МИНОБРНАУКИ РОССИИ

федеральное государственное бюджетное образовательное учреждение

высшего образования

«Московский государственный технологический университет «СТАНКИН»

(ФГБОУ ВО МГТУ «СТАНКИН»)

Институт

информационных технологий

Кафедра

информационных систем

Отчет по лабораторной работе №3

по дисциплине «**Информационно коммуникационные сети**»

Вариант 18

Студент **Музафаров К.Р.**

группа ИДБ-21-06

подпись

Руководитель **Сосенушкин С. Е.**

старший преподаватель

подпись

Москва 20**23** г.

Расчет адресов сетей

Параметр	LAN A	LAN B	LAN C	LAN D	LAN E
Количество узлов	12+2	457+2	78+2	2+2	2+2
Ближайшая сверху степень двойки	2^4	2^9	2^7	2^2	2^2
Маска (префикс)	103.144.0.0/28	103.145.0.0/23	103.146.0.0/25	192.168.3.0/30	192.168.3.4/30
Маска (десятичная)	255.255.255.240	255.255.254.0	255.255.255.128	255.255.255.252	255.255.255.252
SUBNET	103.144.0.0	103.145.0.0	103.146.0.0	192.168.3.0	192.168.3.4
HOSTMIN (router)	103.144.0.1	103.145.0.1	103.146.0.1	192.168.3.1	192.168.3.5
HOSTMAX (host)	103.144.0.14	103.145.1.254	103.146.0.126	192.168.3.2	192.168.3.6
BROAD-CAST	103.144.0.15	103.145.1.255	103.146.0.127	192.168.3.3	192.168.3.7
Суммарный адрес/маска	103.144.0.0 / 255.252.0.0			192.168.3.0 / 255.255.255.248	

Сведения о конфигурации устройств

Устройство	Интер-фейс	IP-адрес	Маска подсети	Основной шлюз
PC A	NIC	103.144.0.14	255.255.255.240	103.144.0.1
PC B	NIC	103.145.1.254	255.255.254.0	103.145.0.1
PC C	NIC	103.146.0.126	255.255.255.128	103.146.0.1
Router A	Fa0/0	103.144.0.1	255.255.255.240	
	Fa1/0	192.168.3.1	255.255.255.252	
Router B	Fa0/0	103.145.0.1	255.255.254.0	

Устройство	Интер-фейс	IP-адрес	Маска подсети	Основной шлюз
	Fa1/0	192.168.3.6	255.255.255.252	
Router C	Fa1/0	103.146.0.1	255.255.255.128	
	Fa2/0	192.168.3.2	255.255.255.252	
	Fa3/0	192.168.3.5	255.255.255.252	
	Fa4/0	15.16.7.1	255.255.255.252	
ISP	Fa0/0	15.16.7.2	255.255.255.252	
	Fa0/1	10.0.0.1	255.255.255.0	
PC 0	NIC	10.0.0.254	255.255.255.0	10.0.0.1

Сведения о таблицах маршрутизации

Устройство	Источник записи	Сеть назначения	AD/Метрика	Маршрут
Router A		103.144.0.0		Fa0/0
Router A		103.145.0.0	1/0	192.168.3.2
Router A		103.146.0.0	1/0	192.168.3.2
Router B		0.0.0.0	1/0	192.168.3.2
Router A		192.168.3.4	1/0	192.168.3.2
Router A		192.168.3.0		Fa0/1
Router B		103.144.0.0		Fa0/0
Router B		192.168.3.4		Fa0/1
Router B		103.145.0.0	1/0	192.168.3.5
Router B		103.146.0.0	1/0	192.168.3.5
Router B		192.168.3.0	1/0	192.168.3.5
Router B		0.0.0.0	1/0	192.168.3.5
Router C		192.168.3.0		Fa2/0
Router C		192.168.3.4		Fa3/0
Router C		103.144.0.0	1/0	192.168.3.1

Устройство	Источник записи	Сеть назначения	AD/Метрика	Маршрут
Router C		103.145.0.0	1/0	192.168.3.6
ISP		192.168.3.0	1/0	15.16.7.1
ISP		103.144.0.0	1/0	15.16.7.1
ISP		15.16.7.1		Fa0/0

Роутер-А

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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 192.168.3.1 to network 0.0.0.0

     10.0.0.0/24 is subnetted, 1 subnets
S       10.0.0.0 is directly connected, FastEthernet1/0
     103.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
C       103.144.0.0/28 is directly connected, FastEthernet0/0
S       103.145.0.0/23 [1/0] via 192.168.3.1
S       103.146.0.0/25 [1/0] via 192.168.3.1
S       103.245.0.0/23 [1/0] via 192.168.3.1
     192.168.3.0/30 is subnetted, 2 subnets
C       192.168.3.0 is directly connected, FastEthernet1/0
S       192.168.3.4 [1/0] via 192.168.3.1
S*   0.0.0.0/0 [1/0] via 192.168.3.1
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Роутер -В

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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 192.168.3.5 to network 0.0.0.0

     10.0.0.0/24 is subnetted, 1 subnets
S       10.0.0.0 is directly connected, FastEthernet1/0
     103.0.0.0/8 is variably subnetted, 3 subnets, 3 masks
S       103.144.0.0/28 [1/0] via 192.168.3.5
                       [1/0] via 192.168.3.1
C       103.145.0.0/23 is directly connected, FastEthernet0/0
S       103.146.0.0/25 [1/0] via 192.168.3.5
     192.168.3.0/30 is subnetted, 2 subnets
S       192.168.3.0 [1/0] via 192.168.3.5
C       192.168.3.4 is directly connected, FastEthernet1/0
S*   0.0.0.0/0 [1/0] via 192.168.3.5
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Роутер -С

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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 0.0.0.0 to network 0.0.0.0

     10.0.0.0/24 is subnetted, 1 subnets
S       10.0.0.0 is directly connected, FastEthernet4/0
     15.0.0.0/30 is subnetted, 1 subnets
C       15.16.7.0 is directly connected, FastEthernet4/0
     103.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
S       103.144.0.0/23 [1/0] via 192.168.3.2
S       103.144.0.0/28 [1/0] via 192.168.3.2
S       103.145.0.0/23 [1/0] via 192.168.3.2
                       [1/0] via 192.168.3.6
C       103.146.0.0/25 is directly connected, FastEthernet1/0
     192.168.3.0/30 is subnetted, 2 subnets
C       192.168.3.0 is directly connected, FastEthernet2/0
C       192.168.3.4 is directly connected, FastEthernet3/0
S*   0.0.0.0/0 is directly connected, FastEthernet4/0
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