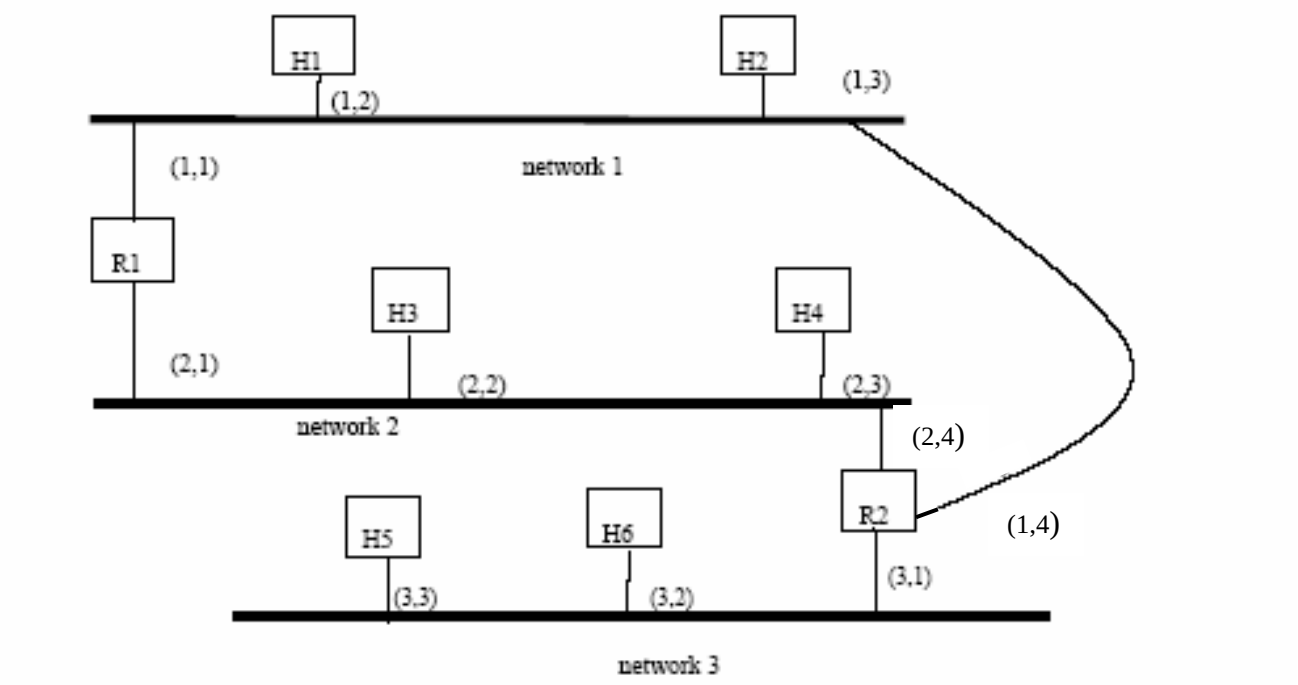
ECE 683-001 Quiz III September 27, 2005 **Name:**_____ **I.D.**_____

The internet below consists of three LANs interconnected by two routers. Assume that the hosts and routers have the IP addresses as shown. Suppose that all traffic from network 1 to network 3 is to be routed directly through R2, and all other traffic between network 1 and network 3 is to go to network 2. What routing table entries should be present in the network 1 hosts, in R1 and in R2? Note that (1,0), (2,0), and (3,0) refer to the IP addresses of subnet 1, subnet 2, and subnet 3, respectively.



Forwarding Table (usually also associate with corresponding port numbers, not given here):

R2		**R1**		**H1**		**H2**	
Destination	*Next hop*	*Destination*	*Next hop*	*Destination*	*Next hop*	*Destination*	*Next hop*
(1,0)	(2,4)	(1,0)	(1,1)	(1,0)	(1,2)	(1,0)	(1,3)
(2,0)	(2,4)	(2,0)	(2,1)	(2,0)	(1,2)	(2,0)	(1,3)
(3,0)	(3,1)	(3,0)	(2,1)	(3,0)	(1,2)	(3,0)	(1,3)

Routing Table:

R2		**R1**		**H1**		**H2**	
Destination	*Next hop*	*Destination*	*Next hop*	*Destination*	*Next hop*	*Destination*	*Next hop*
(1,0)	(2,1)	(1,0)	(1,1)	(1,0)	(1,2)	(1,0)	(1,3)
(2,0)	(2,4)	(2,0)	(2,1)	(2,0)	(1,1)	(2,0)	(1,1)
(3,0)	(3,1)	(3,0)	(2,4)	(3,0)	(1,4)	(3,0)	(1,4)

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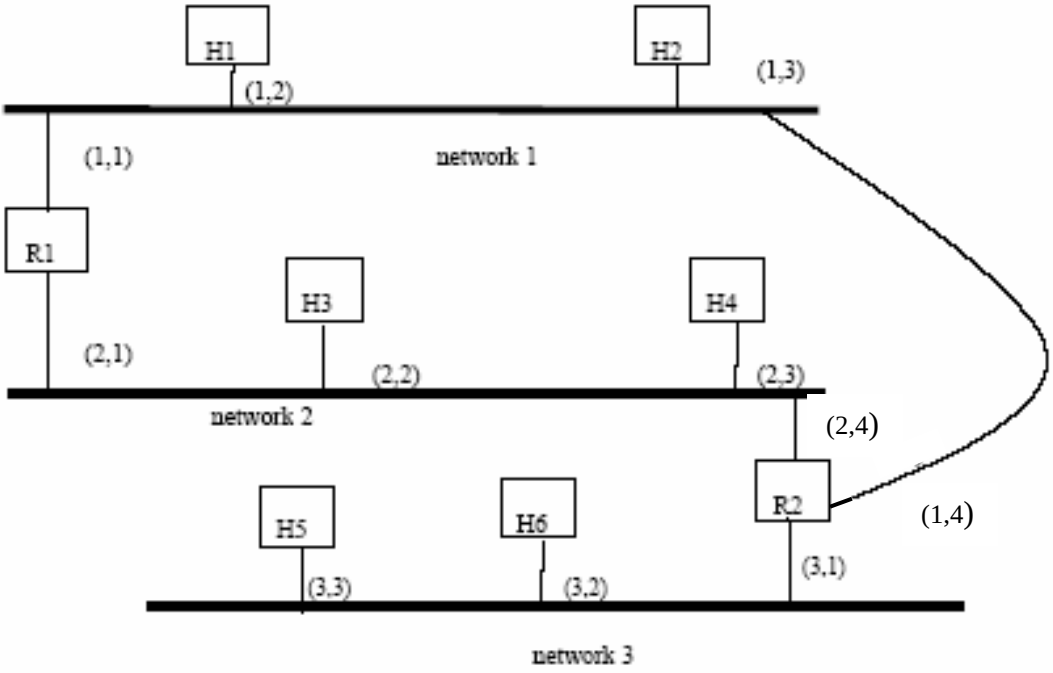
The internet below consists of three LANs interconnected by two routers. Assume that the hosts and routers have the IP addresses as shown. Suppose that all traffic from network 3 that is destined to H1 is to be routed directly through router R2, and all other traffic from network 3 is to go to network 2. What routing table entries should be present in the network 3 hosts and in R2? Note that (1,0), (2,0), and (3,0) refer to the IP addresses of subnet 1, subnet 2, and subnet 3, respectively.



Forwarding Table (normally also with corresponding port numbers, not provided here):

H5		**H6**		**R2**	
Destination	*Next hop*	*Destination*	*Next hop*	*Destination*	*Next hop*
Default	(3,3)	default	(3,2)	(1,2)	(1,4)
(1,0)	(3,3)	(1,0)	(3,2)	(1,0)	(2,4)
(2,0)	(3,3)	(2,0)	(3,2)	(2,0)	(2,4)
(3,0)	(3,3)	(3,0)	(3,2)	(3,0)	(3,1)

Routing Table:

H5		**H6**		**R2**	
Destination	*Next hop*	*Destination*	*Next hop*	*Destination*	*Next hop*
Default	(3,1)	default	(3,1)	(1,2)	(1,4)
(1,0)	(3,1)	(1,0)	(3,1)	(1,0)	(2,1)
(2,0)	(3,1)	(2,0)	(3,1)	(2,0)	(2,4)
(3,0)	(3,3)	(3,0)	(3,2)	(3,0)	(3,1)