

Student name: FRANCIS

ECE 431H1S, Digital Signal Processing

Quiz 8

March 14, 2005

Calculate the discrete analytic signal $y[n]$ for the sequence $x[n] = \{1, 0, -1, 0\}$.

① Find 4-DFT of $x[n]$

$$X[k] = \{0, 2, 0, 2\}$$

② Form $Y[k]$ to "zero out" the "negative" frequencies

$$Y[k] = \{0, 4, 0, 0\}$$

③ Compute inverse 4-DFT to obtain $y[n]$

$$y[n] = \{1, j, -1, -j\}$$