KFUPM

Electrical Engineering Department

EE-315 -121

Quiz#4

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**Student Name: \_\_\_\_\_ ID# \_\_\_\_\_\_\_\_\_\_\_\_ Serial**# \_\_\_\_\_

(a) Find a constant $b$ (in terms of $a$) so that the function

 $f\_{X,Y}\left(x,y\right)=\left\{\begin{array}{c}bxye^{-\left(x^{2}+y^{2}\right)} 0<x<a and 0<y<\infty \\ 0 elsewhere \end{array}\right.$

 is a valid joint density function.

(b) Find an expression for the joint **distribution** function.