

Conmutación y Enrutamiento II

Segunda Evaluación

Nombre: _____

Paralelo: _____

Calificación:

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1. Defina brevemente los siguientes términos (30 puntos)

a) Puente Raíz

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b) Protocolo de Árbol de Expansión (STP)

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c) Protocolo Troncal 802.1Q

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d) Protocolo WEP

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e) Estándar 802.11n

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f) Interferencia

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g) Beacon

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h) Conmutador de Capa 3

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i) Modelo Jerárquico

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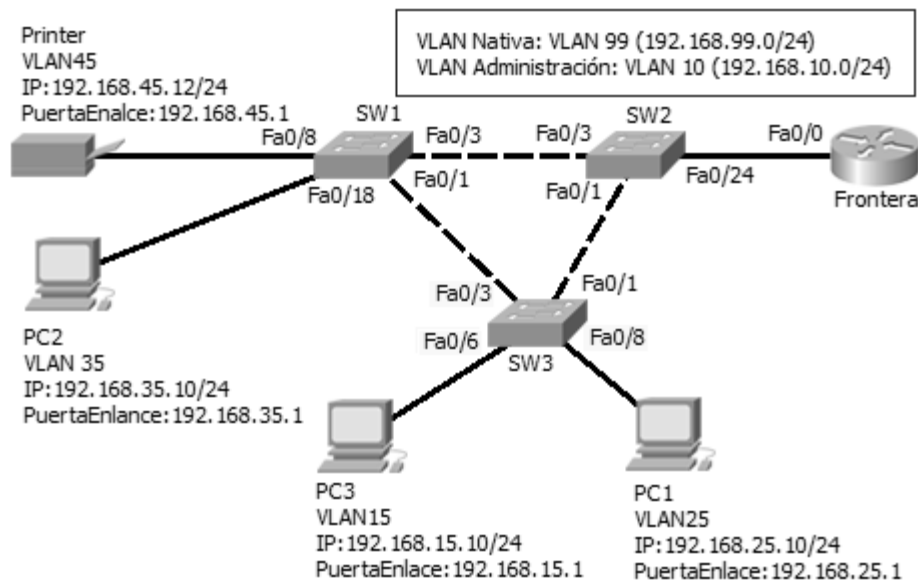
j) Conmutador Apilable

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2. Mencione una fuente de interferencia para la señal de los enrutadores inalámbricos. JUSTIFIQUE su respuesta (5 puntos)

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3. En base al diagrama y configuraciones mostrados, determine y describa los errores que impiden la correcta comunicación entre los dispositivos, en cada caso describa una posible solución (20 puntos)



```
Frontera#show running-config
~~~~~
interface FastEthernet0/0
  no ip address
  shutdown
!
interface FastEthernet0/0.10
  encapsulation dot1Q 1
  ip address 192.168.10.1 255.255.255.0
!
interface FastEthernet0/0.16
  encapsulation dot1Q 15
  ip address 192.168.15.1 255.255.255.0
!
interface FastEthernet0/0.26
  encapsulation dot1Q 25
```

```
  ip address 192.168.25.1 255.255.255.0
!
interface FastEthernet0/0.36
  encapsulation dot1Q 35
  ip address 192.168.35.1 255.255.255.0
!
interface FastEthernet0/0.46
  encapsulation dot1Q 45
  ip address 192.168.45.11 255.255.255.0
!
interface FastEthernet0/0.99
  encapsulation dot1Q 99
  ip address 192.168.99.1 255.255.255.0
~~~~~
end
```

```
SW1#show interface trunk
Port      Mode      Encapsulation  Status        Native vlan
Fa0/1     on        802.1q         trunking      1
Fa0/3     on        802.1q         trunking      1

Port      Vlans allowed on trunk
Fa0/1     10,15,25,45,99
Fa0/3     10,15,25,45,99

Port      Vlans allowed and active in management domain
Fa0/1     10,15,25,45,99
Fa0/3     10,15,25,45,99
~~~~~
```

```
SW2#show interface trunk
Port      Mode      Encapsulation  Status        Native vlan
Fa0/1     on        802.1q         trunking      99
Fa0/3     on        802.1q         trunking      99

Port      Vlans allowed on trunk
Fa0/1     10,15,25,45,99
Fa0/3     10,15,25,45,99

Port      Vlans allowed and active in management domain
Fa0/1     10,15,25,45,99
Fa0/3     10,15,25,45,99
~~~~~
```

(A)

(B)

(C)

(D)

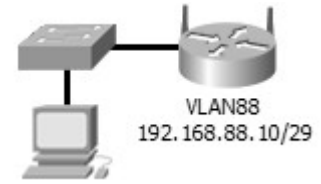
4. Describa DETALLADAMENTE los tres pasos básicos para configurar el ingreso seguro a una red inalámbrica (15 puntos)

5. Complete la siguiente tabla (15 puntos)

	IEEE802.11a	IEEE802.11b	IEEE802.11g	IEEE802.11n	IEEE802.11ac
Rango de Frecuencia (GHz)					
Alcance teórico (m)					
Velocidad máxima (Mbps)					

6. Dada la siguiente topología de red, configurar en el sitio correcto lo solicitado en el Punto de Acceso lo siguiente: (15 puntos)

1. Direcciones IP de internet y LAN adecuadas
2. Rango de direcciones para la LAN inalámbrica (80 dispositivos)
3. IP del dispositivo: 10.10.1.1/25
4. Nombre de la red inalámbrica: CHAVEZ
5. Contraseña de ingreso: ciscowireless
6. Seguridad WPA2Personal con clave: 3xam3n
7. Frecuencia de Canal: 1



LINKSYS®
A Division of Cisco Systems, Inc.

Firmware Version: v0.93.3

Wireless-N Broadband Router WRT300N

Setup | Setup | **Wireless** | Security | Access Restrictions | Applications & Gaming | Administration | Status

Basic Setup | DDNS | MAC Address Clone | Advanced Routing

Internet Setup

Internet Connection type: Static IP

Internet IP Address: [] . [] . [] . []

Subnet Mask: [] . [] . [] . []

Default Gateway: [] . [] . [] . []

DNS 1: [] . [] . [] . []

Network Setup

Router IP: IP Address: [] . [] . [] . []

Subnet Mask: [] . [] . [] . []

DHCP Server: ☒ Enabled ☐ Disabled

Start IP Address: 10 . 10 . 1 . []

Maximum number of Users: []

Wireless

Setup | **Wireless** | Security | Access Restrictions | Applications & Gaming | Administration | Status

Basic Wireless Settings | Wireless Security | Wireless MAC Filter | Advanced Wireless Settings

Basic Wireless Settings

Network Mode: Mixed

Network Name (SSID): []

Standard Channel: []

SSID Broadcast: ☒ Enabled ☐ Disabled

Administration

Setup | Wireless | **Security** | Access Restrictions | Applications & Gaming | Administration | Status

Management | Log | Diagnostics | Factory Defaults | Firmware Upgrade

Management

Router Access: Router Password: []

Re-enter to Confirm: []

Wireless Security

Setup | Wireless | **Security** | Access Restrictions | Applications & Gaming | Administration | Status

Basic Wireless Settings | Wireless Security | Wireless MAC Filter | Advanced Wireless Settings

Security Mode: []

Encryption: TKIP

Passphrase: []

Key Renewal: 3600 seconds