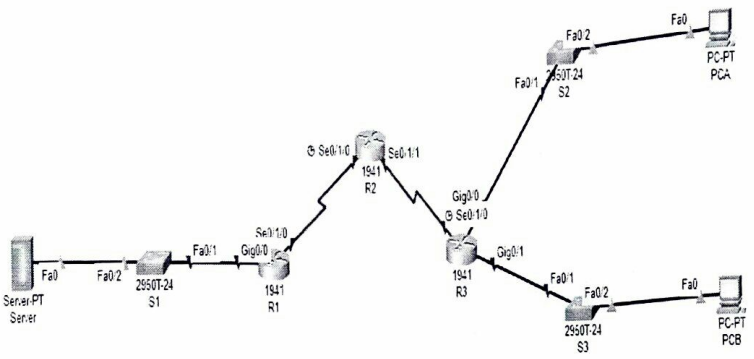
UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology using static routing and ▪ Configure, apply and verify an ACL that will block HTTP access on R3 ▪ Configure, apply and verify an ACL that will block HTTPS access on R3.	**40**
2.	Viva	**5**
3.	Journal	**5**



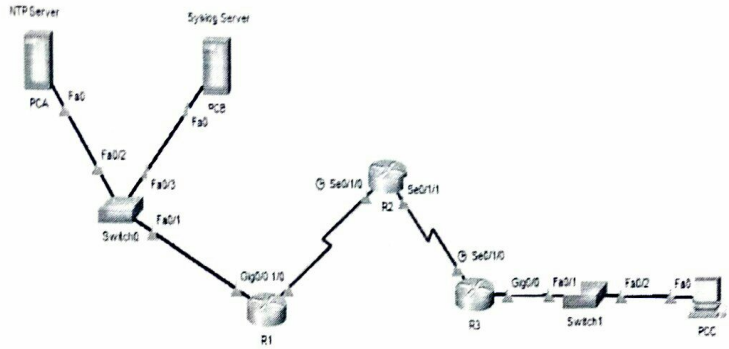
Addressing Table

Device	Interface	IPv6 Address/Prefix	Default Gateway
Server	NIC	2001:DB8:1:10::30/64	FE80::1
R1	gig0/0	2001:DB8:1:10::1/64	FE80::1
	se0/1/0	2001:DB8:1:1::1/64	FE80::1
R2	se0/1/0	2001:DB8:1:1::2/64	FE80::2
	se0/1/1	2001:DB8:1:2::2/64	FE80::2
R3	gig0/0	2001:DB8:1:30::1/64	FE80::3
	gig0/1	2001:DB8:1:31::1/64	FE80::3
	se0/1/0	2001:DB8:1:2::1/64	FE80::3
PCA	NIC	2001:DB8:1:30::10/64	FE80::3
PCB	NIC	2001:DB8:1:31::11/64	FE80::3

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology and ▪ Configure OSPF MD5 authentication. ▪ Configure NTP and configure routers to log messages to the Syslog Server	**40**
2.	Viva	**5**
3.	Journal	**5**



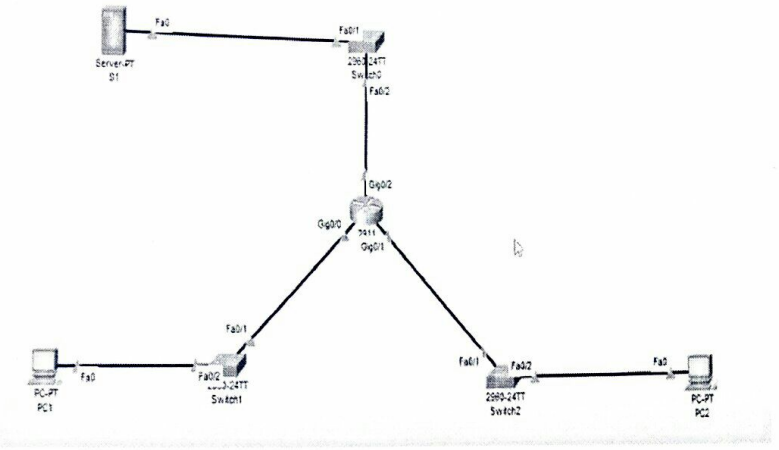
Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.5	255.255.255.0	192.168.1.1
PC-B	NIC	192.168.1.6	255.255.255.0	192.168.1.1
PC-C	NIC	192.168.3.5	255.255.255.0	192.168.3.1

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology and ▪ Configure an ACL that will permit FTP and HTTP access on R1. ▪ Verify the ACL implementation. PC1 (Only FTP). PC2(Only HTTP)	**40**
2.	Viva	**5**
3.	Journal	**5**



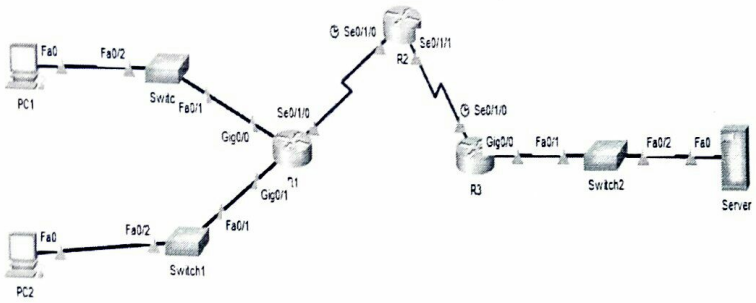
Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	172.22.34.65	255.255.255.224	N/A
	gig0/1	172.22.34.97	255.255.255.240	N/A
	gig0/2	172.22.34.1	255.255.255.192	N/A
Server	NIC	172.22.34.62	255.255.255.192	172.22.34.1
PC1	NIC	172.22.34.66	255.255.255.224	172.22.34.65
PC2	NIC	172.22.34.98	255.255.255.240	172.22.34.97

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology using static routing and ▪ Configure, apply and verify an ACL that will block ICMP access on R3	**40**
2.	Viva	**5**
3.	Journal	**5**

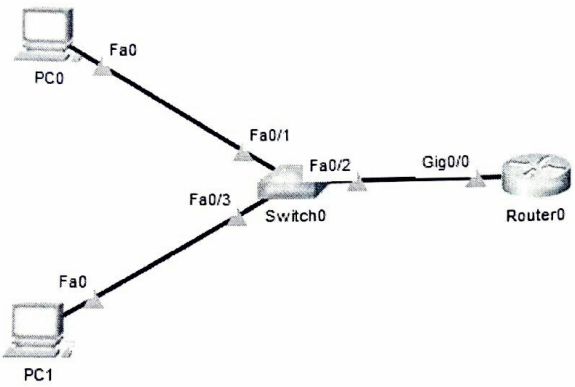


Addressing Table

Device	Interface	IPv6 Address/Prefix	Default Gateway
PC1	NIC	2001:DB8:1:10::10/64	FE80::1
PC2	NIC	2001:DB8:1:11::11/64	FE80::1
R1	gig0/0	2001:DB8:1:10::1/64	FE80::1
	gig0/1	2001:DB8:1:11::1/64	FE80::1
	se0/1/0	2001:DB8:1:1::1/64	FE80::1
R2	se0/1/0	2001:DB8:1:1::2/64	FE80::2
	se0/1/1	2001:DB8:1:2::2/64	FE80::2
R3	gig0/0	2001:DB8:1:30::1/64	FE80::3
	se0/1/0	2001:DB8:1:2::1/64	FE80::3
Server	NIC	2001:DB8:1:30::30/64	FE80::3

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

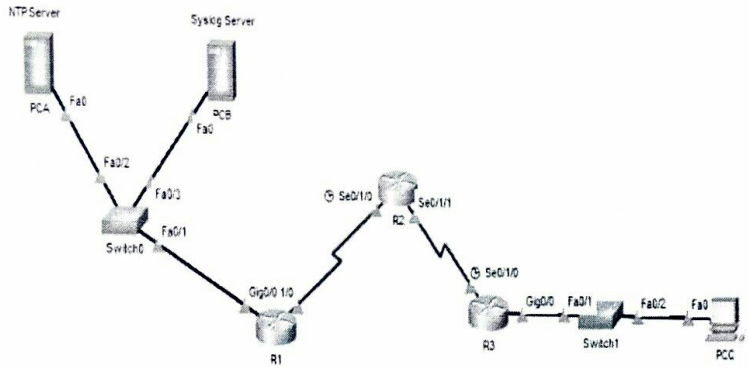
Seat No: _____ **Max. Marks: 50**

1.	Create the following topology and ▪ Configure OSPF MD5 authentication ▪ Configure a local user account on R1 and configure authenticate on the console and vty lines using local AAA. ▪ Verify local AAA authentication from the R1 console and the PC0 client and PC1 Client.  **Addressing Table** **Device** / **Interface** / **IP Address** / **Subnet Mask** / **Default Gateway** R1 / gig0/0 / 192.168.1.1 / 255.255.255.0 / N/A PC0 / NIC / 192.168.1.2 / 255.255.255.0 / 192.168.1.1 PC1 / NIC / 192.168.1.3 / 255.255.255.0 / 192.168.1.1	**40**
2.	Viva	**5**
3.	Journal	**5**

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology with OSPF routing and ▪ Configure NTP. ▪ Configure Routers to log messages to the syslog server. ▪ Configure R3 to support SSH connections	**40**



Addressing Table

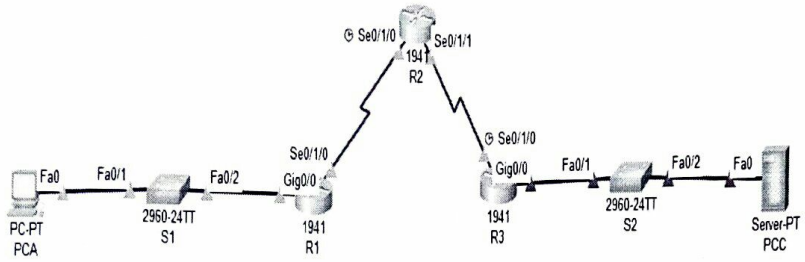
Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.5	255.255.255.0	192.168.1.1
PC-B	NIC	192.168.1.6	255.255.255.0	192.168.1.1
PC-C	NIC	192.168.3.5	255.255.255.0	192.168.3.1

2.	Viva	**5**
3.	Journal	**5**

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology using static routing and configure ▪ A zone-based policy (ZPF) firewall on R1 ▪ Verify ZPF firewall functionality using ping, SSH and a web browser.	**40**
2.	Viva	**5**
3.	Journal	**5**



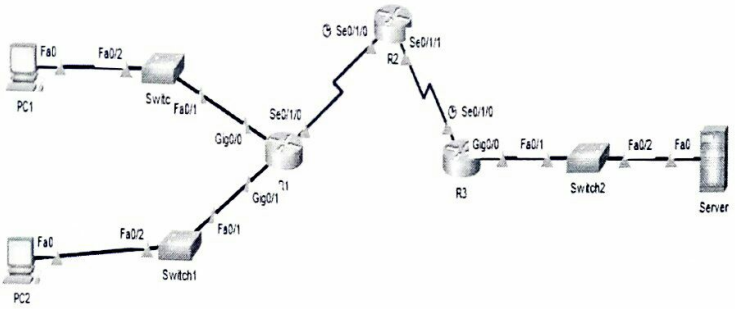
Addressing table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.3	255.255.255.0	192.168.1.1
PC-C	NIC	192.168.3.3	255.255.255.0	192.168.3.1

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

4.	Create the following topology using static routing and ▪ Configure, apply and verify an ACL that will block HTTP access on R1 ▪ Configure, apply and verify an ACL that will block HTTPS access on R1	**40**



Addressing Table

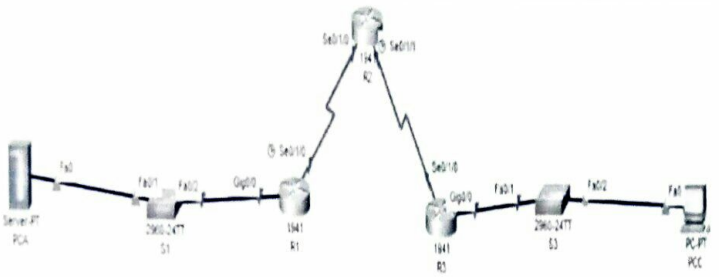
Device	Interface	IPv6 Address/Prefix	Default Gateway
PC1	NIC	2001:DB8:1:10::10/64	FE80::1
PC2	NIC	2001:DB8:1:11::11/64	FE80::1
R1	gig0/0	2001:DB8:1:10::1/64	FE80::1
	gig0/1	2001:DB8:1:11::1/64	FE80::1
	se0/1/0	2001:DB8:1:1::1/64	FE80::1
R2	se0/1/0	2001:DB8:1:1::2/64	FE80::2
	se0/1/1	2001:DB8:1:2::2/64	FE80::2
R3	gig0/0	2001:DB8:1:30::1/64	FE80::3
	se0/1/0	2001:DB8:1:2::1/64	FE80::3
Server	NIC	2001:DB8:1:30::30/64	FE80::3

5.	Viva	**5**
6.	Journal	**5**

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1. Create the following topology using static routing — **40**
   - Configure ACL to allow access to routers R1, R2, and R3 to only be permitted from PC-C, the management station. PC-C is also used for connectivity testing to PC-A, which is a server providing DNS, SMTP, FTP, and HTTPS services.
   - Verify ACL functionality



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
	lo0	192.168.2.1	255.255.255.0	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.3	255.255.255.0	192.168.1.1
PC-C	NIC	192.168.3.3	255.255.255.0	192.168.3.1

2. Viva — **5**
3. Journal — **5**

UNIVERSITY OF MUMBAI
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
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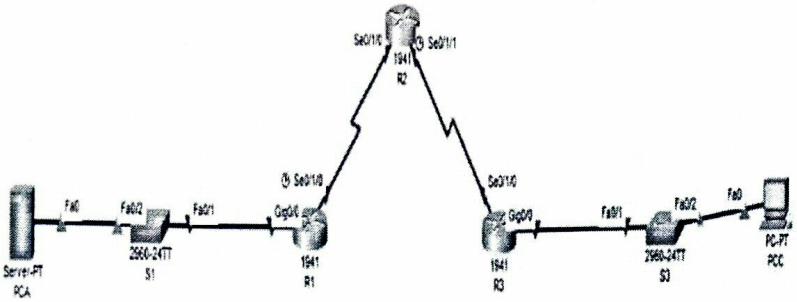
Seat No: _____ **Max. Marks: 50**

1.	Create the following topology using static routing and configure ▪ A zone-based policy (ZPF) firewall on R3 ▪ Verify ZPF firewall functionality using ping, SSH and a web browser.	**40**
2.	Viva	**5**
3.	Journal	**5**



Addressing table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.3	255.255.255.0	192.168.1.1
PC-C	NIC	192.168.3.3	255.255.255.0	192.168.3.1

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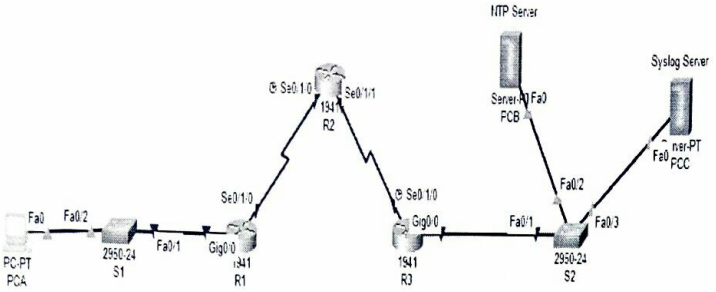
SEMESTER VI
INFORMATION SECURITY (USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology and ▪ Configure OSPF MD5 authentication. ▪ Configure NTP and configure routers to log messages to the Syslog Server	**40**
2.	Viva	**5**
3.	Journal	**5**



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.5	255.255.255.0	192.168.1.1
PC-B	NIC	192.168.3.5	255.255.255.0	192.168.3.1
PC-C	NIC	192.168.3.6	255.255.255.0	192.168.3.1

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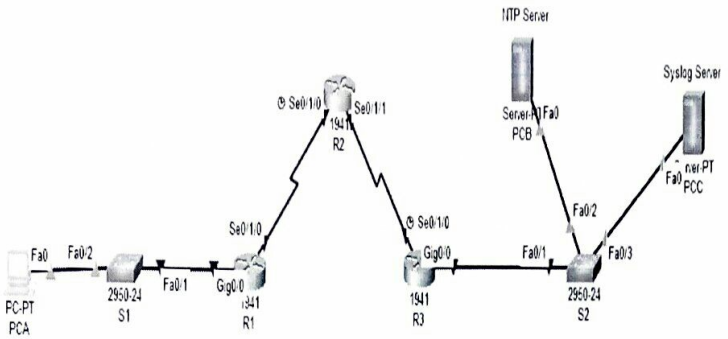
TY B.Sc. INFORMATION TECHNOLOGY PRACTICAL EXAMINATION
SEMESTER VI
INFORMATION SECURITY(USIT6P2)

Seat No: _____ **Max. Marks: 50**

1.	Create the following topology with OSPF routing and ▪ Configure NTP. ▪ Configure Routers to log messages to the syslog server. ▪ Configure R1 to support SSH connections.	**40**
2.	Viva	**5**
3.	Journal	**5**



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.5	255.255.255.0	192.168.1.1
PC-B	NIC	192.168.3.5	255.255.255.0	192.168.3.1
PC-C	NIC	192.168.3.6	255.255.255.0	192.168.3.1

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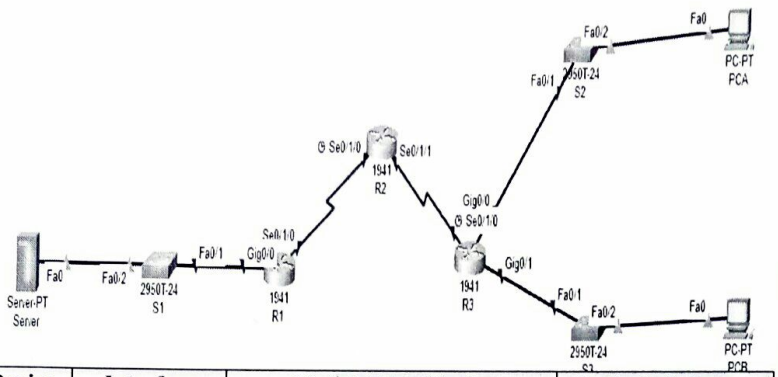
Seat No: _____ **Max. Marks: 50**

1.	Create the following topology using static routing and ▪ Configure, apply and verify an ACL that will block ICMP access on R1	**40**
2.	Viva	**5**
3.	Journal	**5**



Addressing Table

Device	Interface	IPv6 Address/Prefix	Default Gateway
Server	NIC	2001:DB8:1:10::30/64	FE80::1
R1	gig0/0	2001:DB8:1:10::1/64	FE80::1
	se0/1/0	2001:DB8:1:1::1/64	FE80::1
R2	se0/1/0	2001:DB8:1:1::2/64	FE80::2
	se0/1/1	2001:DB8:1:2::2/64	FE80::2
R3	gig0/0	2001:DB8:1:30::1/64	FE80::3
	gig0/1	2001:DB8:1:31::1/64	FE80::3
	se0/1/0	2001:DB8:1:2::1/64	FE80::3
PCA	NIC	2001:DB8:1:30::10/64	FE80::3
PCB	NIC	2001:DB8:1:31::11/64	FE80::3

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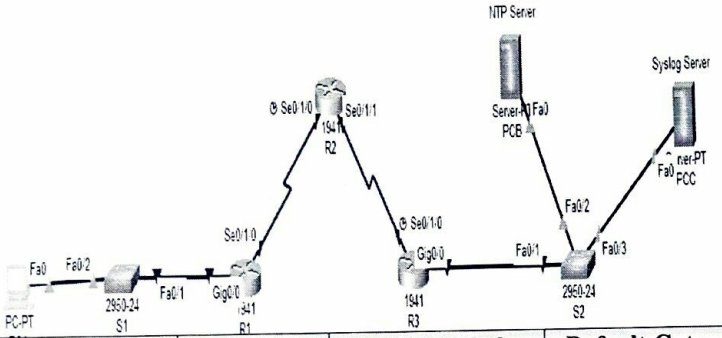
1.	Create the following topology with OSPF routing and ▪ Configure NTP. ▪ Configure Routers to log messages to the syslog server. ▪ Configure R1 to support SSH connections.	**40**
2.	Viva	**5**
3.	Journal	**5**



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	gig0/0	192.168.1.1	255.255.255.0	N/A
	se0/1/0	10.1.1.1	255.255.255.252	N/A
R2	se0/1/0	10.1.1.2	255.255.255.252	N/A
	se0/1/1	10.2.2.2	255.255.255.252	N/A
R3	gig0/0	192.168.3.1	255.255.255.0	N/A
	se0/1/0	10.2.2.1	255.255.255.252	N/A
PC-A	NIC	192.168.1.5	255.255.255.0	192.168.1.1
PC-B	NIC	192.168.3.5	255.255.255.0	192.168.3.1
PC-C	NIC	192.168.3.6	255.255.255.0	192.168.3.1

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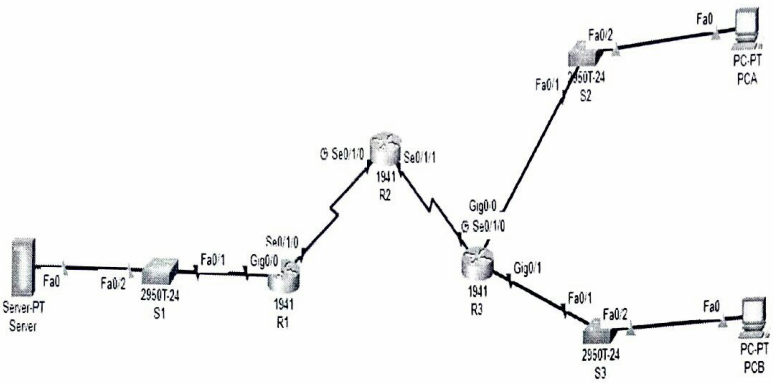
Seat No: _____ **Max. Marks: 50**

1.	Create the following topology using static routing and ▪ Configure, apply and verify an ACL that will block ICMP access on R1	**40**



Addressing Table

Device	Interface	IPv6 Address/Prefix	Default Gateway
Server	NIC	2001:DB8:1:10::30/64	FE80::1
R1	gig0/0	2001:DB8:1:10::1/64	FE80::1
	se0/1/0	2001:DB8:1:1::1/64	FE80::1
R2	se0/1/0	2001:DB8:1:1::2/64	FE80::2
	se0/1/1	2001:DB8:1:2::2/64	FE80::2
R3	gig0/0	2001:DB8:1:30::1/64	FE80::3
	gig0/1	2001:DB8:1:31::1/64	FE80::3
	se0/1/0	2001:DB8:1:2::1/64	FE80::3
PCA	NIC	2001:DB8:1:30::10/64	FE80::3
PCB	NIC	2001:DB8:1:31::11/64	FE80::3

2.	Viva	**5**
3.	Journal	**5**