Theorem 5.22

A non-trivial graph G is k-edge-connected if and only if G contains k pairwise edge-disjoint u-v paths for each u, v of distinct vertices of G.

Symbolically: A non-trivial graph G is k-edge-connected $\Leftrightarrow G$ contains k pairwise edge-disjoint u—v paths for each u,v of distinct vertices of G.