CS105L: Discrete Structures
I semester, 2005-06

Homework # 8

Due before class on **Tuesday, November 8, 2005**

Instructor: Amitabha Bagchi

October 27, 2005

1. Find a set S for Theorem 2.2.3 when G is a forest.
2. Show that a graph G contains k independent edges (i.e. edges which share no vertex) if and only if $q(G \setminus S) \leq |S| + |G| - 2k$ for all sets $S \subseteq G$.
3. Using only Theorem 2.2.3, show that a k-connected graph with at least $2k$ vertices contains a matching of size k. Is this the best possible?