1. For the graph $G$ below left and the spanning tree $T$ given by the edges $\{b, d, f, g\}$ below right

(a) Find the fundamental system of edge-cuts associated with $T$.

(b) Find the fundamental system of cycles associated with $T$.

(c) Find the other non-null elements of the cycle space $W_C(G)$ for $G$ not listed in part (b).

2. For the graph repeated 4 times below.

(a) Show it has an Euler circuit or show none exists.

(b) Show it has a Hamilton cycle or show none exists.

(c) Find the maximum number of internally-disjoint $s$-$t$ paths and and the minimum number of vertices in a $s$-$t$ separating set $S$. (Show the paths and $S$)

(d) Find the maximum number of edge-disjoint $s$-$t$ paths and and the minimum number of edges in a $s$-$t$ edge-separating set $S$. (Show the paths and $S$)