

ECE 310: Quiz #1 (3pm Section E) Fall 2018

UIN: _____

Name: _____

Score: _____

1. (6 pts)

- (a) Derive close-form expressions for the magnitude and phase of the function $G(\omega) = -(1 + j)\cos(\omega)e^{-j\omega}$ of the real variable ω .
- (b) Sketch the phase over the interval $-\pi \leq \omega \leq \pi$. Label the axes in your plot, and mark values at the "interesting points."

2. (4 pts) Draw a block diagram of a system with input $x[n]$ and output $y[n]$, defined by $y[n] - 0.2y[n - 1] - 0.5x[n - 1] + x[n - 2] = 0$.