For the Laplacian matrix, $L$, of a graph $G$, Fiedler observed long ago that the smallest positive eigenvalue of $L$, $\alpha(G)$, is zero if and only if $G$ is disconnected and that $\alpha(G) \leq \nu(G) \leq \epsilon(G)$ where $\nu(G), \epsilon(G)$ are, respectively, the vertex connectivity, and the edge connectivity of the graph $G$.

For the signless Laplacian matrix, $Q$, it is known that the smallest eigenvalue, $\lambda_b(G)$, is zero if and only if $G$ is bipartite.

We establish the inequalities, $\lambda_b(G) \leq \nu_b(G) \leq \epsilon_b(G)$, where $\nu_b(G)$ and $\epsilon_b(G)$ denote the fewest number of vertices (resp. edges) whose deletion yields a bipartite graph. We also derive a number of useful relationships between the eigenvalues of $Q$ and other parameters associated with $G$. (Received September 14, 2011)