Name: **ID:**

COE 444 - Internetwork Design and Management
Fall 2004 (Term 041)

Quiz 3

Date: Wednesday, December 15, 2004

Assume that you are faced with the following situation. A company has 6 divisions, each serviced by a 10 Mbps Ethernet workgroup switch, labelled S_1 to S_6. The company has acquired three backbone switches B_1, B_2, and B_3, each with four interfaces. Two of these interfaces are 10 Mbps Ethernet interfaces, and the two others are 100 Mbps Fast Ethernet interfaces.

Assume that the cost of connecting each of the workgroup switches to each of the backbone switches is as specified in the following cost matrix:

	B_1	**B_2**	**B_3**
S_1	7	5	3
S_2	5	2	8
S_3	2	4	1
S_4	8	3	4
S_5	4	1	5
S_6	1	2	6

Find a minimum cost feasible assignment of the workgroup switches to the Backbone switches, and give the cost of such an optimum assignment.

1. Find a minimum cost feasible assignment of the switches to the backbone switches.
2. Draw a picture showing all the connections.
3. What is the overall cost of this assignment?

For any credit, you must show all the steps.

Name: **ID:**