255.255.255.248?

a. 192.168.100.32

* 1. 192.168.100.24
  2. 192.168.100.0
  3. 192.168.100.16

248-128=120-64=56-32=24-16=8

5 bits

Nº de subredes: 25 = 32

Intervalo de todos:

* 192.168.100.0 - 192.168.100.7
* 192.168.100.8 - 192.168.100.15
* 192.168.100.16 - 192.168.100.23
* 192.168.100.24 - 192.168.100.31 🡨
* 192.168.100.32 - 192.168.100.39
* …

1. What is the valid host range the IP address 172.16.10.22 255.255.255.240 is a part of?

a. 172.16.10.20-172.16.10.22

* 1. 192.16.10.1-172.16.10.255
  2. 192.16.10.16-192.16.10.23
  3. 172.16.10.17-172.16.10.31
  4. 172.16.10.17-172.16.10.30

240-128=112-64=48-32=16

Nº de subredes: 24 = 16

Intervalo de todos:

* 172.16.10.22.0 - 172.16.10.22.15
* 172.16.10.22.16 - 172.16.10.22.31 🡨
* 172.16.10.22.32 - 172.16.10.22.47
* 172.16.10.22.48 - 172.16.10.22.63
* 172.16.10.22.64 - 172.16.10.22.79
* 172.16.10.22.80 - 172.16.10.22.95
* 172.16.10.22.96 - 172.16.10.22.111
* 172.16.10.22.112 - 172.16.10.22.128
* …

1. Which of the following is the broadcast address for a Class B network ID using the default subnet mask?
   1. 172.16.10.255
   2. 172.16.255.255
   3. 172.255.255.255
   4. 255.255.255.255
2. What is the broadcast address of the subnet address 10.254.255.19 255.255.255.248?

a. 10.254.255.23

* 1. 10.254.255.24
  2. 10.254.255.255
  3. 10.255.255.255

248-128=120-64=56-32=24-16=8

5 bits

Nº de subredes: 25 = 32

Intervalo de todos:

* 10.254.255.0 - 10.254.255.7
* 10.254.255.8 - 10.254.255.15
* 10.254.255.16 - 10.254.255.23 🡨

1. What is the broadcast address of the subnet address 172.16.99.99 255.255.192.0?

a. 172.16.99.255

* 1. 172.16.127.255
  2. 172.16.255.255
  3. 172.16.64.127

192-128 = 64

2 bits

Nº de subredes: 22 = 4

Intervalos:

* 172.16.0.0 - 172.16.63.255
* 172.16.64.0 - 172.16.127.255 🡨
* 172.16.128.0 - 172.16.191.255
* 172.16.192.0 - 172.16.255.255

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Hugo Viana Página 1