



$$O = \{ABC, BC, AC, AB, A\}$$

$$f = \{B, C, F\}$$

$$\text{Exact system unreliability} = P_v\{B\} + P_v\{C\} + P_v\{F\}$$

△ Bounding method using truncation threshold (2-component failure)

$$U = \{A, B, C\}$$

(1) upper bound: consider all states in  $U$  as failed states

$$UR_{ub} = P_v\{A\} + P_v\{B\} + P_v\{C\} + P_v\{F\}$$

(2) lower bound: consider all states in  $U$  as operational states

$$UR_{lb} = P_v\{F\}$$