



$$R = 1000 \Omega$$

$$F_s = 8 \text{ KHz}$$

$$C = 1 \mu\text{F}$$

$$T = \frac{1}{F_s} = \frac{1}{8 \text{ E}3} = 125 \mu\text{s}$$

$$H(s) = \frac{1}{1 + sRC}$$

$$H(s) = \frac{1}{1 + s \cdot 10^{-3}}$$

$$h[n] = \frac{T}{RC} e^{-\frac{nT}{RC}} \cdot u[n]$$

$$n=0$$

$$h[0] = \frac{125 \text{ E-}6}{1 \text{ E}3 \cdot 1 \text{ E-}6} e^{-\frac{0 \cdot 125 \text{ E-}6}{1 \text{ E}3 \cdot 1 \text{ E-}6}} \cdot u[0] = 125 \cdot 10^{-3}$$

$$n=1$$

$$h[1] = 110.31 \cdot 10^{-3}$$

$$n=2$$

$$h[2] = 97.35 \cdot 10^{-3}$$

$$n=3$$

$$h[3] = 85.91 \cdot 10^{-3}$$

$$n=4$$

$$h[4] = 75.82 \cdot 10^{-3}$$