HW5&6

PB19111713钟颖康

1.

$$R = remainder\frac{D \cdot 2^{5-1}}{G} = 0100$$

2.

a.

3LANs.

LAN1: A, B, S1, and R1's left port.

LAN2: C, D, S2, R1's right port and R2's left port.

LAN3: E, F, S3, and R2's right port.

b.

	Source IP	Destination IP	Source MAC	Destination MAC
A to R1	192.168.1.2	192.168.3.3	00-00-00-00-00-00	22-22-22-22-22-22
R1 to R2	192.168.1.2	192.168.3.3	33-33-33-33-33-33	66-66-66-66-66-66
R2 to F	192.168.1.2	192.168.3.3	77-77-77-77-77-77	99-99-99-99-99-99

c.

A:

IP addr.	MAC
192.168.1.3	11-11-11-11-11-11
192.168.1.1	22-22-22-22-22-22

B:

IP addr.	MAC
192.168.1.2	00-00-00-00-00-00
192.168.1.1	22-22-22-22-22-22

C:

IP addr.	MAC
192.168.2.1	33-33-33-33-33-33
192.168.2.2	66-66-66-66-66-66
192.168.2.4	55-55-55-55-55-55

D:

IP addr.	MAC
192.168.2.1	33-33-33-33-33-33
192.168.2.2	66-66-66-66-66-66
192.168.2.3	44-44-44-44-44-44

E:

IP addr.	MAC
192.168.3.1	77-77-77-77-77-77
192.168.3.3	99-99-99-99-99-99

F:

IP addr.	MAC
192.168.3.1	77-77-77-77-77-77
192.168.3.2	88-88-88-88-88-88

d.

S1:

Address	Interface
00-00-00-00-00-00	1
11-11-11-11-11-11	2
22-22-22-22-22-22	3

S2:

Address	Interface
33-33-33-33-33-33	1
44-44-44-44-44-44	2
55-55-55-55-55-55	3
66-66-66-66-66-66	4

S3:

Address	Interface
77-77-77-77-77-77	1
88-88-88-88-88-88	2
99-99-99-99-99-99	3

3.

S1:

Address	Interface
00-00-00-00-00-00	1
11-11-11-11-11-11	2
22-22-22-22-22-22	3
33-33-33-33-33-33	3
44-44-44-44-44-44	3
55-55-55-55-55-55	3

S2:

Address	Interface
00-00-00-00-00-00	1
11-11-11-11-11-11	1
22-22-22-22-22-22	2
33-33-33-33-33-33	3
44-44-44-44-44-44	4
55-55-55-55-55-55	4

S3:

Address	Interface
00-00-00-00-00-00	1
11-11-11-11-11-11	1
22-22-22-22-22-22	1
33-33-33-33-33-33	1
44-44-44-44-44-44	2
55-55-55-55-55-55	3

4.

Event	Switch forwarding table	Forwarding link
B sends a frame to E	{B 2}	ACDEF
E replies with a frame to B	{B 2; E 5}	B
A sends a frame to B	{B 2; E 5; A 1}	B
B replies with a frame to A	{B 2; E 5; A 1}	A

5.

Packets on path 2 and path 5 contains encapsulated headers.

Path 1: dst addr. = 128.119.40.18

Path 2: outer dst addr. = 79.129.13.2, innder dst addr. = 128.119.40.18

Path 3: dst addr. = 128.119.40.18

Path 4: dst addr. = 10.10.10.1

Path 5: outer dst addr. = 20.20.20.2, innder dst addr. = 10.10.10.1

Path 6: dst addr. = 10.10.10.1