Attendance Quiz for Lecture 22

NAME: (print!) _____

E-MAIL ADDRESS: (print!) _____

1. In the following network vertex 1 is the source and vertex 5 is the sink (terminal). The capacities are given by the above matrix ($c_{ij} = 0$ means that there is no edge between vertex i and vertex j)

$$\begin{bmatrix} 0 & 4 & 2 & 2 & 0 \\ 0 & 0 & 2 & 0 & 2 \\ 0 & 0 & 0 & 0 & 4 \\ 0 & 0 & 1 & 0 & 2 \\ 0 & 0 & 0 & 0 & 0 \end{bmatrix} .$$

(a) Draw the network with the source 1 on the left, the sink (terminal) 5 on the right and vertices 2, 3, and 4 in the middle. Indicate the capacities next to each edge.

(b) Find a maximal flow and state its value .

(c): Find a mininal cut and state its value.