

**CONMUTACION Y ENRUTAMIENTO I
EXAMEN PARCIAL**

Nombre: _____

Lecciones:

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Paralelo: _____

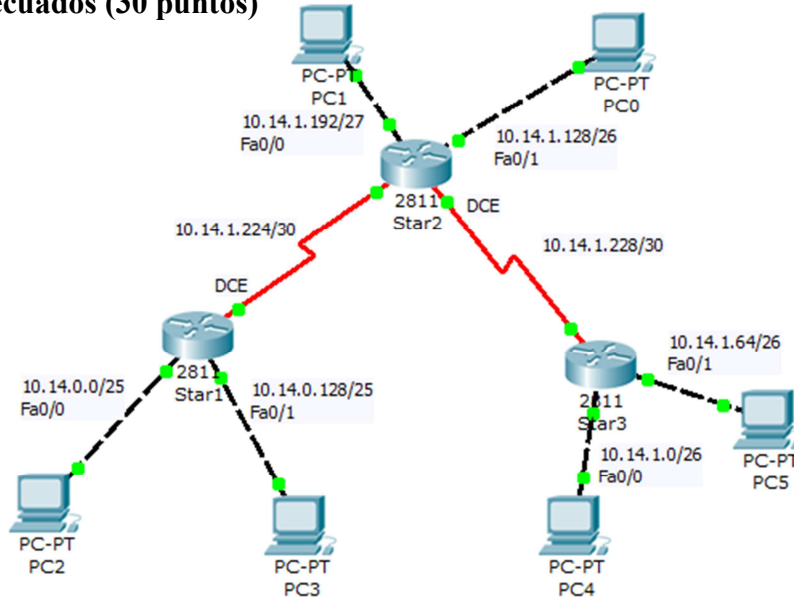
Laboratorios:

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Examen:

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1. De la siguiente Topología encuentre los errores de configuración del show running-config y corregirlo con los comandos adecuados (30 puntos)



<pre>Star1#sh runn Current configuration : 899 bytes ! version 12.4 hostname Star1 ! interface FastEthernet0/0 ip address 10.14.0.128 255.255.255.128 duplex auto speed auto ! interface FastEthernet0/1 ip address 10.14.0.129 255.255.255.128</pre>	<pre>duplex auto speed auto ! interface Serial0/0/0 ip address 10.14.0.226 255.255.255.252 ! ! ip route 10.14.1.192 255.255.255.224 10.14.1.225 ip route 10.14.1.128 255.255.255.192 10.14.0.225 ip route 10.14.1.64 255.255.255.192 10.14.1.225 ip route 10.14.1.0 255.255.255.192 10.14.0.225 ip route 10.14.1.228 255.255.255.252 10.14.1.225 ! end</pre>
<pre>Star2#sh runn Current configuration : 844 bytes ! version 12.4 hostname Star2 ! interface FastEthernet0/0 ip address 10.14.1.193 255.255.255.224 duplex auto speed auto ! interface FastEthernet0/1 ip address 10.14.1.128 255.255.255.192 duplex auto speed auto !</pre>	<pre>interface Serial0/2/0 ip address 10.14.1.225 255.255.255.252 ! interface Serial0/2/1 ip address 10.14.0.229 255.255.255.252 clock rate 64000 ! ip classless ip route 10.14.0.0 255.255.255.128 10.14.1.226 ip route 10.14.0.128 255.255.255.128 10.14.0.226 ip route 10.14.1.0 255.255.255.192 10.14.1.230 ip route 10.14.1.64 255.255.255.192 10.14.0.230 ! End</pre>
<pre>Star3#sh runn Current configuration : 881 bytes</pre>	<pre>!</pre>

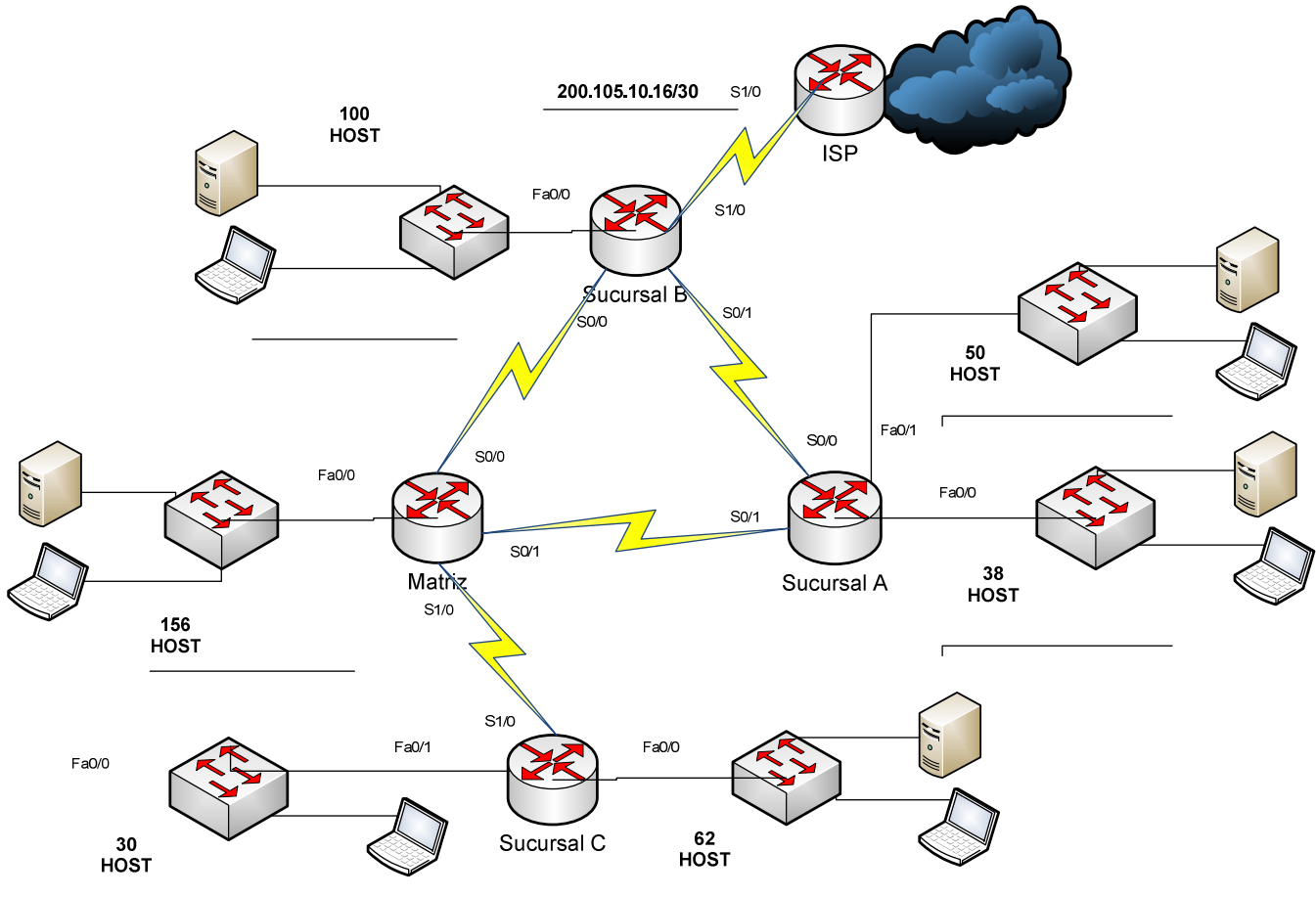
<pre>! version 12.4 hostname Star3 ! interface FastEthernet0/0 ip address 10.14.1.65 255.255.255.192 duplex auto speed auto ! interface FastEthernet0/1 ip address 10.14.0.1 255.255.255.192 duplex auto</pre>	<pre>interface Serial0/1/1 ip address 10.14.1.230 255.255.255.252 ! ip classless ip route 10.14.1.128 255.255.255.192 10.14.1.229 ip route 10.14.0.0 255.255.255.128 10.14.0.229 ip route 10.14.0.128 255.255.255.128 10.14.1.229 ip route 10.14.1.192 255.255.255.224 10.14.0.229 ip route 10.14.1.224 255.255.255.252 10.14.1.229 ! end</pre>
<pre>Star1#sh ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, Gateway of last resort is not set 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks C 10.14.0.0/25 is directly connected, FastEthernet0/0</pre>	<pre>C 10.14.0.128/25 is directly connected, FastEthernet0/1 S 10.14.1.0/26 [1/0] via 10.14.1.225 S 10.14.1.64/26 [1/0] via 10.14.1.225 S 10.14.1.128/26 [1/0] via 10.14.1.225 S 10.14.1.192/27 [1/0] via 10.14.1.225 C 10.14.1.224/30 is directly connected, Serial0/0/0 S 10.14.1.228/30 [1/0] via 10.14.1.225</pre>
<pre>Star2#sh ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP Gateway of last resort is not set 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks S 10.14.0.0/25 [1/0] via 10.14.1.226</pre>	<pre>S 10.14.0.128/25 [1/0] via 10.14.1.226 S 10.14.1.0/26 [1/0] via 10.14.1.230 S 10.14.1.64/26 [1/0] via 10.14.1.230 C 10.14.1.128/26 is directly connected, FastEthernet0/1 C 10.14.1.192/27 is directly connected, FastEthernet0/0 C 10.14.1.224/30 is directly connected, Serial0/2/0 C 10.14.1.228/30 is directly connected, Serial0/2/1</pre>
<pre>Star3#sh ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP Gateway of last resort is not set 10.0.0.0/8 is variably subnetted, 8 subnets, 4 masks S 10.14.0.0/25 [1/0] via 10.14.1.229</pre>	<pre>S 10.14.0.128/25 [1/0] via 10.14.1.229 C 10.14.1.0/26 is directly connected, FastEthernet0/1 C 10.14.1.64/26 is directly connected, FastEthernet0/0 S 10.14.1.128/26 [1/0] via 10.14.1.229 S 10.14.1.192/27 [1/0] via 10.14.1.229 S 10.14.1.224/30 [1/0] via 10.14.1.229 C 10.14.1.228/30 is directly connected, Serial0/1/1</pre>

2. Selecciones las respuestas adecuadas (20 puntos)

Enlace los conceptos o comandos con las definiciones adecuadas.

a	Horizonte Dividido	Permite visualizar el archivo de configuración guardado en la NVRAM	
b	show version	Técnica empleada para evitar el problema de los lazos de enrutamiento	
c	IOS	Sistema Operativo propietario de Cisco	
d	router rip	Valor entero que define la confiabilidad de una ruta	
e	line vty 0-4	Cuando todo los ruteadores de la red tienen la información actualizada de la topología	
f	Distancia Administrativa	Valor que le permite al protocolo de enrutamiento determinar la mejor ruta	
g	enable secret CLAVE	Habilita el protocolo de enrutamiento RIP	
h	EIGRP	Configura la contraseña para entrar a modo privilegiado	
i	Métrica	Permite ingresar a las líneas virtuales	
j	show startup-config	Permite visualizar el nombre de la imagen del IOS, la cantidad memoria y el registro de configuración	
k	Convergencia		
l	show running-config		

3. Dada la dirección IPv4 10.18.0.0/16 satisfacer el direccionamiento de la red dada, colocar las redes en el grafico y completar la tabla. Asumiendo que las redes LAN tendrán un crecimiento de un 10% (30 puntos)



	Interfaz	Dirección IP	Mascara de Subred	Dirección de Red	Dirección de Broadcast
MATRIZ	S0/0				
	S0/1				
	S1/0				
	Fa0/0				
SUCURSAL A	S0/0				
	S0/1				
	Fa0/0				
	Fa0/1				
SUCURSAL B	S0/0				
	S0/1				
	S1/0				
	Fa0/0				
SUCURSAL C	S1/0				
	Fa0/0				
	Fa0/1				

4. 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)

```
Gatel#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

```