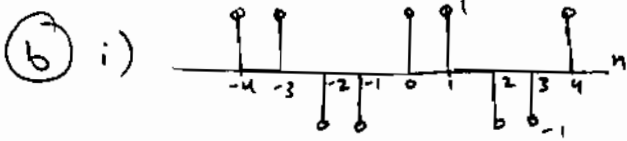
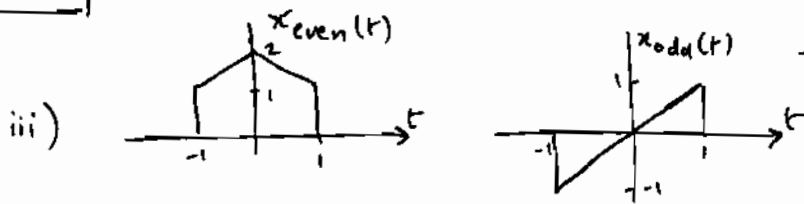
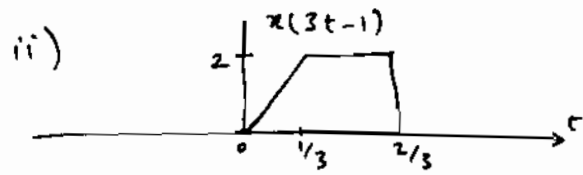


Problem I

(a) i) $E = 16/3$



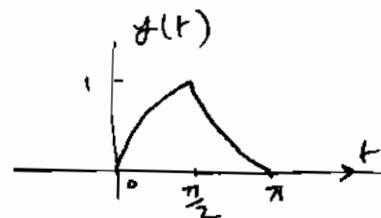
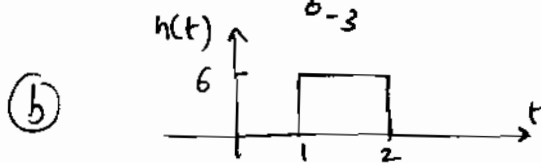
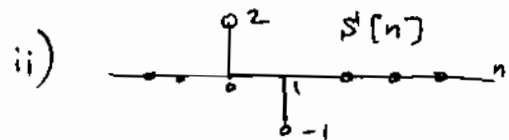
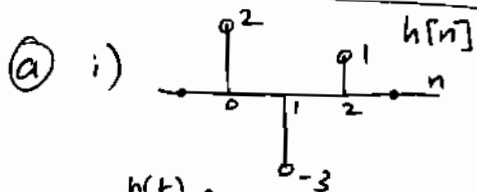
ii) No, not periodic. it has finite duration.

iii) $P_{av} = 0$

(c) i) explain...

ii) Non-Linear, Not invertible, Causal. ^{why} explain...

Problem II



Problem III

(a)
$$y(t) = \begin{cases} \sin(t) & 0 < t \leq \pi/2 \\ 1 - \sin(t - \pi/2) & \pi/2 < t \leq \pi \\ 0 & \text{otherwise} \end{cases}$$



ii) $E = R_{xx}(0) = 11$

iii) $R_{yy}(n) = R_{xx}(n)$ why? ...