KFUPM

Electrical Engineering Department

EE-315 -121

Quiz on the project

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

1. A. Use a sequence of random numbers uniformly distributed in the interval $(0,1)$ to generate a sequence of random numbers that correspond to a random variable $X$ having the $pdf$

$$f\_{X}\left(X\right)=\left\{\begin{array}{c}\frac{x}{2} 0\leq x\leq 2 \\0 elsewhere \end{array}\right.$$

B. How to estimate the variance of the generated sequence.

1. Explain in details how you verified the central limit theorem (CLT) (You have to describe what is the CLT and what was your approach to verify it).