EE 381 Quiz 4 – Practice

Name, I.D. #, and Date: _____

Instructions: No electronics other than a calculator. Each problem worth 2.5 points. You have only one chance to complete it. There is a time limit of 20 minutes.

1.) At a dance club some people are on the dance floor and some are standing on the side. At the beginning of each song 56% of the people standing on the side go onto the dance floor and 12% of the people on the dance floor leave it and go stand on the side.

If we construct a transition matrix for the above narrative with standing on the side (S) being the variable in the first row and the first column and the variable (D) being in the second row and second column which matrix below is the correct matrix?

2.) With respect to the first question above a sequence of three songs A, B, and C are played. If a person is on the dance floor dancing for song A what is the probability they are on the dance floor dancing for song C?

3.) Does the transition matrix $\begin{bmatrix} 0.5 & 0.3 \\ 0.5 & 0.7 \end{bmatrix}$ have a steady state?

4.) The matrix $\begin{bmatrix} 0.58 & 0.7 \\ 0.42 & 0.3 \end{bmatrix}$ has a steady state, what is it?