CO323 Lab05 - Configuration Commands

1) Part 1

Router 1

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 10.10.20.1 255.255.255.0
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 10.10.10.1 255.255.255.0
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config)#ip route 192.168.30.0 255.255.255.0 10.10.20.2
Router(config)#ip route 192.168.10.0 255.255.255.0 10.10.10.2
Router(config-if)#no shutdown

Router 3

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 10.10.10.2 255.255.255.0
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.0
Router(config)#ip route 192.168.30.0 255.255.255.0 10.10.10.1
Router(config)#ip route 192.168.20.0 255.255.255.0 10.10.10.1
Router(config-if)#no shutdown

Router 2

Router>enable
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.30.1 255.255.255.0
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 10.10.20.2 255.255.255.0
Router(config)#ip route 192.168.10.0 255.255.255.0 10.10.20.1
Router(config)#ip route 192.168.20.0 255.255.255.0 10.10.20.1
Router(config-if)#no shutdown

Show IP Route @ Router 1

Router>show ip route

Codes: C - connected, S - static, I - IGRP, 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, E - EGP
i - IS-IS, 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

10.0.0.0/24 is subnetted, 2 subnets
C 10.10.10.0 is directly connected, Serial0/0/1
C 10.10.20.0 is directly connected, Serial0/0/0
S 192.168.10.0/24 [1/0] via 10.10.10.2
C 192.168.20.0/24 is directly connected, FastEthernet0/0
S 192.168.30.0/24 [1/0] via 10.10.20.2

2) **Part 2 - RIP**

Router 0

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.1 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.1 255.255.255.252
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0
Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 192.168.1.1 255.255.255.252

Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-router)#network 192.168.1.0
Router(config-router)#network 192.168.2.0
Router(config-router)#network 10.0.0.0
Router(config-if)#no shutdown

Router 1

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.2 255.255.255.252
Router(config)#interface Serial0/0/1

Router(config-if)#ip address 192.168.0.5 255.255.255.252

Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-if)#no shutdown

Router 2

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.9 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.0.6 255.255.255.252

Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-if)#no shutdown

Router 3

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.2.5 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.2 255.255.255.252

Router(config)#router rip
Router(config-router)#network 192.168.2.0
Router(config-if)#no shutdown

Router 4

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.2.6 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.9 255.255.255.252

Router(config)#router rip
Router(config-router)#network 192.168.2.0
Router(config-if)#no shutdown

Router 5

Router>enable
Router#configure terminal
Router(config)# interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.2 255.255.255.252
Router(config)# interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.5 255.255.255.252

Router(config)#router rip
Router(config-router)#network 192.168.1.0
Router(config-if)#no shutdown

Router 6

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.10 255.0.0.0
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.10 255.0.0.0
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 192.168.1.6 255.255.255.252

Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-router)#network 192.168.1.0
Router(config-router)#network 192.168.2.0
Router(config-router)#network 20.0.0.0
Router(config-if)#no shutdown

RIP routing table@Router 5

Router#show ip route r

R 10.0.0.0/8 [120/1] via 192.168.1.1, 00:00:17, FastEthernet0/0
R 20.0.0.0/8 [120/1] via 192.168.1.6, 00:00:15, FastEthernet0/1
R 192.168.0.0/24 [120/1] via 192.168.1.1, 00:00:17, FastEthernet0/0
[120/1] via 192.168.1.6, 00:00:15, FastEthernet0/1
192.168.1.0/30 is subnetted, 2 subnets
R 192.168.2.0/24 [120/1] via 192.168.1.1, 00:00:17, FastEthernet0/0
[120/1] via 192.168.1.6, 00:00:15, FastEthernet0/1

3) **Part 2 – OSPF**

Router 0

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.1 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.1 255.255.255.252
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 10.0.0.1 255.0.0.0

Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 192.168.1.1 255.255.255.252

Router(config)#router ospf 1
Router(config-router)#network 192.168.0.0 0.0.0.3 area 0
Router(config-router)#network 192.168.1.0 0.0.0.3 area 0
Router(config-router)#network 192.168.2.0 0.0.0.3 area 0
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-if)#no shutdown

Router 1

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.2 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.0.5 255.255.255.252

Router(config)#router ospf 1
Router(config-router)#network 192.168.0.0 0.0.0.3 area 0
Router(config-router)#network 192.168.0.4 0.0.0.3 area 0
Router(config-if)#no shutdown

Router 2

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.9 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.0.6 255.255.255.252

Router(config)#router ospf 1
Router(config-router)#network 192.168.0.4 0.0.0.3 area 0
Router(config-router)#network 192.168.0.8 0.0.0.3 area 0
Router(config-if)#no shutdown

Router 3

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.2.5 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.2 255.255.255.252

Router(config)#router ospf 1
Router(config-router)#network 192.168.2.0 0.0.0.3 area 0
Router(config-router)#network 192.168.2.4 0.0.0.3 area 0
Router(config-if)#no shutdown

Router 4

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.2.6 255.255.255.252
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.9 255.255.255.252

Router(config)#router ospf 1
Router(config-router)#network 192.168.2.4 0.0.0.3 area 0
Router(config-router)#network 192.168.2.8 0.0.0.3 area 0
Router(config-if)#no shutdown

Router 5

Router>enable
Router#configure terminal
Router(config)# interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.2 255.255.255.252
Router(config)# interface FastEthernet0/0
Router(config-if)#ip address 192.168.1.5 255.255.255.252

Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.3 area 0
Router(config-router)#network 192.168.1.4 0.0.0.3 area 0
Router(config-if)#no shutdown

Router 6

Router>enable
Router#configure terminal
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.0.10 255.0.0.0
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.2.10 255.0.0.0
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 20.0.0.1 255.0.0.0
Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 192.168.1.6 255.255.255.252

Router(config)#router ospf 1
Router(config-router)#network 192.168.0.8 0.0.0.3 area 0
Router(config-router)#network 192.168.1.4 0.0.0.3 area 0
Router(config-router)#network 192.168.2.8 0.0.0.3 area 0
Router(config-router)#network 20.0.0.0 0.255.255.255 area 0
Router(config-if)#no shutdown

OSPF routing table@Router 5

Router>show ip route o

O 10.0.0.0 [110/2] via 192.168.1.1, 00:07:22, FastEthernet0/1
O 20.0.0.0 [110/2] via 192.168.1.6, 00:07:22, FastEthernet0/0
192.168.0.0/30 is subnetted, 3 subnets
O 192.168.0.0 [110/65] via 192.168.1.1, 00:07:22, FastEthernet0/1
O 192.168.0.4 [110/129] via 192.168.1.1, 00:07:22, FastEthernet0/1
[110/129] via 192.168.1.6, 00:07:22, FastEthernet0/0
O 192.168.0.8 [110/65] via 192.168.1.6, 00:07:22, FastEthernet0/0
192.168.2.0/30 is subnetted, 3 subnets
O 192.168.2.0 [110/65] via 192.168.1.1, 00:07:22, FastEthernet0/1
O 192.168.2.4 [110/129] via 192.168.1.1, 00:07:22, FastEthernet0/1
[110/129] via 192.168.1.6, 00:07:22, FastEthernet0/0
O 192.168.2.8 [110/65] via 192.168.1.6, 00:07:22, FastEthernet0/0