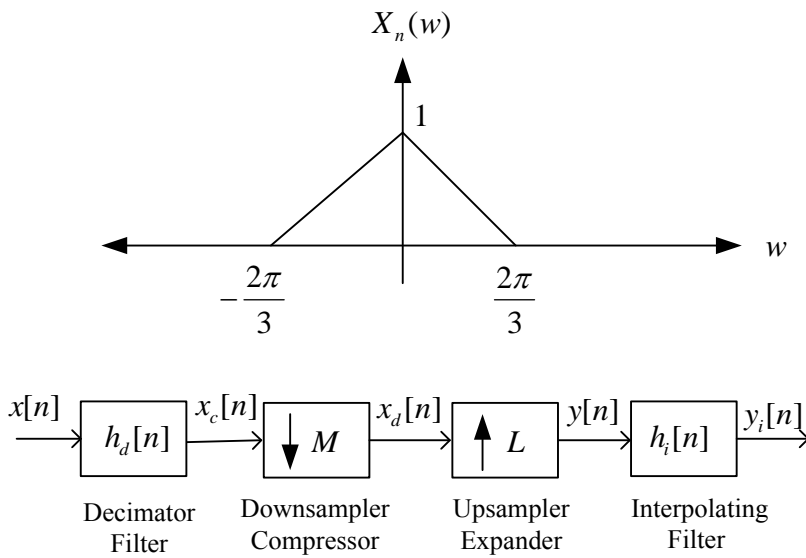


1) For the Fig. given below $M = L = 2$, and the Fourier transform of $x[n]$ is given as



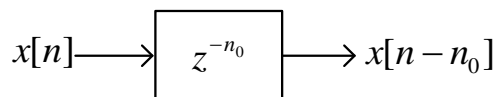
a) Draw the Fourier transforms of $x_c[n], x_d[n], y[n]$

b) Draw the graph of approximated and exact interpolating filters for $L = 2$, and draw the Fourier transform of $y_i[n]$ for sinc(.) interpolating filter.

2) For the system given in question 1, if $x_c[n] = [1.0000 \ 1.5850 \ 2.0000 \ 2.3219 \ 2.5850 \ 2.8074 \ 3.0000 \ 3.1699 \ 3.3219 \ 3.4594 \ 3.5850 \ 3.7004 \ 3.8074 \ 3.9069]$

Find, $x_d[n], y[n]$, use approximated interpolating filter, find $y_i[n]$

3) Using the given information below



If $M = 2$ and $x[n] = [a \ b \ c \ d \ e \ f \ g \ h \ i \ j \ k \ l]$, find $x_a[n], x_b[n], x_c[n], x_d[n], x_e[n], x_f[n]$ and $x_r[n]$ For the system given below

