Section A	Topology Building and Internet Protocol Version 4 (IPv4) Configuration	10 Points

Build the topology shown in Figure 1 and make sure you satisfy the following requirements:

1) Use the following devices in your implementation:
   A) Routers (Router-2811).
   B) Switches (Switch-PT).
   C) PCs/Laptop (PC/Laptop-PT).
   D) Multilayer Switches (3560-24PS).
   E) Server (Server-PT).
2) Use automatic connection for building the connections between the devices.
3) Configure the IPv4 addresses for the routers and end devices:
   A) The IPv4 address of each network is shown in Figure 1, set the value of **X** that appears in the network ID based on the last two digits of your Student ID. For example, if your Student ID is 1162083. Then, the value of **X** is **83**.
   B) Assign the appropriate IPv4 address to all end devices and interfaces.

Section B	Internet Protocol Version 6 (IPv6) Configuration	5 Points

Configure the IPv6 addresses for the routers and end devices (i.e., the PC and server) in th autonomous system (AS) named **AS 200**:

A) The IPv6 address of each network is shown in Figure 1.
B) Assign the appropriate IPv6 address to all end devices and the required router interfaces.

Section C	Switching and Creating Virtual Local Area Networks (VLANs)	8 Points

Setup the VLANs shown in Figure 1 and make sure you satisfy the following requirements:

1) The IP address of **VLAN 10** is 192.X.10.0/24. The gateway for this network is **Router0**.
2) The IP address of **VLAN 20** is 192.X.20.0/24. The gateway for this network is **Router0**.
3) The IP address of **VLAN 30** is 192.X.30.0/24. The gateway for this network is **Router1**.
4) The IP address of **VLAN 40** is 192.X.40.0/24. The gateway for this network is **Router1**.

Perform the appropriate configuration on the switches for the above VLANs and ports.

Section D	IPv4/IPv6 Routing Configuration	20 Points

Configure the following routing protocols:

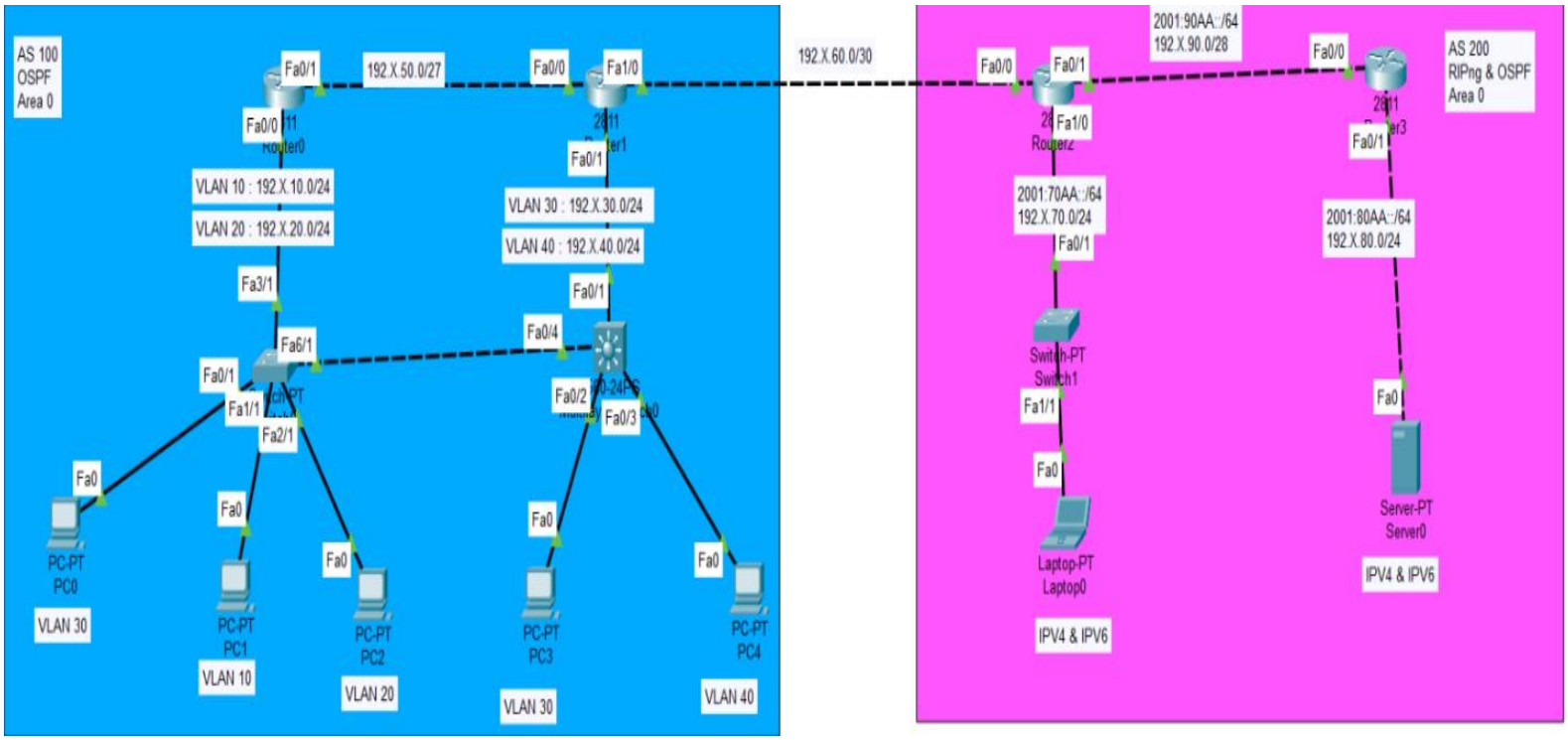
A) The open shortest path first (**OSPF**) on **AS 100** and **AS 200**.
B) The border gateway protocol (**BGP**) between the two autonomous systems.
C) The routing information protocol next generation (**RIPng**) on **AS 200**. Assign your *first name* to the RIP-ID.
C) Perform the required redistribution in the topology.

At the end of this section, ensure to:

A) Have a fully connected topology.
B) Add notes reflecting the IP addresses assigned for all interfaces and end devices.

Section E	Access Control List (ACL) Configuration	7 Points

Add the appropriate ACL to allow only **VLAN 20** to access the **server**. Make sure to choose the place of the ACL efficiently.


AS 100
OSPF
Area 0
Fa0/1
192.X.50.0/27
Fa0/0
Fa1/0
192.X.60.0/30
Fa0/0
Fa0/1
2001:90AA::/64
192.X.90.0/28
Fa0/0
AS 200
RIPng & OSPF
Area 0
Router0
Fa0/1
Fa1/0
Fa0/1
VLAN 10 : 192.X.10.0/24
VLAN 20 : 192.X.20.0/24
VLAN 30 : 192.X.30.0/24
VLAN 40 : 192.X.40.0/24
2001:70AA::/64
192.X.70.0/24
Fa0/1
2001:80AA::/64
192.X.80.0/24
Fa3/1
Fa0/1
Fa0/4
Fa6/1
Fa0/1
Fa1/1
Fa2/1
Fa0/2
Fa0/3
Switch1
Fa1/1
Fa0
Fa0
Fa0
Fa0
Fa0
Fa0
Server0
PC0
PC1
PC2
PC3
PC4
Laptop0
VLAN 30
VLAN 10
VLAN 20
VLAN 30
VLAN 40
IPV4 & IPV6
IPV4 & IPV6