Fecha: Guayaquil 28 de Enero del 2013

REDES DE DATOS 1
EXAMEN FINAL

Nombre: _____
Paralelo:

Lecciones:	
Laboratorios:	
Examen:	

1. En base a las salidas del comando "show ip route" dibujar el correspondiente diagrama de la Red indicando los nombres de las interfaces (en caso de ser posible), las direcciones de red de los enlaces WAN y las LANs (20 puntos)

```
Gate1#sh ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, Serial0/0/0
C    192.168.12.0/24 is directly connected, Serial0/0/1
R    192.168.15.0/24 [120/2] via 192.168.12.2, 00:00:12, Serial0/0/1
                     [120/2] via 192.168.10.2, 00:00:13, Serial0/0/0
R    192.168.16.0/24 [120/2] via 192.168.10.2, 00:00:13, Serial0/0/0
                     [120/2] via 192.168.12.2, 00:00:12, Serial0/0/1
R    192.168.18.0/24 [120/1] via 192.168.12.2, 00:00:12, Serial0/0/1
R    192.168.19.0/24 [120/1] via 192.168.10.2, 00:00:13, Serial0/0/0
C    192.168.20.0/24 is directly connected, FastEthernet0/0
C    192.168.11.0/24 is directly connected, FastEthernet0/1
```

```
Gate2#sh ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

R    192.168.10.0/24 [120/1] via 192.168.12.1, 00:00:27, Serial0/0/1
C    192.168.12.0/24 is directly connected, Serial0/0/1
R    192.168.15.0/24 [120/1] via 192.168.18.1, 00:00:24, Serial0/0/0
R    192.168.16.0/24 [120/1] via 192.168.18.1, 00:00:24, Serial0/0/0
C    192.168.18.0/24 is directly connected, Serial0/0/0
R    192.168.19.0/24 [120/1] via 192.168.18.1, 00:00:24, Serial0/0/0
R    192.168.20.0/24 [120/1] via 192.168.12.1, 00:00:27, Serial0/0/1
R    192.168.11.0/24 [120/1] via 192.168.12.1, 00:00:27, Serial0/0/1
```

```
Gate3#sh ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

R    192.168.10.0/24 [120/1] via 192.168.19.1, 00:00:00, Serial0/0/1
R    192.168.12.0/24 [120/1] via 192.168.18.2, 00:00:26, Serial0/0/0
C    192.168.15.0/24 is directly connected, FastEthernet0/1
C    192.168.16.0/24 is directly connected, FastEthernet0/0
C    192.168.18.0/24 is directly connected, Serial0/0/0
C    192.168.19.0/24 is directly connected, Serial0/0/1
R    192.168.20.0/24 [120/2] via 192.168.19.1, 00:00:00, Serial0/0/1
                     [120/2] via 192.168.18.2, 00:00:26, Serial0/0/0
R    192.168.11.0/24 [120/2] via 192.168.19.1, 00:00:00, Serial0/0/1
                     [120/2] via 192.168.18.2, 00:00:26, Serial0/0/0
```

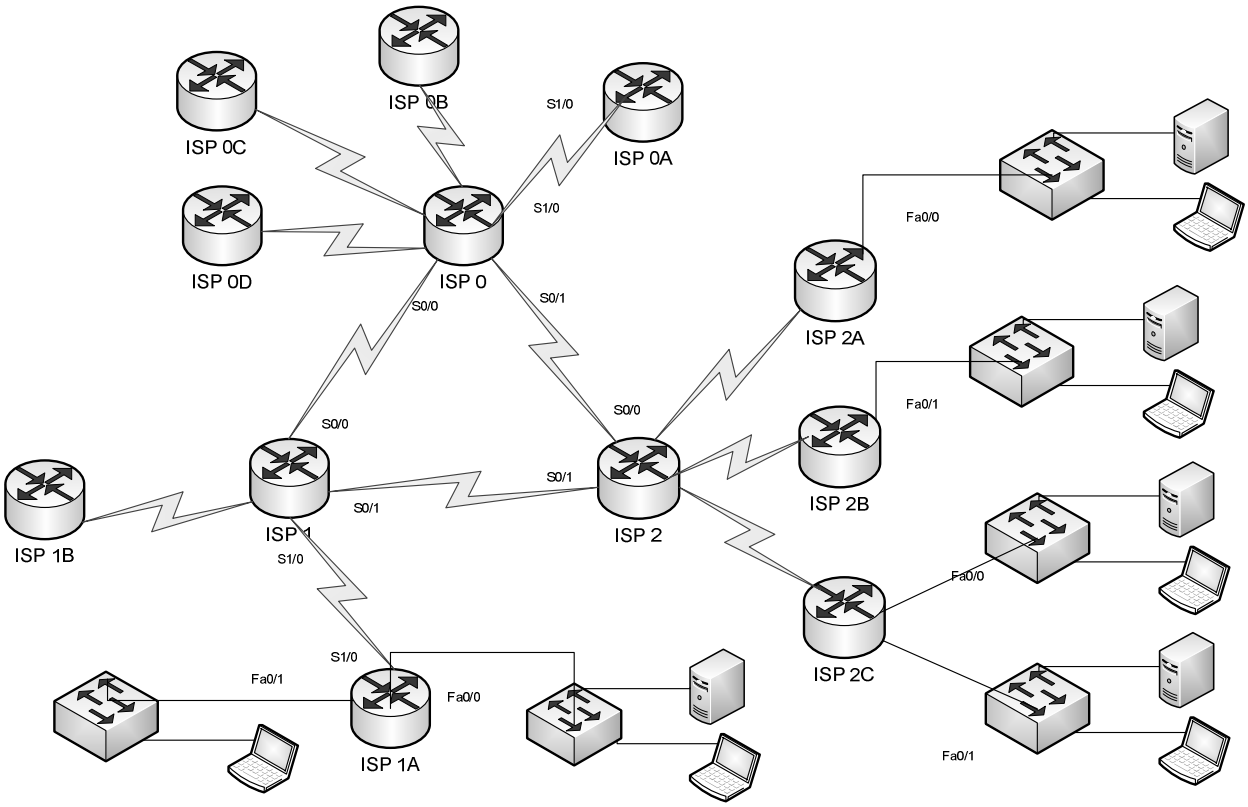
```
Gate4#sh ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
```

```
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.168.10.0/24 is directly connected, Serial0/0/0
R    192.168.12.0/24 [120/1] via 192.168.10.1, 00:00:15, Serial0/0/0
R    192.168.15.0/24 [120/1] via 192.168.19.2, 00:00:09, Serial0/0/1
R    192.168.16.0/24 [120/1] via 192.168.19.2, 00:00:09, Serial0/0/1
R    192.168.18.0/24 [120/1] via 192.168.19.2, 00:00:09, Serial0/0/1
C    192.168.19.0/24 is directly connected, Serial0/0/1
R    192.168.20.0/24 [120/1] via 192.168.10.1, 00:00:15, Serial0/0/0
R    192.168.11.0/24 [120/1] via 192.168.10.1, 00:00:15, Serial0/0/0
```

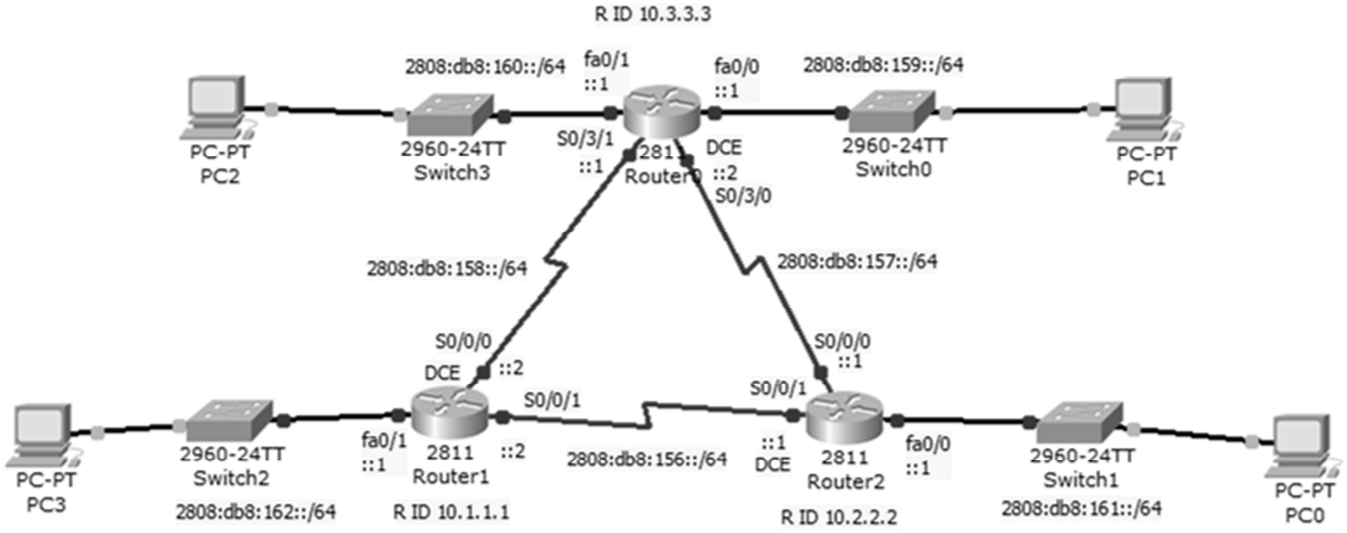
2. Dada la siguiente red Ipv6, establezca la subred jerárquica específica para cada sistema autónomo ISP0, 1, 2, así como a los routers internos, y usuarios finales (25 puntos)

Nivel 0Holgura: 3 Bits
Nivel 1Holgura: 2 Bits
Nivel 2Holgura: 2 bits

Red: 2802:BAFE::/32



3. Dada la siguiente topología de red configurar OSPF para Ipv6, detallar configuración de interfaces, de red (30 puntos)



4. Describa el funcionamiento del protocolo MPLS (10 puntos)

5. Describa los siguientes conceptos (15 puntos)

CSMA/CD

TCP

UDP

Ventana Deslizante

Sistema Autónomo