

Assignment-1, Unit 1

1. Sketch the following signals

a. $x(t) = A[U(t+a) - U(t-a)]$

b. $x(t) = e^{-at}$ for $a > 0$

c. $x(t) = e^{-at}U(t)$ for $a > 0$

d. $x(t) = t^2[U(t+a) - U(t-a)]$

e. $x(t) = (t-4)[U(t+a) - U(t-a)]$

2. Synthesize the following waveforms of figures 1, 2 & 3 into standard signals

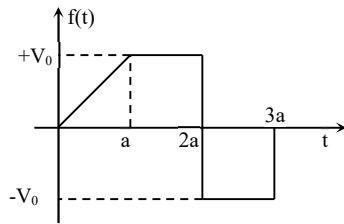


Figure 1

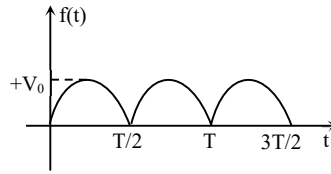


Figure 2

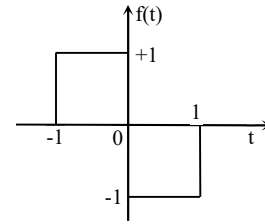


Figure 3

3. A signal $x(t)$ is shown in the following figure 4, sketch the following signals

a. $x(t+1)$ b. $x(-t+1)$

c. $x\left(\frac{3}{2}t\right)$ d. $x\left(\frac{3}{2}t+1\right)$

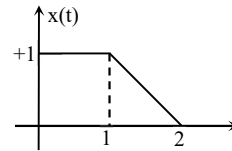


Figure 4