

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics

AS388 Actuarial Science Prob Lab II

Quiz No. 1

Monday 19/10/2015

15 Minutes

Instructor: *Dr. Monjed H. Samuh*

Name:

Student ID:

Q1]... [5 points] The probability that a randomly chosen male has a circulation problem is 0.25. Males who have a circulation problem are twice as likely to be smokers as those who do not have a circulation problem. What is the conditional probability that a male has a circulation problem, given that he is a smoker?

Q2]. . . [5 points] Let X be a continuous random variable with density function

$$f(x) = \begin{cases} 6x(1-x) & \text{if } 0 < x < 1 \\ 0 & \text{otherwise} \end{cases},$$

1. **(2 points)** Calculate $P(|X - 0.5| > \frac{1}{4})$.

2. **(3 points)** Find $E(X^2)$.

GOOD LUCK