STAT-319-Term 162-Sec.02
Quiz #2

Name: **ID**

Q 1: In a semiconductor manufacturing process, two wafers from a lot are tested. Each wafer is classified as pass or fail. Assume that the probability that a wafer passes the test is 0.8 and that wafers are independent.

a. Determine the probability mass function of the number of wafers from a lot that pass the test.

b. Find the cumulative distribution function

c. Find the expected value of the number of wafers that passes the test.

Q 2: Ali is applying for six jobs and believes that he has in each case the same probability 0.42 of getting an offer. What is the probability of getting at least one offers?

Q 3: The number of failures of a testing instrument from contamination particles on the product is a Poisson random variable with a mean of 0.05 failures per hour. What is the probability that the instrument does not fail in an 8 – hour shift?

Q 4: Printed circuit cards are placed in a functional test after being populated with semiconductor chips. A lot contains 40 cards, and 10 selected at random for functional testing. If 15 cards are defective, what is the probability that at most one defective card appears in the sample?