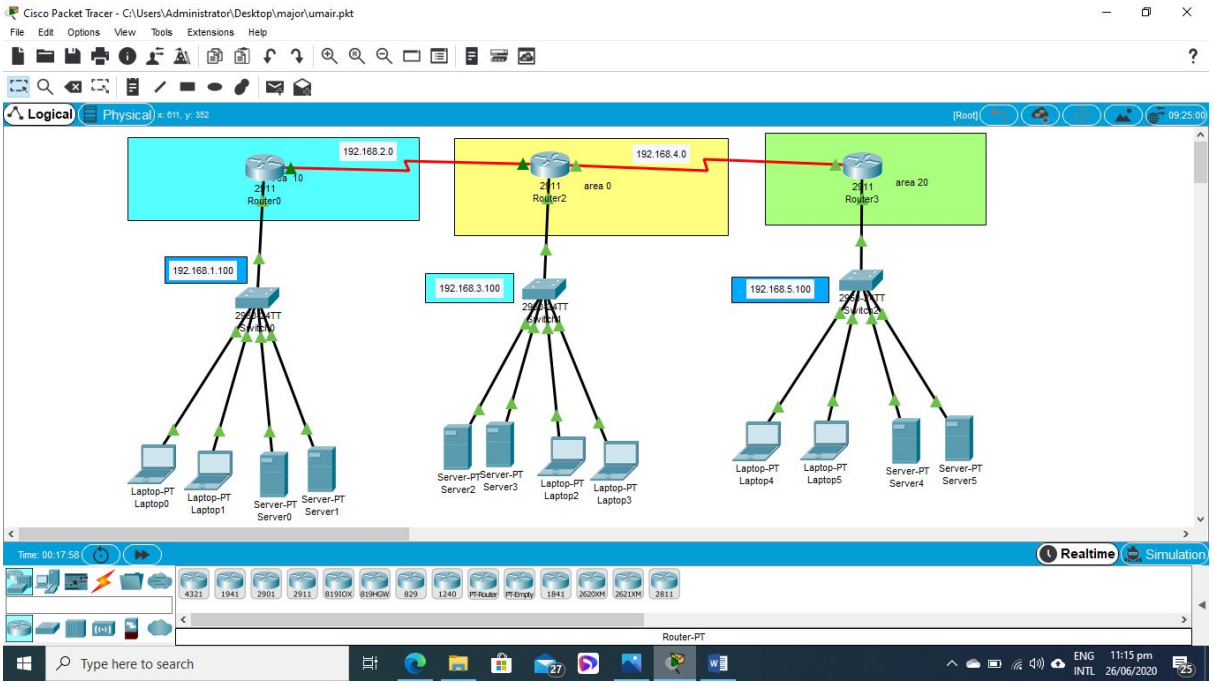
QUESTION 1

Topology



Configuration of router1

```
R1(config)#interface gigabitEthernet 0/0
R1(config-if)#ip ad
R1(config-if)#ip address 192.168.1.100 255.255.255.0
R1(config-if)#no shutdown

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0,

R1(config-if)#exit
R1(config)#int
R1(config)#interface se
R1(config)#interface serial 0/0/0
R1(config-if)#ip address 192.168.2.1 255.255.255.0
R1(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
R1(config-if)#exit
```

OSPF Routing on R1

```
R1(config)#router ospf 1
R1(config-router)#network 192.168.1.0 0.0.0.255 area 10
R1(config-router)#network 192.168.2.0 0.0.0.255 area 10
R1(config-router)#end
R1#
%SYS-5-CONFIG_I: Configured from console by console
```

Configuration of R2

```
ABR(config-if)#ip address 192.168.3.100 255.255.255.0
ABR(config-if)#no shutdown

ABR(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to u

ABR(config-if)#exit
ABR(config)#interface ser
ABR(config)#interface serial 0/0/0
ABR(config-if)#ip address 192.168.2.2 255.255.255.0
ABR(config-if)#no shutdown

ABR(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up

ABR(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up



ABR(config)#interface se
ABR(config)#interface serial 0/0/1
ABR(config-if)#ip ad
ABR(config-if)#ip address 192.168.4.1 255.255.255.0
ABR(config-if)#no shutdown

ABR(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up

ABR(config-if)#end
ABR#
%SYS-5-CONFIG_I: Configured from console by console

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
```

Show IP Route

```
router ospf 1
 log-adjacency-changes
 network 192.168.3.0 0.0.0.255 area 0
 network 192.168.2.0 0.0.0.255 area 10
 network 192.168.4.0 0.0.0.255 area 20
!
```

Configuration of R3

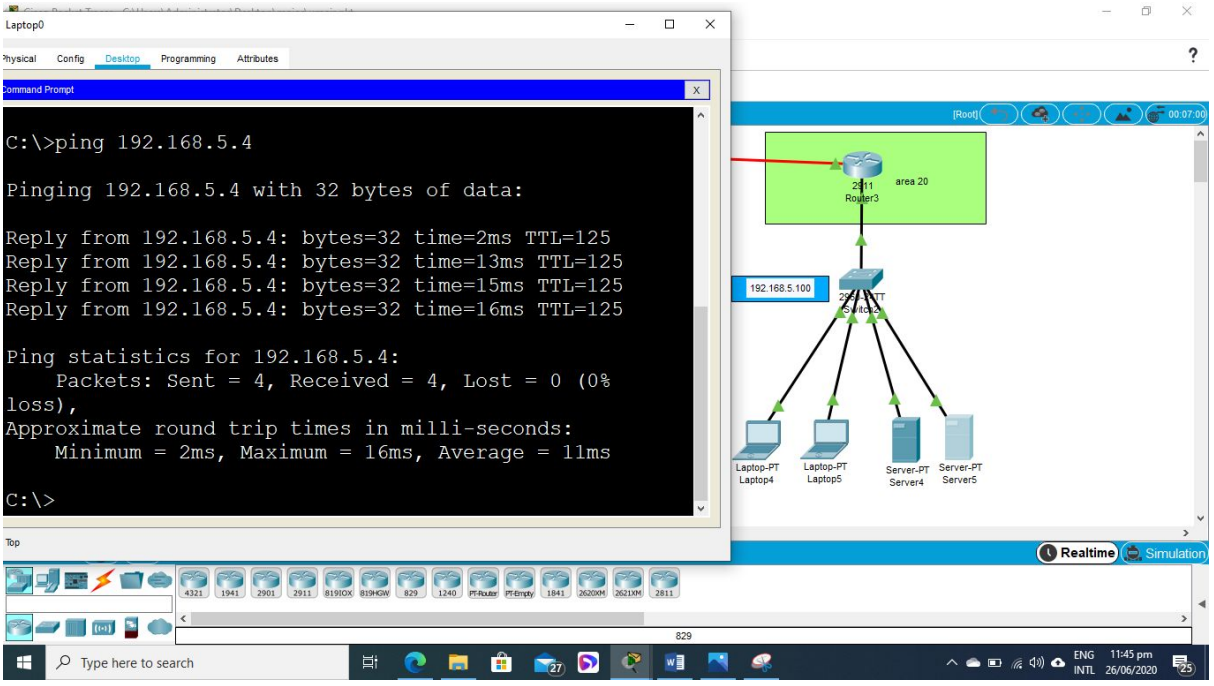
```
R3(config)#interface serial 0/0/0
R3(config-if)#ip address 192.168.4.2 255.255.255.0
R3(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/0/0, changed state to down
R3(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
```

```
R3#show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     192.168.5.100   YES manual up                    up
GigabitEthernet0/1     unassigned      YES unset  administratively down down
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Serial0/0/0            192.168.4.2     YES manual up                    up
Serial0/0/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
R3#
```

OSPF Routing on R3

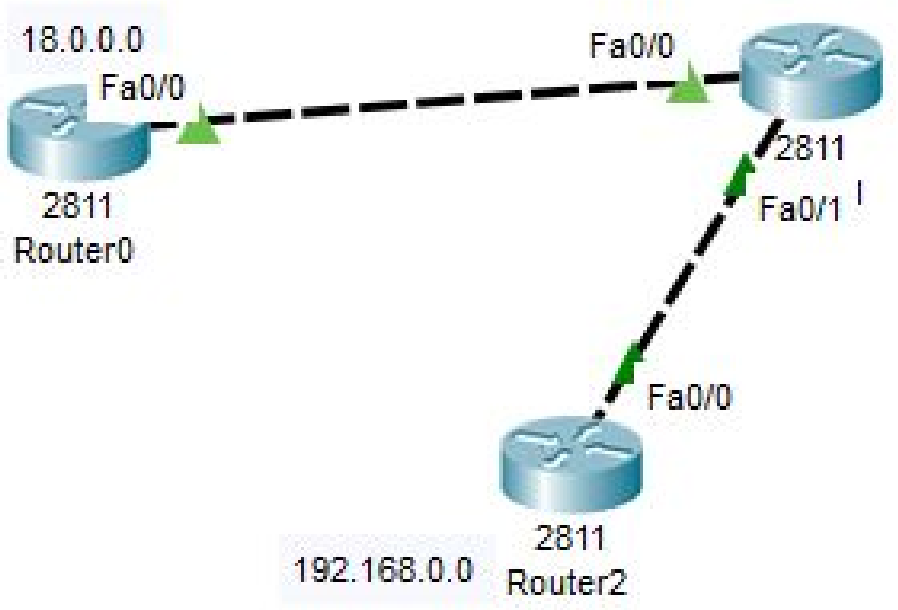
```
R3(config)#router ospf 1
R3(config-router)#network 192.168.5.0 0.0.0.255 area 20
R3(config-router)#network 192.168.4.0 0.0.0.255 area 20
R3(config-router)#end
R3#
%SYS-5-CONFIG_I: Configured from console by console

R3#
00:24:15: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.3.100 on Serial0/0/0 from I
Loading Done
```

Ping From pc0 to Server5

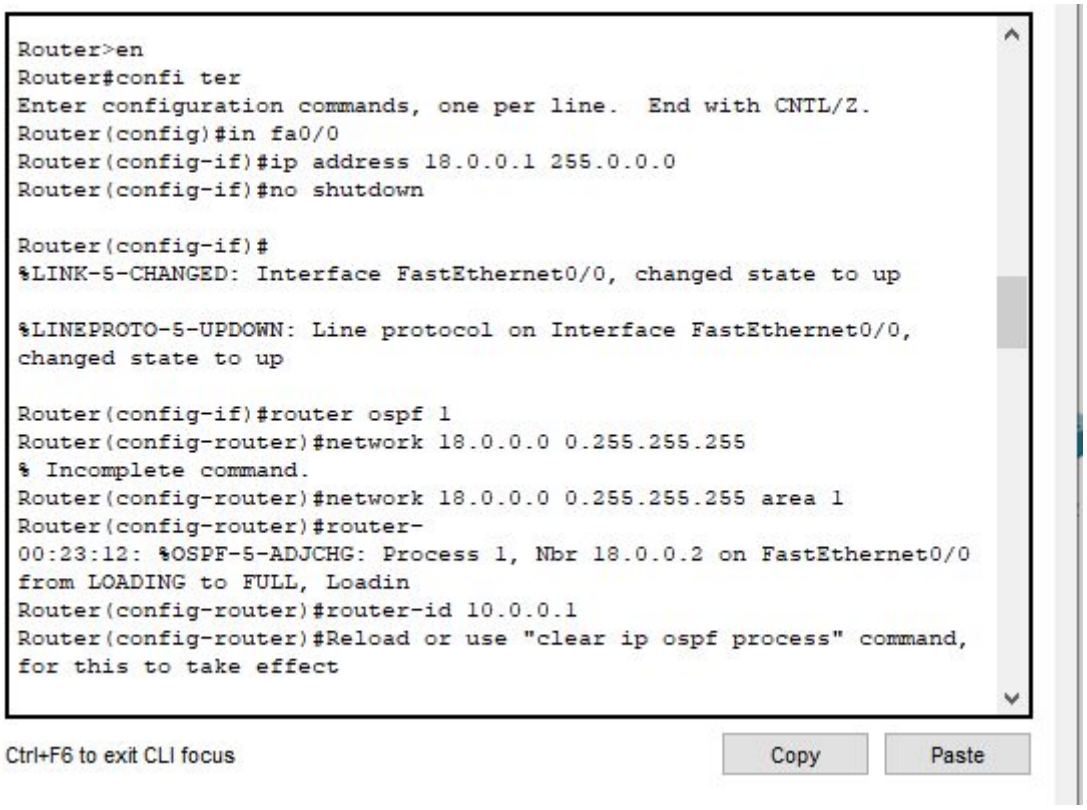


Question 2

Topology



CLI


Router>en
Router#confi ter
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#in fa0/0
Router(config-if)#ip address 18.0.0.1 255.0.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
Router(config-if)#router ospf 1
Router(config-router)#network 18.0.0.0 0.255.255.255
% Incomplete command.
Router(config-router)#network 18.0.0.0 0.255.255.255 area 1
Router(config-router)#router-
00:23:12: %OSPF-5-ADJCHG: Process 1, Nbr 18.0.0.2 on FastEthernet0/0
from LOADING to FULL, Loadin
Router(config-router)#router-id 10.0.0.1
Router(config-router)#Reload or use "clear ip ospf process" command,
for this to take effect
Ctrl+F6 to exit CLI focus
Copy
Paste

```
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip ospf
Router#show ip ospf neigh
Router#show ip ospf neighbor


Neighbor ID     Pri   State           Dead Time   Address
Interface
18.0.0.2          1   FULL/DR         00:00:31    18.0.0.2
FastEthernet0/0
Router#
Router#show ip route eigrp


Router#
Router#show ip route ospf
Router#
Router#show ip route connected
 C    18.0.0.0/8  is directly connected, FastEthernet0/0

Router#
```

Ctrl+F6 to exit CLI focus Copy Paste

```
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

C    18.0.0.0/8 is directly connected, FastEthernet0/0
O E2 192.168.0.0/24 [110/20] via 18.0.0.2, 00:05:10, FastEthernet0/0

Router#
```

Ctrl+F6 to exit CLI focus Copy Paste

```
Router(config)#router eigrp 1
Router(config-router)#network 192.168.0.0 0.0.0.255
Router(config-router)#
Router(config-router)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to up

%DUAL-5-NBRCHANGE: IP-EIGRP 1: Neighbor 192.168.0.2 (FastEthernet0/1)
is up: new adjacency

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

00:23:20: %OSPF-5-ADJCHG: Process 1, Nbr 18.0.0.1 on FastEthernet0/0
from LOADING to FULL, Loading Done
```

Ctrl+F6 to exit CLI focus Copy Paste

```
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#router ospf 1
Router(config-router)#redistributed 1
                                    ^
% Invalid input detected at '^' marker.

Router(config-router)#redistributed eigrp 1
                                    ^
% Invalid input detected at '^' marker.

Router(config-router)#redistribute eigrp 1
% Only classful networks will be redistributed
Router(config-router)#redistribute eigrp 1 ?
  metric       Metric for redistributed routes
  metric-type  OSPF/IS-IS exterior metric type for redistributed
routes
  subnets      Consider subnets for redistribution into OSPF
  tag          Set tag for routes redistributed into OSPF
  <cr>
Router(config-router)#redistribute eigrp 1 sub
Router(config-router)#redistribute eigrp 1 subnets
Router(config-router)#exit
Router(config)#redistribute ospf 1  ?
```

Ctrl+F6 to exit CLI focus Copy Paste

```
Router#config ter
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#in fa0/0
Router(config-if)#ip address 192.168.0.2 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

Router(config-if)#exit
Router(config)#router eigrp
% Incomplete command.
Router(config)#router eigrp 1
Router(config-router)#network 192.168.0.0 0.0.0.255
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 1: Neighbor 192.168.0.1 (FastEthernet0/0)
is up: new adjacency

Router(config-router)#
```

Ctrl+F6 to exit CLI focus Copy Paste

```
Router>en
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

C    192.168.0.0/24 is directly connected, FastEthernet0/0

Router#
```

Ctrl+F6 to exit CLI focus Copy Paste