Router0:

ip route 192.168.6.0 255.255.255.0 s0/1/1
ip route 192.168.7.0 255.255.255.0 s0/1/0
ip route 192.168.8.196 255.255.255.252 s0/1/0
ip route 192.168.8.200 255.255.255.252 s0/1/0
ip route 192.168.8.192 255.255.255.252 s0/1/0
ip route 192.168.8.0 255.255.255.128 s0/1/0
ip route 192.168.4.0 255.255.254.0 s0/1/0

//IP helper-address for relay
Int s0/1/1
Ip helper-address 192.168.8.132
exit

Int s0/1/0
Ip helper-address 192.168.8.132
exit

Router1:

ip route 0.0.0.0 0.0.0.0 s0/0/1 5
ip route 192.168.8.208 255.255.255.252 s0/0/0
ip route 192.168.0.0 255.255.252.0 s0/0/0
ip route 192.168.4.0 255.255.254.0 s0/0/0
ip route 192.168.8.0 255.255.255.128 s0/0/0
ip route 192.168.7.0 255.255.255.0 s0/0/0
ip route 192.168.8.128 255.255.255.192 s0/0/0
ip route 192.168.8.200 255.255.255.252 s0/0/0
p route 192.168.8.196 255.255.255.252 s0/0/0
ip route 192.168.8.192 255.255.255.252 s0/0/0

//IP helper-address for relay
Int g0/0
Ip helper-address 192.168.8.132
exit

Router2:

ip route 0.0.0.0 0.0.0.0 s0/0/0 5
ip route 192.168.8.212 255.255.255.252 s0/1/0
ip route 192.168.6.0 255.255.255.0 s0/1/0
ip route 192.168.8.128 255.255.255.192 s0/1/0
Router(config)#router rip
Router(config-router)#redistribute static metric 5
ip route 0.0.0.0 0.0.0.0 s0/1/1

//IP helper-address for relay
Int s0/0/0
Ip helper-address 192.168.8.132
exit

Int s0/1/1
Ip helper-address 192.168.8.132
exit

Int g0/0
Ip helper-address 192.168.8.132
exit

//ip route 192.168.4.0 255.255.254.0 s0/1/1
//ip route 192.168.8.192 255.255.255.252 s0/1/1
//ip route 192.168.0.0 255.255.252.0 s0/1/1

Router 3:

ip route 0.0.0.0 0.0.0.0 s0/0/0
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#no auto-summary
Router(config-router)#do show ip route connected
Router(config-router)#network 192.168.0.0
Router(config-router)#network 192.168.8.192
Router(config-router)#network 192.168.8.196
Router(config-router)#network 192.168.8.200
Router(config-router)#passive-interface g0/0
Router(config-router)#default-information originate

//IP helper-address for relay
Int s0/1/0
Ip helper-address 192.168.8.132
Exit

Int s0/1/1
Ip helper-address 192.168.8.132
Exit

Int g0/0
Ip helper-address 192.168.8.132
exit

Router 4:

Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#no auto-summary
Router(config-router)#do show ip route connected
Router(config-router)#network 192.168.4.0
Router(config-router)#network 192.168.8.192
Router(config-router)#passive-interface g0/0

Int g0/0
Ip helper-address 192.168.8.132
exit

Router 5:

Router>en
Router#conf t
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#no auto
Router(config-router)#no auto-summary
Router(config-router)#do show ip route connected
Router(config-router)#network 192.168.8.0
Router(config-router)#network 192.168.8.200
Router(config-router)#passive-interface g0/0

Int g0/0
Ip helper-address 192.168.8.132
exit

Addressing Table				
Device	Interface	IPV4 Address	Subnet Mask	Default Gateway
R0	Gig0/0	192.168.8.129/26	255.255.255.192	N/A
	Se0/1/0	192.168.8.213/30	255.255.255.252	N/A
	Se0/1/1	192.168.8.210/30	255.255.255.252	N/A
R1	Gig0/0	192.168.6.1/24	255.255.255.0	N/A
	Se0/0/0	192.168.8.214/30	255.255.255.252	N/A
	Se0/0/1	192.168.8.206/30	255.255.255.252	192.168.8.205
R2	Gig0/0	192.168.7.1/24	255.255.255.0	N/A
	Se0/0/0	192.168.8.205	255.255.255.252	192.168.8.206
	Se0/1/0	192.168.8.209/30	255.255.255.252	N/A
	Se0/1/1	192.168.8.198/30	255.255.255.252	192.168.8.198
R3	Gig0/0	192.168.0.1/22	255.255.252.0	N/A
	Se0/0/0	192.168.8.197/30	255.255.255.252	192.168.8.197
	Se0/1/0	192.168.8.201/30	255.255.255.252	N/A
	Se0/1/1	192.168.8.193/30	255.255.255.252	192.168.8.198
R4	Gig0/0	192.168.4.1/23	255.255.254.0	N/A
	Se0/1/1	192.168.8.194/30	255.255.255.252	N/A
R5	Gig0/0	192.168.8.1/25	255.255.255.128	N/A
	Se0/1/0	192.168.8.202/30	255.255.55.252	N/A
PC0	Gig0/0	192.168.8.130/26	255.255.255.192	192.168.8.129
PC1	Gig0/0	Dynamic	255.255.255.0	192.168.6.1
PC2	Gig0/0	Dynamic	255.255.255.0	192.168.7.1
PC3	Gig0/0	Dynamic	255.255.252.0	192.168.0.1
PC4	Gig0/0	192.168.4.1/23	255.255.254.0	192.168.4.1
PC5	Gig0/0	Dynamic	255.255.255.128	192.168.8.1

VLSM TREE

Motijheel(128)
Dhanmondi(40)
Gulshan(560)
Wari(210)
Mirpur(350)
Uttara(80)
Host7(2)
Host8(2)
Host9(2)
Host10(2)
Host11(2)
Host12(2)

560>350>210>128>80>40>2=2=2=2=2=2

$560 = 2^{10} - 2 = 1022, 32 - 10 = 22$

$350 = 2^9 - 2 = 510, 32 - 9 = 23$

$210 = 2^8 - 2 = 254, 32 - 8 = 24$

$128 = 2^8 - 2 = 254, 32 - 8 = 24$

$80 = 2^7 - 2 = 126, 32 - 7 = 25$

$40 = 2^6 - 2 = 62, 32 - 6 = 26$

$2 = 2^2 - 2 = 2, 32 - 30 = 2$

$2 = 2^2 - 2 = 2, 32 - 30 = 2$

$2 = 2^2 - 2 = 2, 32 - 30 = 2$

$2 = 2^2 - 2 = 2, 32 - 30 = 2$

$2 = 2^2 - 2 = 2, 32 - 30 = 2$

$2 = 2^2 - 2 = 2, 32 - 30 = 2$

$2^{11} - 2 = 2046,\ 32 - 11 = 21$

```
                          ┌─────────────────┐
                          │ 192.168,0,0/21  │
                          └────────┬────────┘
              ┌────────────────────┴────────────────────────┐
    ┌──────────────────┐                          ┌──────────────────┐
    │ 192.168.0.0/22   │                          │ 192.168.4.0/22   │
    │ (Gulshan)        │              ┌───────────┤                  │
    └──────────────────┘              │           └──────────────────┘
              ┌───────────────────────┴──────────────────────┐
    ┌──────────────────┐                          ┌──────────────────┐
    │ 192.168.4.0/23   │                          │ 192.168.6.0/23   │
    │ (Mirpur)         │                 ┌────────┤                  │
    └──────────────────┘                 │        └──────────────────┘
              ┌──────────────────────────┴───────────────────┐
    ┌──────────────────┐                          ┌──────────────────┐
    │ 192.168.6.0/24   │                          │ 192.168.7.0/24   │
    │ (Wari)           │                 ┌────────┤                  │
    └──────────────────┘                 │        └──────────────────┘
              ┌──────────────────────────┴───────────────────┐
    ┌──────────────────┐                          ┌──────────────────┐
    │ 192.168.7.0/24   │                          │ 192.168.8.0/24   │
    │ (Motijheel)      │                 ┌────────┤                  │
    └──────────────────┘                 │        └──────────────────┘
              ┌──────────────────────────┴───────────────────┐
    ┌──────────────────┐                          ┌──────────────────┐
    │ 192.168.8.0/25   │                          │ 192.168.8.128/25 │
    │ (Uttara)         │              ┌───────────┤                  │
    └──────────────────┘              │           └──────────────────┘
              ┌───────────────────────┴──────────────────────┐
    ┌──────────────────┐                          ┌──────────────────┐
    │ 192.168.8.128/26 │                          │ 192.168.8.192/26 │
    │ (Dhanmondi)      │                          │                  │
    └──────────────────┘                          └──────────────────┘
```

```
                        192.168.8.192/26

192.168.8.192/30                          192.168.8.196/30
(Host7)

192.168.8.196/30                          192.168.8.200/30
(Host8)

192.168.8.200/30                          192.168.8.204/30
(Host9)

192.168.8.204/30                          192.168.8.208/30
(Host10)

192.168.8.208/30                          192.168.8.212/30
(Host11)

192.168.8.212/30                          192.168.8.214/30
(Host12)
```