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C.C = 1001234045

Sln

① A = 1

$t = -2$ y $t = -1$

$x(t) = u(t+2) - u(t+1)$

$u(t)$ - escalon unitario

A = 2 $t = 1$ y $t = 2$

$y(t) = 2[u(t-1) - u(t-2)]$

$t = 2$ y $t = 3$

$y(t) = -1[u(t-2) - u(t-3)]$

$y(t) = 2[u(t-1) - u(t-2)] - [u(t-2) - u(t-3)]$.

$z(t) = x(t) + y(t)$

- $P > 3$, $z(t) = 0$

- $1 \le t \le 2$, $z(t) = 2$

- $-1 \le t \le 1$, $z(t) = 0$

- $-2 \le t \le -1$, $z(t) = 1$

$z(t) = [u(t+2) - u(t+1)] + 2[u(t-1) - u(t-2)]$
$- [u(t-2) - u(t-3)]$

③

$x(t) = 4 \operatorname{sen}(8\pi t + \frac{\pi}{4}) + k \cos(4\pi t)$

$+ 5 \quad con \quad k = 2(a+1) \quad a = 5$

sustituir $k = 2(a+1) = 2(\frac{5+1}{6}) = 12$

$x(t) = 4 \sin(8\pi t + \frac{\pi}{4}) + 12\cos(4\pi t) + 5$

$$\sin\theta = \frac{e^{j\theta} - e^{-j\theta}}{2j}$$

$$4\sin(8\pi t + \frac{\pi}{4}) = 4 \frac{e^{j(8\pi t + \frac{\pi}{4})} - e^{-j(8\pi t + \frac{\pi}{4})}}{2j}$$

$$4\sin(8\pi t + \frac{\pi}{4}) = 2j\left[e^{j(8\pi t + \frac{\pi}{4})} - e^{-j(8\pi t + \frac{\pi}{4})}\right]$$

$$F\{4\sin(8\pi t + \frac{\pi}{4})\} = 2j e^{j\frac{\pi}{4}} \cdot \delta(f-4) - 2j e^{-j\frac{\pi}{4}} \delta(f+4)$$

$$\cos\theta = \frac{e^{j\theta} + e^{-j\theta}}{2}$$

$$F\{12\cos(4\pi t)\} = 6\delta(f-2) + 6\delta(f+2)$$

$$F\{6\} = 5 \cdot \delta(f)$$

↳ un impulso por ser contr

$$\mathcal{F}\{x(t)\} = 2je^{j\frac{\pi}{4}}\delta(f-4) - 2je^{-j\frac{\alpha}{4}}\delta(f+4) +$$
$$6\delta(f-2) + 6\delta(f+2) + 5\delta(f)$$

② $w(t) = z(t) \cdot r(2(t+12)-6)$

$r(2(t+12)-6)$

$z(t)$