

SRLG:

$R_{r1}=\{e_1, e_9\}, R_{r2}=\{e_2, e_3, e_{19}\}$

$AP=\{e_1, e_2, e_3, e_4, e_5, e_6, e_7, e_8\}$

$R_{r3}=\{e_2, e_4, e_{11}, e_{17}\}$

$ER=\{e_9, e_{11}, e_{17}, e_{13}, e_{19}\}$

$R_{r4}=\{e_5, e_{13}\}, R_{r5}=\{e_{15}, e_{18}\}$

$e_i(x)$ ,  $x$  is weight of edge  $e_i$ .

