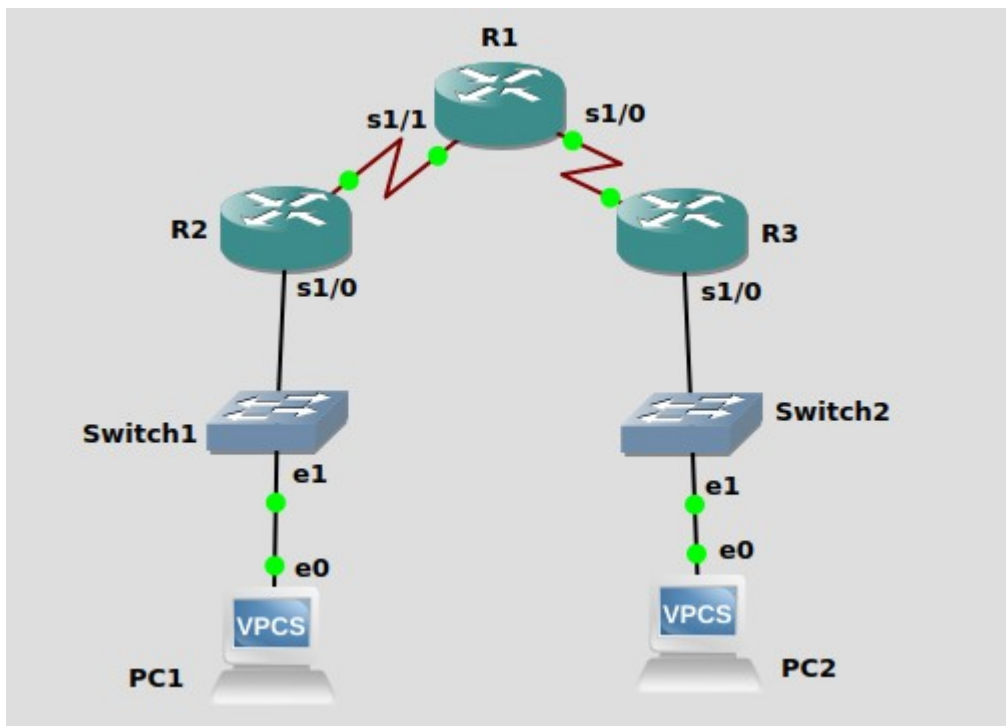NAME: PRERNA MITTAL
SECTION: CSE-D

SAMPLE
GNS3 DIAGRAM

R1 CONFIG

```
R1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int s1/0
R1(config-if)#ip address 100.1.1.2 255.255.255.0
R1(config-if)#no shut
R1(config-if)#int s1
*Mar  1 00:03:31.023: %LINK-3-UPDOWN: Interface Serial1/0, changed state to up
*Mar  1 00:03:32.023: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0, changed state to up
R1(config-if)#int s1/1
R1(config-if)#ip address 20.1.1.1 255.255.255.0
R1(config-if)#n
*Mar  1 00:03:55.467: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0, changed state to down
R1(config-if)#no shut
R1(config-if)#e
*Mar  1 00:04:04.211: %LINK-3-UPDOWN: Interface Serial1/1, changed state to up
*Mar  1 00:04:05.211: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/1, changed state to up
R1(config-if)#exit
R1(config)#router rip
R1(config-router)#version 2
R1(config-router)#network 20.
*Mar  1 00:04:25.511: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/1, changed state to down
R1(config-router)#network 20.1.1.0
R1(config-router)#network 100.1.1.0
R1(config-router)#
```
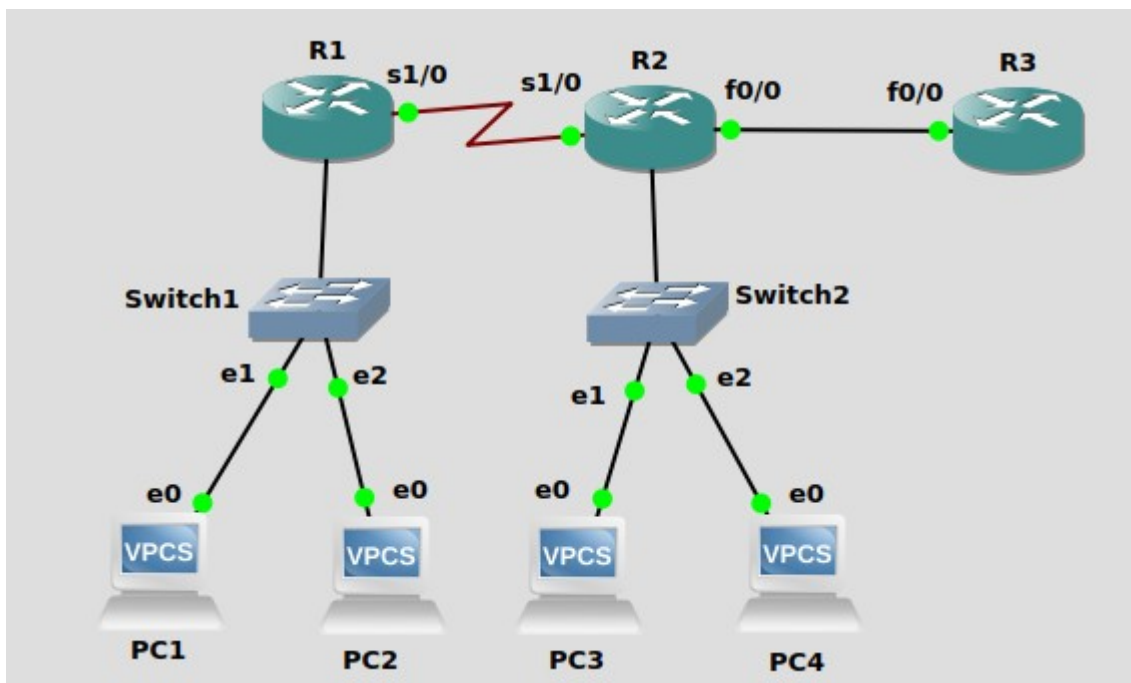
R2 CONFIG

```
R2(config)#int s1/0
R2(config-if)#ip address 100.1.1.1 255.255.255.0
R2(config-if)#no shut
R2(config-if)#exit
R2(config)#router rip
R2(config-router)#ver 2
R2(config-router)#network 172.16.0.0
R2(config-router)#network 100.1.1.0
R2(config-router)#
```

R3 CONFIG

```
R3(config)#int s1/0
R3(config-if)#ip address 20.1.1.2 255.255.255.0
R3(config-if)#no shut
R3(config-if)#
*Mar  1 00:28:32.283: %LINK-3-UPDOWN: Interface Serial1/0, changed state to up
*Mar  1 00:28:33.283: %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial1/0,
 changed state to up
R3(config-if)#exit
R3(config)#router rip
R3(config-router)#ver 2
R3(config-router)#network 10.2.2.0
R3(config-router)#network 20.1.1.0
R3(config-router)#
```

QUESTION-1
GNS DIAGRAM

R1 CONFIG

```
R1(config-router)#network 10.0.0.0 255.255.255.255 area 0
R1(config-router)#network 192.168.1.0 0.0.0.255 area 0.0.0.0
R1(config-router)#exit
R1(config)#
```

R2 CONFIG

```
R2(config-router)#network 20.0.0.0 0.255.255.255 area 0
R2(config-router)#network 192.168.1.0 0.0.0.255 area 0
R2(config-router)#network 150.150.150.0 0.0.0.255 area 1
R2(config-router)#exit
R2(config)#exit
R2#
*Mar  1 00:08:09.875: %SYS-5-CONFIG_I: Configured from console by console
```

R3 CONFIG

```
R3(config-router)#network 150.150.150.0 0.0.0.255 area 1
R3(config-router)#exit
R3(config)#exit
R3#
*Mar  1 00:10:23.291: %SYS-5-CONFIG_I: Configured from console by console
```

SHOW IP PROTOCOL

```
R1#show ip protocol
Routing Protocol is "rip"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Sending updates every 30 seconds, next due in 25 seconds
  Invalid after 180 seconds, hold down 180, flushed after 240
  Redistributing: rip
  Default version control: send version 2, receive version 2
    Interface             Send  Recv  Triggered RIP  Key-chain
    Serial1/0              2     2
    Serial1/1             2     2
  Automatic network summarization is in effect
  Maximum path: 4
  Routing for Networks:
    20.0.0.0
    100.0.0.0
  Routing Information Sources:
    Gateway          Distance      Last Update
    20.1.1.2             120       00:00:22
    100.1.1.1            120       00:00:14
```

SHOW IP DATABASE

```
R1#show ip rip database
10.0.0.0/8    auto-summary
10.0.0.0/8
    [1] via 20.1.1.2, 00:00:17, Serial1/1
20.0.0.0/8    auto-summary
20.1.1.0/24    directly connected, Serial1/1
100.0.0.0/8   auto-summary
100.1.1.0/24   directly connected, Serial1/0
172.16.0.0/16   auto-summary
172.16.0.0/16
    [1] via 100.1.1.1, 00:00:26, Serial1/0
```

## SHOW IP ROUTE

```
R1#show ip route
Codes: C - connected, S - static, 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
       i - IS-IS, su - IS-IS summary, 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

     100.0.0.0/24 is subnetted, 1 subnets
C       100.1.1.0 is directly connected, Serial1/0
     20.0.0.0/24 is subnetted, 1 subnets
C       20.1.1.0 is directly connected, Serial1/1
R    172.16.0.0/16 [120/1] via 100.1.1.1, 00:00:15, Serial1/0
```

QUESTION-2
GNS DIAGRAM
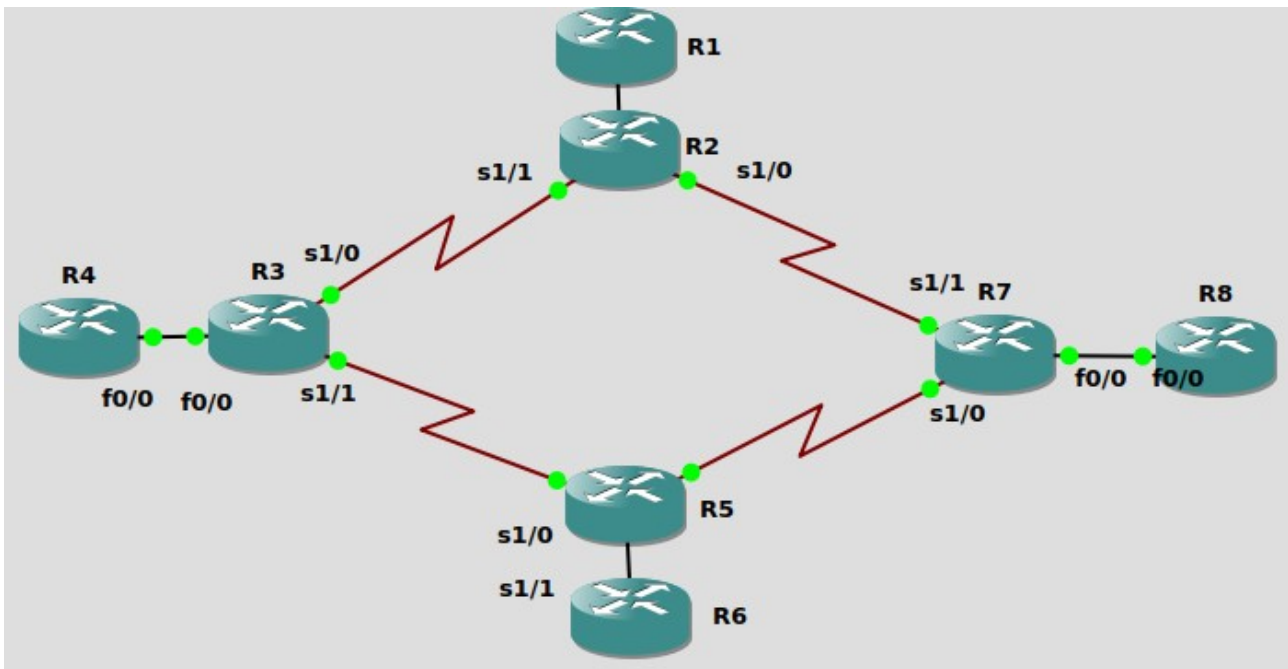
R1 CONFIG

```
R1(config-router)#network 10.1.1.26 255.255.255.248 area 0
R1(config-router)#network 10.1.1.2 255.255.255.252 area 0
R1(config-router)#
R1#
*Mar  1 00:21:45.995: %SYS-5-CONFIG_I: Configured from console by console
```

R2 CONFIG
R2(config)#inter f0/0
R2(config-if)#ip address 10.1.1.25 255.255.255.248

```
R2(config-router)#network 10.1.1.25 255.255.255.248 area 0
R2(config-router)#network 10.1.1.2 255.255.255.252 area 1
R2(config-router)#EXIT
R2(config)#EXIT
R2#
*Mar  1 00:26:10.235: %SYS-5-CONFIG_I: Configured from console by console
```

R3 CONFIG

```
e router to end cannot start
R3(config-router)#NETWORK 10.1.1.17 255.255.255.248 AREA 0
R3(config-router)#NETWORK 10.1.1.1 255.255.255.252 AREA 0
R3(config-router)#EXIT
R3(config)#EXIT
R3#
*Mar  1 00:28:42.363: %SYS-5-CONFIG_I: Configured from console by console
```

R4 CONFIG
IP ADDRESS 10.1.1.18 255.255.255.248

```
R4(config-router)#NETWORK 10.1.1.18 255.255.255.248 AREA 0
R4(config-router)#NETWORK 10.1.1.14 255.255.255.252 AREA 0
R4(config-router)#EXIT
R4(config)#EXIT
R4#
*Mar  1 00:34:03.547: %SYS-5-CONFIG_I: Configured from console by console
```

R5 CONFIG
IP ADDRESS 10.1.1.13 255.255.255.252

```
R5(config-router)#NETWORK 10.1.1.13 255.255.255.252 AREA 1
R5(config-router)#NETWORK 10.1.1.10 255.255.255.252 AREA 1
R5(config-router)#EXIT
R5(config)#EXIT
R5#
*Mar  1 00:41:29.699: %SYS-5-CONFIG_I: Configured from console by console
```

R6 CONFIG
IP ADDRESS 10.1.1.42 255.255.255.248

```
R6(config-router)#NETWORK 10.1.1.42 255.255.255.248 AREA 0
R6(config-router)#NETWORK 10.1.1.10 255.255.255.252 AREA 0
R6(config-router)#EXIT
R6(config)#EXIT
R6#
*Mar  1 00:45:12.163: %SYS-5-CONFIG_I: Configured from console by console
```

R7 CONFIG
IP ADDRESS 10.1.1.33 255.255.255.248

```
R7(config-router)#NETWORK 10.1.1.33 255.255.255.248 AREA 0
R7(config-router)#NETWORK 10.1.1.6 255.255.255.252 AREA 0
R7(config-router)#EXIT
R7(config)#EXIT
R7#
*Mar  1 00:48:14.583: %SYS-5-CONFIG_I: Configured from console by console
```

R8 CONFIG
IP ADDRESS 10.1.1.34 255.255.255.248

```
R8(config-router)#NETWORK 10.1.1.34 255.255.255.248 AREA 0
R8(config-router)#NETWORK 10.1.1.33 255.255.255.252 AREA 0
R8(config-router)#EXIT
R8(config)#EXIT
R8#
*Mar  1 00:50:17.227: %SYS-5-CONFIG_I: Configured from console by console
```