a)

Numarul subretelei	Adresa subretelei	*Range*-ul adreselor de host utilizabile	Adresa de broadcast in subretea
0	192.168.16.0	192.168.16.1 - 192.168.16.14	192.168.16.15
1	192.168.16.16	192.168.16.17 - 192.168.16.30	192.168.16.31
2	192.168.16.32	192.168.16.33 - 192.168.16.46	192.168.16.47
3	192.168.16.48	192.168.16.49 - 192.168.16.62	192.168.16.63
4	192.168.16.64	192.168.16.65 - 192.168.16.78	192.168.16.79
5	192.168.16.80	192.168.16.81 - 192.168.16.94	192.168.16.95
6	192.168.16.96	192.168.16.97 - 192.168.16.110	192.168.16.111
7	192.168.16.112	192.168.16.113 - 192.168.16.126	192.168.16.127
8	192.168.16.128	192.168.16.129 - 192.168.16.142	192.168.16.143
9	192.168.16.144	192.168.16.145 - 192.168.16.158	192.168.16.159
10	192.168.16.160	192.168.16.161 - 192.168.16.174	192.168.16.175
11	192.168.16.176	192.168.16.177 - 192.168.16.190	192.168.16.191
12	192.168.16.192	192.168.16.193 - 192.168.16.206	192.168.16.207
13	192.168.16.208	192.168.16.209 - 192.168.16.222	192.168.16.223
14	192.168.16.224	192.168.16.225 - 192.168.16.238	192.168.16.239
15	192.168.16.280	192.168.16.241 - 192.168.16.254	192.168.16.255

🟩 - Subretele predestinate pentru *PC*-uri

🟪 🟦 🟥 🟩 - Subretele predestinate conexiunilor intre *Routere*

Dispozitiv	Interfata	IP adresa	Masca de subretea	Adresa implicita a routerului
R1	Gig 0/6	192.168.16.65	255.255.255.240	N/A
	Gig 0/7	192.168.16.49	255.255.255.240	
	Gig 0/8	192.168.16.97	255.255.255.240	
	Gig 0/9	192.168.16.113	255.255.255.240	
R2	Gig 0/6	192.168.16.129	255.255.255.240	N/A
	Gig 0/7	192.168.16.126	255.255.255.240	
	Gig 0/8	192.168.16.33	255.255.255.240	
	Gig 0/9	192.168.16.145	255.255.255.240	
R3	Gig 0/7	192.168.16.81	255.255.255.240	N/A
	Gig 0/8	192.168.16.142	255.255.255.240	
	Gig 0/9	192.168.16.110	255.255.255.240	
R4	Gig 0/8	192.168.16.146	255.255.255.240	N/A
	Gig 0/9	192.168.16.1	255.255.255.240	

R5	Gig 0/8	192.168.16.147	255.255.255.240	N/A
	Gig 0/9	192.168.16.17	255.255.255.240	

Server1	Fa0	192.168.16.3	255.255.255.240	192.168.16.1
Server2	Fa0	192.168.16.18	255.255.255.240	192.168.16.17
PC1	Fa0	192.168.16.2	255.255.255.240	192.168.16.1
PC2	Fa0	192.168.16.34	255.255.255.240	192.168.16.33
PC3	Fa0	192.168.16.35	255.255.255.240	192.168.16.33
PC4	Fa0	192.168.16.36	255.255.255.240	192.168.16.33
PC5	Fa0	192.168.16.50	255.255.255.240	192.168.16.49
PC6	Fa0	192.168.16.51	255.255.255.240	192.168.16.49
PC7	Fa0	192.168.16.52	255.255.255.240	192.168.16.49
PC8	Fa0	192.168.16.66	255.255.255.240	192.168.16.65
PC9	Fa0	192.168.16.67	255.255.255.240	192.168.16.65
PC10	Fa0	192.168.16.82	255.255.255.240	192.168.16.81
PC11	Fa0	192.168.16.83	255.255.255.240	192.168.16.81

- Subretele predestinate pentru *PC*-uri

- Subretele predestinate conexiunilor intre *Routere*

b)

Numarul subretelei	Adresa subretelei	*Range*-ul adreselor de host utilizabile	Adresa de broadcast in subretea
0	172.16.0.0	172.16.0.1 - 172.16.0.14	172.16.0.15
1	172.16.0.16	172.16.0.17 - 172.16.0.30	172.16.0.31
2	172.16.0.32	172.16.0.33 - 172.16.0.46	172.16.0.47
3	172.16.0.48	172.16.0.49 - 172.16.0.62	172.16.0.63
4	172.16.0.64	172.16.0.65 - 172.16.0.78	172.16.0.79
5	172.16.0.80	172.16.0.81 - 172.16.0.94	172.16.0.95
6	172.16.0.96	172.16.0.97 - 172.16.0.110	172.16.0.111
7	172.16.0.112	172.16.0.113 - 172.16.0.126	172.16.0.127
8	172.16.0.128	172.16.0.129 - 172.16.0.142	172.16.0.143
9	172.16.0.144	172.16.0.145 - 172.16.0.158	172.16.0.159
10	172.16.0.160	172.16.0.161 - 172.16.0.174	172.16.0.175
11	172.16.0.176	172.16.0.177 - 172.16.0.190	172.16.0.191
12	172.16.0.192	172.16.0.193 - 172.16.0.206	172.16.0.207
13	172.16.0.208	172.16.0.209 - 172.16.0.222	172.16.0.223
14	172.16.0.224	172.16.0.225 - 172.16.0.238	172.16.0.239
15	172.16.0.240	172.16.0.241 - 172.16.0.254	172.16.0.255

- Subretele predestinate pentru *PC*-uri

- Subretele predestinate conexiunilor intre *Routere*

Dispozitiv	Interfata	IP adresa	Masca de subretea	Adresa implicita a routerului
R1	Gig 0/6	172.16.0.65	255.255.255.240	N/A
	Gig 0/7	172.16.0.49	255.255.255.240	
	Gig 0/8	172.16.0.97	255.255.255.240	
	Gig 0/9	172.16.0.113	255.255.255.240	
R2	Gig 0/6	172.16.0.129	255.255.255.240	N/A
	Gig 0/7	172.16.0.126	255.255.255.240	
	Gig 0/8	172.16.0.33	255.255.255.240	
	Gig 0/9	172.16.0.145	255.255.255.240	
R3	Gig 0/7	172.16.0.81	255.255.255.240	N/A
	Gig 0/8	172.16.0.142	255.255.255.240	
	Gig 0/9	172.16.0.110	255.255.255.240	
R4	Gig 0/8	172.16.0.146	255.255.255.240	N/A
	Gig 0/9	172.16.0.1	255.255.255.240	

R5	Gig 0/8	172.16.0.147	255.255.255.240	N/A
	Gig 0/9	172.16.0.17	255.255.255.240	

Server1	Fa0	172.16.0.2	255.255.255.240	172.16.0.1
Server2	Fa0	172.16.0.18	255.255.255.240	172.16.0.17
PC1	Fa0	172.16.0.3	255.255.255.240	172.16.0.1
PC2	Fa0	172.16.0.34	255.255.255.240	172.16.0.33
PC3	Fa0	172.16.0.35	255.255.255.240	172.16.0.33
PC4	Fa0	172.16.0.36	255.255.255.240	172.16.0.33
PC5	Fa0	172.16.0.50	255.255.255.240	172.16.0.49
PC6	Fa0	172.16.0.51	255.255.255.240	172.16.0.49
PC7	Fa0	172.16.0.52	255.255.255.240	172.16.0.49
PC8	Fa0	172.16.0.66	255.255.255.240	172.16.0.65
PC9	Fa0	172.16.0.67	255.255.255.240	172.16.0.65
PC10	Fa0	172.16.0.82	255.255.255.240	172.16.0.81
PC11	Fa0	172.16.0.83	255.255.255.240	172.16.0.81

■ - Subretele predestinate pentru *PC*-uri

■ ■ ■ ■ - Subretele predestinate conexiunilor intre *Routere*

C)

Numarul subretelei	Adresa subretelei	Range-ul adreselor de host utilizabile		Adresa de broadcast in subretea
		FIRST	LAST	
0	10.10.0.0	10.10.0.1	10.10.0.14	10.10.0.15
1	10.10.0.16	10.10.0.17	10.10.0.30	10.10.0.31
2	10.10.0.32	10.10.0.33	10.10.0.46	10.10.0.47
3	10.10.0.48	10.10.0.49	10.10.0.62	10.10.0.63
4	10.10.0.64	10.10.0.65	10.10.0.78	10.10.0.79
5	10.10.0.80	10.10.0.81	10.10.0.94	10.10.0.95
6	10.10.0.96	10.10.0.97	10.10.0.110	10.10.0.111
7	10.10.0.112	10.10.0.113	10.10.0.126	10.10.0.127
8	10.10.0.128	10.10.0.129	10.10.0.142	10.10.0.143
9	10.10.0.144	10.10.0.145	10.10.0.158	10.10.0.159
10	10.10.0.160	10.10.0.161	10.10.0.174	10.10.0.175
11	10.10.0.176	10.10.0.177	10.10.0.190	10.10.0.191
12	10.10.0.192	10.10.0.193	10.10.0.206	10.10.0.207
13	10.10.0.208	10.10.0.209	10.10.0.222	10.10.0.223
14	10.10.0.224	10.10.0.225	10.10.0.238	10.10.0.239
15	10.10.0.240	10.10.0.241	10.10.0.254	10.10.0.255

- Subretele predestinate pentru PC-uri

- Subretele predestinate conexiunilor intre Routere

Dispozitiv	Interfata	IP adresa	Masca de subretea	Adresa implicita a routerului
R1	Gig 0/6	10.10.0.65	255.255.255.240	N/A
	Gig 0/7	10.10.0.49	255.255.255.240	
	Gig 0/8	10.10.0.97	255.255.255.240	
	Gig 0/9	10.10.0.113	255.255.255.240	
R2	Gig 0/6	10.10.0.129	255.255.255.240	N/A
	Gig 0/7	10.10.0.126	255.255.255.240	
	Gig 0/8	10.10.0.33	255.255.255.240	
	Gig 0/9	10.10.0.145	255.255.255.240	
R3	Gig 0/7	10.10.0.81	255.255.255.240	N/A
	Gig 0/8	10.10.0.142	255.255.255.240	
	Gig 0/9	10.10.0.110	255.255.255.240	
R4	Gig 0/8	10.10.0.146	255.255.255.240	N/A
	Gig 0/9	10.10.0.1	255.255.255.240	

R5	Gig 0/8	10.10.0.147	255.255.255.240	N/A
	Gig 0/9	10.10.0.17	255.255.255.240	

Server1	Fa0	10.10.0.2	255.255.255.240	10.10.0.1
Server2	Fa0	10.10.0.18	255.255.255.240	10.10.0.17
PC1	Fa0	10.10.0.3	255.255.255.240	10.10.0.1
PC2	Fa0	10.10.0.34	255.255.255.240	10.10.0.33
PC3	Fa0	10.10.0.35	255.255.255.240	10.10.0.33
PC4	Fa0	10.10.0.36	255.255.255.240	10.10.0.33
PC5	Fa0	10.10.0.50	255.255.255.240	10.10.0.49
PC6	Fa0	10.10.0.51	255.255.255.240	10.10.0.49
PC7	Fa0	10.10.0.52	255.255.255.240	10.10.0.49
PC8	Fa0	10.10.0.66	255.255.255.240	10.10.0.65
PC9	Fa0	10.10.0.67	255.255.255.240	10.10.0.65
PC10	Fa0	10.10.0.82	255.255.255.240	10.10.0.81
PC11	Fa0	10.10.0.83	255.255.255.240	10.10.0.81

🟩 - Subretele predestinate pentru *PC*-uri

🟪 🟦 🟥 🟩 - Subretele predestinate conexiunilor intre *Routere*

 - Subretele predestinate pentru *PC*-uri

 - Subretele predestinate conexiunilor intre *Routere*