



## **Ειδικά Θέματα Αλγορίθμων Ασκήσεις Φροντιστηρίου** #11 LP-based and Randomized Algorithms

**1.** Give the LP, for the following problem and find an approximation algorithm based on this LP. TRIANGLE DELETION: Given an edge-weighted directed graph (V, E), find a set  $S \subseteq E$  of minimum cost, such that the graph  $(V, E \setminus S)$  is triangle-free.

2. Derandomize the Max-Cut algorithm using conditional expectations.