

# PENNSSTATE

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## **IE 419**

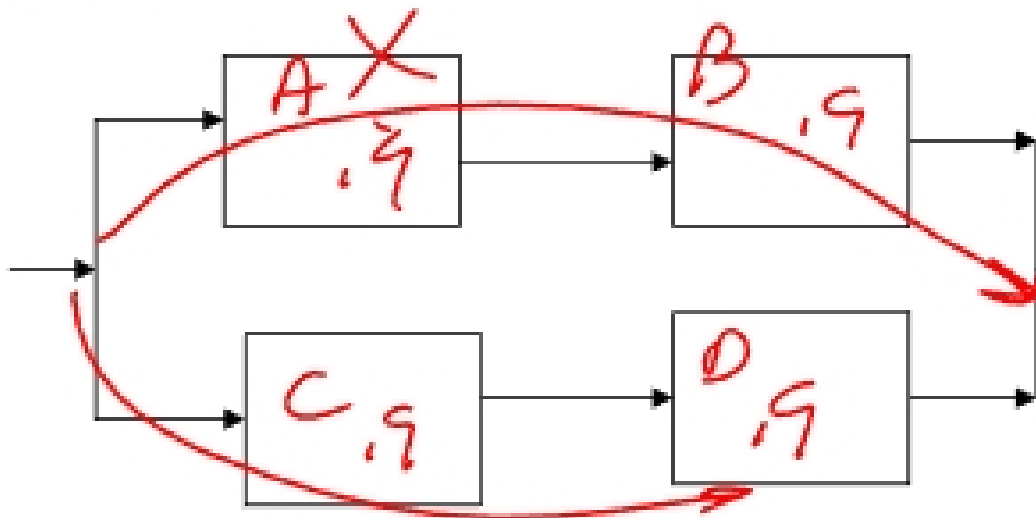
# **Work Design: Productivity and Safety**

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Class #25

# Ex. #3 – System Reliability

#1



$$T = A \cdot B + C \cdot D = X + Y$$

$$R(T) = R(X + Y) = R(X) + R(Y) - R(X)R(Y)$$

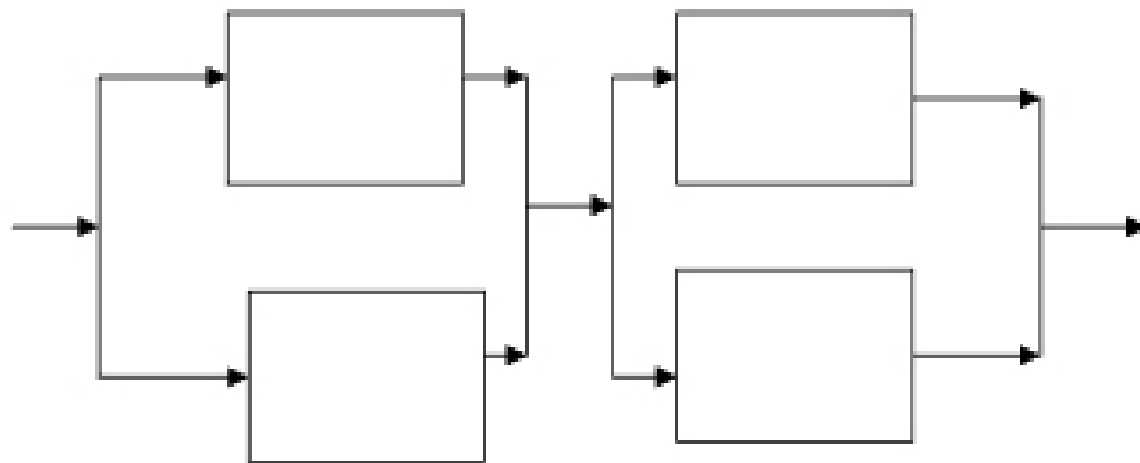
$$R(X) = R(A)R(B) = R(Y) = .9(.9) = .81$$

$$R(T) = .81 + .81 - .81(.81) = .9639$$

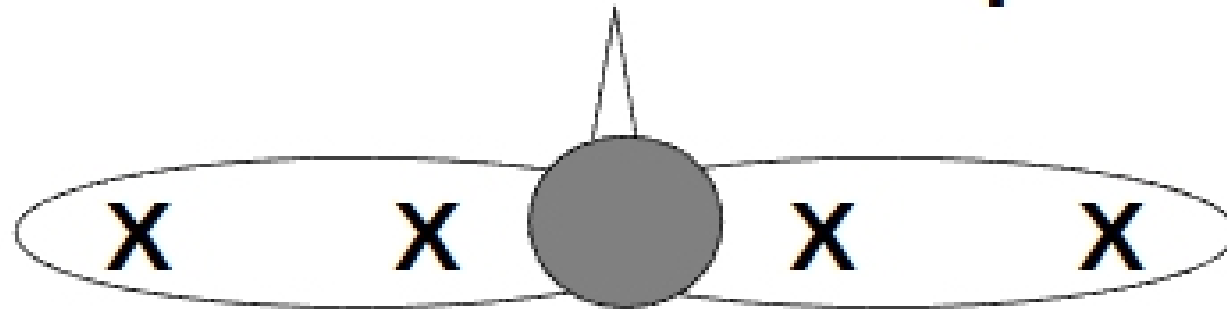
#2

STAGE 1

STAGE 2



# Ex. #4 – Airplane Reliability



Can fly with 2  
balanced engines