

## Digital Signal Processing Assignment # 9

1. Compute the DTFT (if exist) and  $N$ -point DFT of the following signals. With Matlab, plot the DTFT, the DFT when  $N = 10$  and  $N = 50$ .
  - (a)  $x(n) = \delta(n - 5)$ , where  $N > 5$ .
  - (b)  $x(n) = (-1)^n u(n)$ .
  - (c)  $x(n) = 4^{-n} u(n)$ .
  - (d)  $x(n) = [0 \ 0 \ 1 \ 1 \ 1 \ 1 \ 0 \ 0]$