KFUPM | Term 112 | Date: 11/3/2012

Mathematics & Statistics | STAT 319 | Duration: 30 minutes

Quiz# 2

Name: ID #: Section 1 Serial #:

---

*Q*1: A system contains two components A and B. The system will function so long as either A or B functions. The probability that A functions is 0.85, the probability that B functions is 0.4 and the probability that both function is 0.35.

a. What is the probability that the system functions?

b. What is the probability that ONLY one component functions?

c. What is the probability that NONE of the components functions?

Q2: A chemical engineer is studying the production of two lines of chemical-reaction catalysts. Line I produces ONLY type A catalyst, whereas only 42% of the production of Line II is from type A catalyst and the rest is from type B catalyst. The engineer also found that line II produces 65% of the overall production.

a. What is the probability that a randomly selected catalyst is of type A?

b. If a randomly selected catalyst was of type A, what is the probability that it was produced by line I?

With My Best Wishes