EXAMEN EIMT1019- 1ª CONVOCATORIA -SOLUCION 2ª PARTE

EJERCICIO I.

1) **(0.2 puntos)**

4 departamentos- necesito como mínimo 2 bits para numerar subredes.

Número máximo de host es 31 –>

necesito como mínimo 6 bits para numerar los hosts

(con 5 se puede de 0-30 y la 31 sería la de difusión)

Me quedan disponibles 2 bits para subredes

2. **(0.8 puntos)**

La máscara quedará /26=255.255.255.192

Departamento	Subred/mascara	Primera útil / ultima usada	Difusión
Secretaria 00------	172.10.70.0 255.255.255.192	172.10.70.1 172.10.70.2	172.10.70.63
Profesarado 01------	172.10.70.64 255.255.255.192	172.10.70.65 172.10.70.79	172.10.70.127
Tecnicos 10------	172.10.70.128 255.255.255.192	172.10.70.129 172.10.70.132	172.10.70.191
Alumnos 11------	172.10.70.192 255.255.255.192	172.10.70.193 172.10.70.223	172.10.70.255

EJERCICIO II.

3) **(0.25 puntos)**

Switch(config)# hostname SM_Ed1

interface range Fa0/3-24
shutdown
exit

4. **(0.25 puntos)**

En RCentral1:

#line console 0
password console19
login
exit

#enable secret sad1019

EJERCICIO III.

5) **(0.6 puntos)**

En Rcentral1

ip nat pool EXTERIOR 50.40.1.3 50.40.1.3 netmask 255.255.255.0

ip nat inside source list 10 pool EXTERIOR overload

access-list 10 permit 192.168.50.0 0.0.0.255
access-list 10 permit 192.168.51.0 0.0.0.255
access-list 10 permit 192.168.52.0 0.0.0.255
access-list 10 permit 192.168.53.0 0.0.0.255
access-list 10 permit 192.168.54.0 0.0.0.255

se puede resumir
access-list 10 permit 192.168.48.0 0.0.7.255

interface Se0/0/0
ip address 172.36.1.1 255.255.255.0
ip nat inside
no shutdown
exit

interface Fa0/1
ip address 192.168.55.1 255.255.255.0
ip nat inside
no shutdown
exit

interface Fa0/0
ip address 50.40.1.1 255.255.255.0
ip nat outside
no shutdown
exit

6) **(0.3 puntos)**

ip nat inside source static 192.168.55.5 50.40.1.4

7) **(0.6 puntos)**

En R33
ip dhcp pool Administracion
network 192.168.205.0 255.255.255.0
default-router 192.168.205.1
dns-server 192.168.50.9
exit

ip dhcp excluded-address 192.168.201.7

ip dhcp pool Recursos
network 192.168.201.0 255.255.255.0
default-router 192.168.201.1
dns-server 192.168.50.9
exit

En este caso como habrá un túnel que comunique los edificios podemos usar como dns-server tanto la dirección interna como la externa.

EJERCICIO IV.

8) **(0.25 puntos)**

vlan 10
name recursos
exit
vlan 11
name direccion
exit
vlan 12
name administracion
exit
vlan 13
name desarrollo
vlan 14
name visitantes
exit

9) **(0.75 puntos)**

En S3_ed1

interface range Fa0/1-3
switchport mode trunk
switchport trunk allowed vlan 10,11,12,13,14
switchport trunk native vlan 45
exit
interface range Fa0/4-6
switchport mode access
switchport access vlan 10
exit

```
interface range Fa0/7-10
switchport mode access
switchport access vlan 11
exit

interface range Fa0/11-24
switchport mode access
switchport access vlan 13
exit
```

10) **(0.25 puntos)**

En R11

```
interface fa0/0.12
encapsulation dot1Q 12
ip address 192.168.52.1 255.255.255.0
exit
```

EJERCICIO V.

11) **(0.75 puntos)**

En Rcentral1 Ed1

```
interface tunnel1
ip address 192.168.129.1 255.255.255.0
tunnel source Fa0/0
tunnel destination 160.180.3.1
exit

ip route 192.168.205.0 255.255.255.0 192.168.129.2   //administracion
ip route 192.168.207.0 255.255.255.0 192.168.129.2   //direccion
```

12) **(0.75 puntos)**

En R33 Ed2

```
interface tunnel1
ip address 192.168.129.2 255.255.255.0
tunnel source Fa0/1
tunnel destination 50.40.1.1
exit


ip route 192.168.51.0 255.255.255.0 192.168.129.1   //direccion
ip route 192.168.52.0 255.255.255.0 192.168.129.1   //administracion
```

EJERCICIO VI.

13) **(0.5 puntos)**

En Rcentral2
router ospf 100
network 160.180.2.0 0.0.0.255 area 1
network 160.180.1.0 0.0.0.255 area 0
exit

En R31
router ospf 100
network 160.180.1.0 0.0.0.255 area 0
network 160.180.3.0 0.0.0.255 area 2
exit

En R33
router ospf 100
network 160.180.3.0 0.0.0.255 area 2
exit

En R32
router ospf 100
network 160.180.2.0 0.0.0.255 area 1
network 200.130.1.0 0.0.0.255 area 1
network 200.130.2.0 0.0.0.255 area 1
network 200.130.3.0 0.0.0.255 area 1
exit

14) **(0.5 puntos)**

En Rcentral1
router bgp 200
neighbor 50.40.1.2 remote-as 300
network 50.40.1.0 mask 255.255.255.0
exit

15) **(0.5 puntos)**

En RISP

router bgp 300
neighbor 50.40.1.1 remote-as 200
neighbor 55.95.1.1 remote-as 400
network 172.192.10.0 mask 255.255.255.0 //red de internet

EJERCICIO VII.

16) **(2 puntos)**

EN edificio1 en los subinterfaces de R11

- visitantes no al ftp-dns, si al resto de recursos, no al resto

```
interface Fa0/0.14
ip access-group 114 in
exit


access-list 114 deny ip 192.168.54.0 0.0.0.255 host 192.168.50.9
access-list 114 permit ip 192.168.54.0 0.0.0.255 192.168.50.0 0.0.0.255
```

- Desarrollo, si al ftp-dns solo para ftp y dns; si al resto de recursos ed1
  sí a desarrollo en edificio2, no al resto

```
interface Fa0/0.13
ip access-group 113 in
exit

access-list 113 permit tcp 192.168.53.0 0.0.0.255 host 192.168.50.9 eq ftp
access-list 113 permit udp 192.168.53.0 0.0.0.255 host 192.168.50.9 eq domain
access-list 113 deny ip 192.168.53.0 0.0.0.255 host 192.168.50.9
access-list 113 permit ip 192.168.53.0 0.0.0.255 192.168.50.0 0.0.0.255
access-list 113 permit ip 192.168.53.0 0.0.0.255 200.130.1.0 0.0.0.255
access-list 113 permit ip 192.168.53.0 0.0.0.255 200.130.2.0 0.0.0.255
access-list 113 permit ip 192.168.53.0 0.0.0.255 200.130.3.0 0.0.0.255
```

- Administracion, si al ftp-dns solo para dns; si al resto de recursos ed1
  sí a administracion en edificio2, no al resto

```
interface Fa0/0.12
ip access-group 112 in
exit

access-list 112 permit udp 192.168.52.0 0.0.0.255 host 192.168.50.9 eq domain
access-list 112 deny ip 192.168.52.0 0.0.0.255 host 192.168.50.9
access-list 112 permit ip 192.168.52.0 0.0.0.255 192.168.50.0 0.0.0.255
access-list 112 permit ip 192.168.52.0 0.0.0.255 192.168.205.0 0.0.0.255
```

- Direccion, si al ftp-dns solo para dns; si al resto de recursos ed1
  sí a direccion en edificio2, si a internet

interface Fa0/0.11
ip access-group 111 in
exit

access-list 111 permit udp 192.168.51.0 0.0.0.255 host 192.168.50.9 eq domain
access-list 111 deny ip 192.168.51.0 0.0.0.255 host 192.168.50.9
//denegar ad1 ed1; des-ed1; vis-ed1; des1,2,3-ed2; ad-ed2 ;comer ed2 ;rec 1 y 2 ed2
//y permitir resto
//denegar ad1 ed1;
access-list 111 deny ip 192.168.51.0 0.0.0.255 192.168.52.0 0.0.0.255
//denegar des-ed1;
access-list 111 deny ip 192.168.51.0 0.0.0.255 192.168.53.0 0.0.0.255
//denegar vis-ed1;
access-list 111 deny ip 192.168.51.0 0.0.0.255 192.168.54.0 0.0.0.255
//denegar des1,2,3-ed2;
access-list 111 deny ip 192.168.51.0 0.0.0.255 200.130.1.0 0.0.0.255
access-list 111 deny ip 192.168.51.0 0.0.0.255 200.130.2.0 0.0.0.255
access-list 111 deny ip 192.168.51.0 0.0.0.255 200.130.3.0 0.0.0.255
//denegar ad-ed2
access-list 111 deny ip 192.168.51.0 0.0.0.255 192.168.205.0 0.0.0.255
//denegar comer ed2
access-list 111 deny ip 192.168.51.0 0.0.0.255 192.168.206.0 0.0.0.255
//denegar rec 1 y 2 ed2
access-list 111 deny ip 192.168.51.0 0.0.0.255 192.168.200.0 0.0.0.255
access-list 111 deny ip 192.168.51.0 0.0.0.255 192.168.201.0 0.0.0.255
//permitir resto
access-list 111 permit ip any any

EN LA ULTIMA ESTARA INCLUIDO sí al resto de recursos ed1 Y si a direccion en edificio2