**18AIS201T-LINEAR SYSTEMS AND SIGNAL PROCESSING**

**ASSIGNMENT -2**

1. Sketch the following signals
3. Find whether the following signals are periodic or not. Also, find the fundamental time period T.
4. Find the even and odd components of the following signal
5. Find the frequency response and impulse response of an LTI system described by the differential equation. ---- (5 Marks).
6. Consider a Causal LTI system with frequency response H(jω) =1/(jω+3). For a particular input x(t) this system is observed to produce the output y(t)= e-3tu(t) - e-4tu(t). Determine x(t). ---- (5 Marks).
7. Using Classical method, find the Natural response and forced response of the system



The initial condition conditions are  and the input of the system is

x(t)= e-3t u(t). ---- (10 Marks).