

**Mid Term**  
**Computer Networks**

**Question No.1**

1.  $1 * 200970 \% 200 = 170$ .  $1 * 200970 \% 200 = 170$ .  $1 * 200970 \% 100 = 70$ .  $1 * 200970 \% 100 = 70$   
**170.170.70.70**
2.  $2 * 200970 \% 200 = 140$ .  $2 * 200970 \% 200 = 140$ .  $2 * 200970 \% 100 = 40$ .  $2 * 200970 \% 100 = 40$   
**140.140.40.40**
3.  $3 * 200970 \% 200 = 110$ .  $3 * 200970 \% 200 = 110$ .  $3 * 200970 \% 100 = 10$ .  $3 * 200970 \% 100 = 10$   
**110.110.10.10**
4.  $4 * 200970 \% 200 = 80$ .  $4 * 200970 \% 200 = 80$ .  $4 * 200970 \% 100 = 80$ .  $4 * 200970 \% 100 = 80$   
**80.80.80.80**
5.  $5 * 200970 \% 200 = 50$ .  $5 * 200970 \% 200 = 50$ .  $5 * 200970 \% 100 = 50$ .  $5 * 200970 \% 100 = 50$ .  
**50.50.50.50**

IP	CLASS	PUBLIC/PRIVATE	VALID	RESERVED
170.170.70.70	B	PRIVATE	VALID	Not-reserved
140.140.40.40	B	PRIVATE	VALID	Not-reserved
110.110.10.10	A	PRIVATE	VALID	Not-reserved
80.80.80.80	A	PRIVATE	VALID	Not-reserved
50.50.50.50	A	PRIVATE	VALID	Not-reserved

**Question No.2**

**Creating New User**

CA. Administrator: Command Prompt

```
C:\>net user examadnan200970 /add
The command completed successfully.
```

```
C:\>_
```

## Assigning Time to New User

C:\> Administrator: Command Prompt

```
C:\>net user examadnan200970 /time:M-F,11:00-17:00  
The command completed successfully.
```

```
C:\>
```

## Creating new Local Group

```
C:\>net localgroup examlocalgroup200970 /add  
The command completed successfully.
```

```
C:\>_
```

## Adding User to newly created local group

```
C:\>net localgroup examlocalgroup200970 examadnan200970 /add  
The command completed successfully.
```

## Displaying User Information

Administrator: Command Prompt

```
C:\>net user examadnan200970
User name                examadnan200970
Full Name
Comment
User's comment
Country/region code      000 (System Default)
Account active           Yes
Account expires          Never

Password last set        [ 11/ 2/ 2021 9:24:53 AM
Password expires         [ 12/ 14/ 2021 9:24:53 AM
Password changeable      [ 11/ 2/ 2021 9:24:53 AM
Password required         Yes
User may change password  Yes

Workstations allowed     All
Logon script
User profile
Home directory
Last logon               Never

Logon hours allowed      Monday 11:00:00 AM - 5:00:00 PM
                        Tuesday 11:00:00 AM - 5:00:00 PM
                        Wednesday 11:00:00 AM - 5:00:00 PM
                        Thursday 11:00:00 AM - 5:00:00 PM
                        Friday 11:00:00 AM - 5:00:00 PM

Local Group Memberships  *examlocalgroup200970 *Users
Global Group memberships *None
The command completed successfully.

C:\>_
```

## Question No.3

### Printing Routing Table

```
C:\>route print
=====
Interface List
10...c8 f7 50 f4 cf 5f .....Realtek PCIe GbE Family Controller
12...00 50 56 c0 00 01 .....VMware Virtual Ethernet Adapter for VMnet1
16...00 50 56 c0 00 08 .....VMware Virtual Ethernet Adapter for VMnet8
1.....Software Loopback Interface 1
=====

IPv4 Route Table
=====
Active Routes:
Network Destination        Netmask          Gateway          Interface        Metric
0.0.0.0                    0.0.0.0          172.30.0.196     172.30.12.19     281
127.0.0.0                  255.0.0.0        On-link          127.0.0.1        331
127.0.0.1                  255.255.255.255  On-link          127.0.0.1        331
127.255.255.255            255.255.255.255  On-link          127.0.0.1        331
172.30.0.0                  255.255.0.0      On-link          172.30.12.19     281
172.30.12.19                255.255.255.255  On-link          172.30.12.19     281
172.30.255.255              255.255.255.255  On-link          172.30.12.19     281
192.168.8.0                  255.255.255.0    On-link          192.168.8.1      291
192.168.8.1                  255.255.255.255  On-link          192.168.8.1      291
192.168.8.255                255.255.255.255  On-link          192.168.8.1      291
192.168.36.0                  255.255.255.0    On-link          192.168.36.1     291
192.168.36.1                  255.255.255.255  On-link          192.168.36.1     291
192.168.36.255               255.255.255.255  On-link          192.168.36.1     291
224.0.0.0                   240.0.0.0        On-link          127.0.0.1        331
224.0.0.0                   240.0.0.0        On-link          192.168.36.1     291
224.0.0.0                   240.0.0.0        On-link          192.168.8.1      291
224.0.0.0                   240.0.0.0        On-link          172.30.12.19     281
255.255.255.255             255.255.255.255  On-link          127.0.0.1        331
255.255.255.255             255.255.255.255  On-link          192.168.36.1     291
255.255.255.255             255.255.255.255  On-link          192.168.8.1      291
255.255.255.255             255.255.255.255  On-link          172.30.12.19     281
=====
Persistent Routes:
Network Address      Netmask  Gateway Address  Metric
0.0.0.0              0.0.0.0  172.30.0.196     Default
=====
```

```
IPv6 Route Table
=====
Active Routes:
If Metric Network Destination      Gateway
1 331 ::1/128 On-link
12 291 fe80::/64 On-link
16 291 fe80::/64 On-link
10 281 fe80::/64 On-link
10 281 fe80::187f:f034:8a34:54a6/128
On-link
12 291 fe80::a816:e26b:eb25:b324/128
On-link
16 291 fe80::d0a3:5dbe:65bf:7bcd/128
On-link
1 331 ff00::/8 On-link
12 291 ff00::/8 On-link
16 291 ff00::/8 On-link
10 281 ff00::/8 On-link
=====
Persistent Routes:
None

C:\>
```

## Displaying Gateway Address

Ethernet adapter Ethernet:

```
Connection-specific DNS Suffix . :  
Description . . . . . : Realtek PCIe GbE Family Controller  
Physical Address. . . . . : C8-F7-50-F4-CF-5F  
DHCP Enabled. . . . . : No  
Autoconfiguration Enabled . . . . : Yes  
Link-local IPv6 Address . . . . . : fe80::187f:f034:8a34:54a6%10(Preferred)  
IPv4 Address. . . . . : 172.30.12.19(Preferred)  
Subnet Mask . . . . . : 255.255.0.0  
Default Gateway . . . . . : 172.30.0.196  
DHCPv6 IAID . . . . . : 147388240  
DHCPv6 Client DUID. . . . . : 00-01-00-01-26-A1-BF-19-C8-F7-50-F4-CF-5F  
DNS Servers . . . . . : 172.30.0.201  
                          172.30.0.196  
NetBIOS over Tcpip. . . . . : Enabled
```

## Adding route

```
C:\>route ADD 142.250.180.46 172.30.0.196 METRIC 25  
OK!  
  
C:\>
```

## ✓ Task 2

### NETSH

#### Information about Network IP configuration

```
C:\>netsh interface ip show config

Configuration for interface "Ethernet"
  DHCP enabled:                No
  IP Address:                  172.30.12.19
  Subnet Prefix:               172.30.0.0/16 (mask 255.255.0.0)
  Default Gateway:             172.30.0.196
  Gateway Metric:              256
  InterfaceMetric:             25
  Statically Configured DNS Servers: 172.30.0.201
                                   172.30.0.196
  Register with which suffix:   Primary only
  Statically Configured WINS Servers: None

Configuration for interface "VMware Network Adapter VMnet1"
  DHCP enabled:                No
  IP Address:                  192.168.36.1
  Subnet Prefix:               192.168.36.0/24 (mask 255.255.255.0)
  InterfaceMetric:             35
  Statically Configured DNS Servers: None
  Register with which suffix:   Primary only
  Statically Configured WINS Servers: None

Configuration for interface "VMware Network Adapter VMnet8"
  DHCP enabled:                No
  IP Address:                  192.168.8.1
  Subnet Prefix:               192.168.8.0/24 (mask 255.255.255.0)
  InterfaceMetric:             35
  Statically Configured DNS Servers: None
  Register with which suffix:   Primary only
  Statically Configured WINS Servers: None

Configuration for interface "Loopback Pseudo-Interface 1"
  DHCP enabled:                No
  IP Address:                  127.0.0.1
  Subnet Prefix:               127.0.0.0/8 (mask 255.0.0.0)
  InterfaceMetric:             75
  Statically Configured DNS Servers: None
  Register with which suffix:   Primary only
  Statically Configured WINS Servers: None
```

#### Information about all TCP Connections

```
C:\>netsh interface ip show tcpconnections

MIB-II TCP Connection Entry
Local Address  Local Port  Remote Address  Remote Port  State
-----
0.0.0.0       135        0.0.0.0        0           Listen
172.30.12.19  139        0.0.0.0        0           Listen
192.168.8.1   139        0.0.0.0        0           Listen
192.168.36.1  139        0.0.0.0        0           Listen
0.0.0.0       443        0.0.0.0        0           Listen
0.0.0.0       903        0.0.0.0        0           Listen
0.0.0.0       913        0.0.0.0        0           Listen
0.0.0.0       1158       0.0.0.0        0           Listen
127.0.0.1     1521       0.0.0.0        0           Listen
127.0.0.1     1521       127.0.0.1     49676      Established
0.0.0.0       3389       0.0.0.0        0           Listen
0.0.0.0       5040       0.0.0.0        0           Listen
0.0.0.0       5520       0.0.0.0        0           Listen
127.0.0.1     8307       0.0.0.0        0           Listen
172.30.12.19  11650      142.250.102.188 5228      Established
172.30.12.19  12175      35.227.221.109  443      Established
172.30.12.19  12207      13.107.22.200   443      Close Wait
172.30.12.19  12209      119.63.140.104  443      Close Wait
172.30.12.19  12210      93.184.220.70   80       Close Wait
172.30.12.19  12211      13.107.43.254   443      Close Wait
172.30.12.19  12212      152.199.19.161  443      Close Wait
172.30.12.19  12213      204.79.197.222  443      Close Wait
172.30.12.19  12234      172.30.0.196    8080     Close Wait
172.30.12.19  12239      142.250.180.46  443      Established
172.30.12.19  12240      20.197.71.89    443      Established
172.30.12.19  12247      20.54.24.79     443      Established
127.0.0.1     27275     0.0.0.0        0           Listen
127.0.0.1     49152     0.0.0.0        0           Listen
0.0.0.0       49664     0.0.0.0        0           Listen
0.0.0.0       49665     0.0.0.0        0           Listen
0.0.0.0       49666     0.0.0.0        0           Listen
0.0.0.0       49667     0.0.0.0        0           Listen
0.0.0.0       49668     0.0.0.0        0           Listen
0.0.0.0       49669     0.0.0.0        0           Listen
0.0.0.0       49670     0.0.0.0        0           Listen
127.0.0.1     49672     0.0.0.0        0           Listen
```

```
127.0.0.1 49676 127.0.0.1 1521 Established
127.0.0.1 49677 127.0.0.1 49678 Established
127.0.0.1 49678 127.0.0.1 49677 Established
127.0.0.1 49679 127.0.0.1 49680 Established
127.0.0.1 49680 127.0.0.1 49679 Established
0.0.0.0 49681 0.0.0.0 0 Listen
0.0.0.0 49701 0.0.0.0 0 Listen
127.0.0.1 49706 127.0.0.1 49707 Established
127.0.0.1 49707 127.0.0.1 49706 Established
0.0.0.0 445 0.0.0.0 0 Listen
0.0.0.0 3306 0.0.0.0 0 Listen
0.0.0.0 7680 0.0.0.0 0 Listen
0.0.0.0 33060 0.0.0.0 0 Listen
0.0.0.0 49675 0.0.0.0 0 Listen

C:\>_
```

## Information about all UDP Connections

```
Administrator: Command Prompt

C:\>netsh interface ip show udpconnections

MIB-II UDP Listener Entry
Local Address          LocalPort
-----
0.0.0.0                123
172.30.12.19           137
192.168.8.1            137
192.168.36.1           137
172.30.12.19           138
192.168.8.1            138
192.168.36.1           138
0.0.0.0                500
127.0.0.1              1900
172.30.12.19           1900
192.168.8.1            1900
192.168.36.1           1900
0.0.0.0                3389
0.0.0.0                4500
0.0.0.0                5050
0.0.0.0                5353
0.0.0.0                5353
0.0.0.0                5353
0.0.0.0                5353
0.0.0.0                5355
172.30.12.19           49946
192.168.36.1           49947
192.168.8.1            49948
127.0.0.1              49949
172.30.12.19           52887
0.0.0.0                54458
0.0.0.0                57132
127.0.0.1              61055
127.0.0.1              61058
0.0.0.0                62358
127.0.0.1              63258
0.0.0.0                63260
0.0.0.0                5353
0.0.0.0                5353
0.0.0.0                5353
```