

Department of Mathematics and Statistics KFUPM
STAT 301-01 Quiz#2, Time: 15 mins

Student's Name: _____ ID: _____

Q.No.1: - The joint density function of X and Y is given by

$$f(x, y) = \begin{cases} ke^{-(x+y)} & \text{if } x > 0, y > 0 \\ 0 & \text{otherwise} \end{cases}$$

(a) Find the value of k .

(b) Using the CDF technique, find the density function of the random variable $Z = \frac{X}{Y}$.