

1

## Assignment #1 Signal & System

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Section: C

Batch: 20

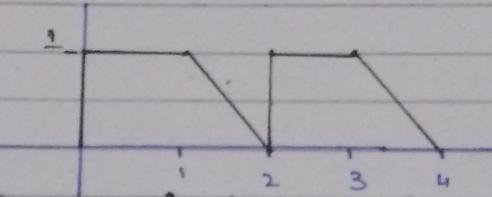
Reg no: 18PWCSE1715

Question # 1

1:  $x(t-2)$

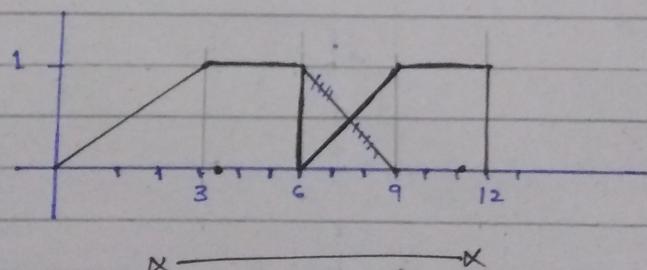
Ans

shift signal right.



2:  $x(2-t/3)$

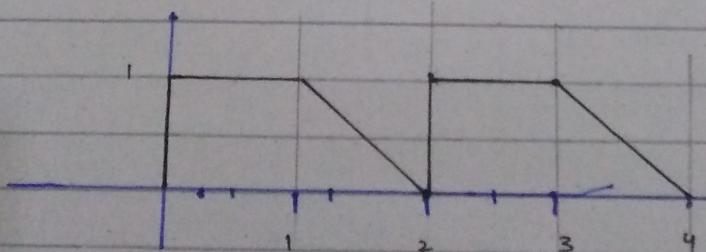
Ans



Question # 2.

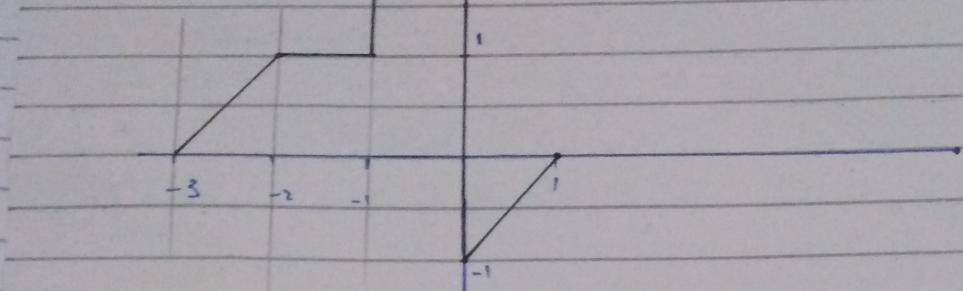
1:  $x(t-2)u(t+2)$

Ans  $x(t-2)$

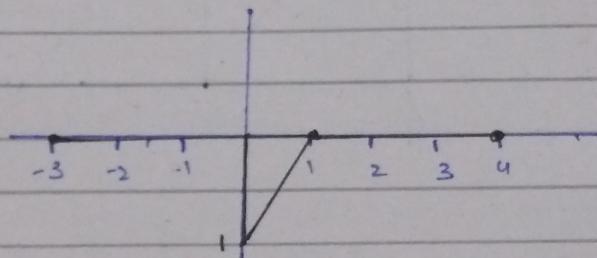


(2)

$$h(t+2)$$



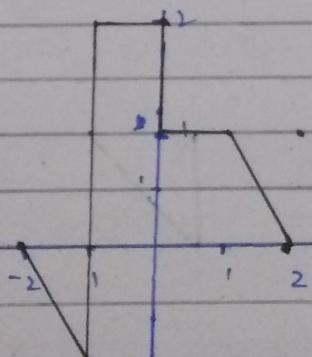
$$x(t-2)h(t+2)$$



$$2: x(t) + h(1-t)$$

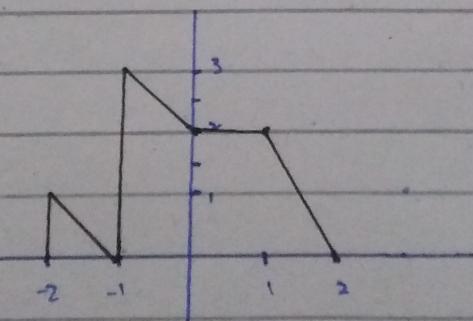
$$h(1-t)$$

Ans



$$x(t) + h(1-t)$$

Ans



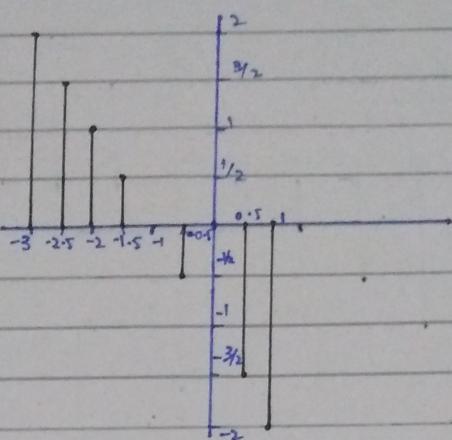
$x$  —————  $\alpha$

(3)

Question #3

$$1: x[-2 - 2_n]$$

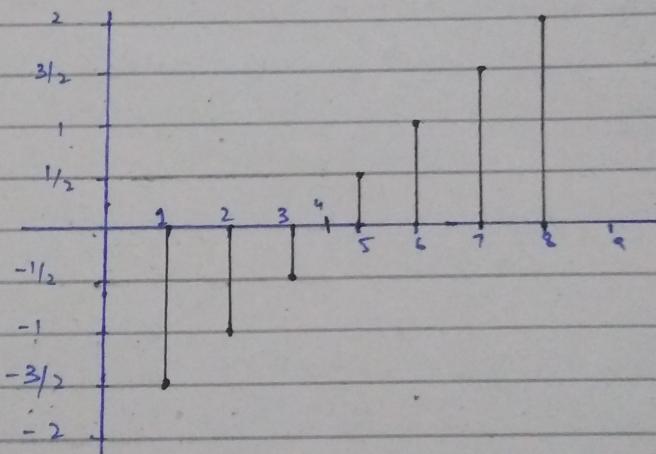
Ans



$$2: x[n-4] \delta[n-1]$$

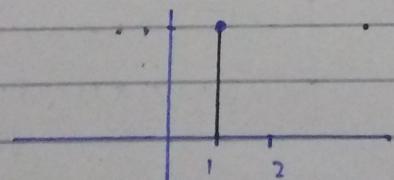
$$x[n-4]$$

Ans



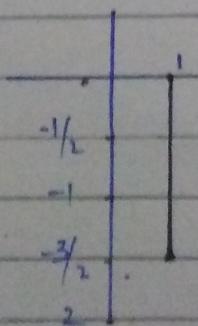
$$\delta[n-1]$$

Ans



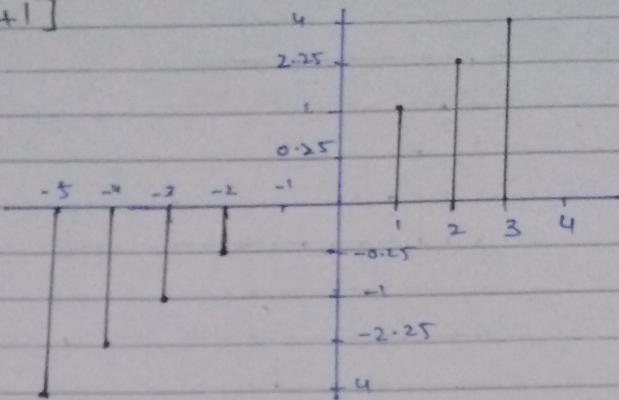
$$x[n-4] \delta[n-1]$$

Ans



(4)

$$3: z[n^2+1]$$

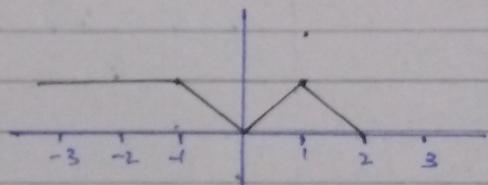
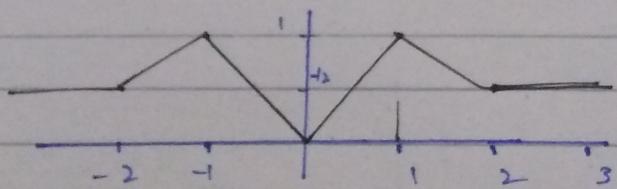
Ans

Question #4

(a) to get even part

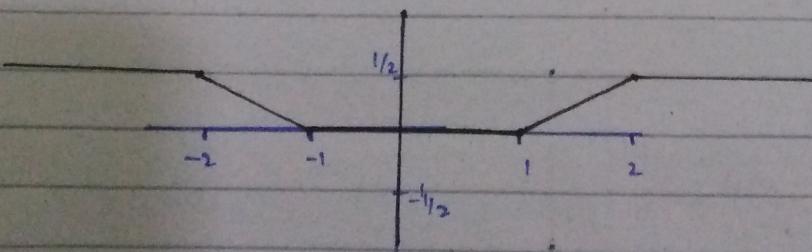
$$\text{Ans } x_{\text{even}}(t) = \frac{1}{2} \{ x(t) + x(-t) \}$$

$$x(-t) = ?$$

x<sub>even(t)</sub>)

odd part of this signal.

$$x_{\text{odd}}(t) = \frac{1}{2} \{ x(t) - x(-t) \}$$



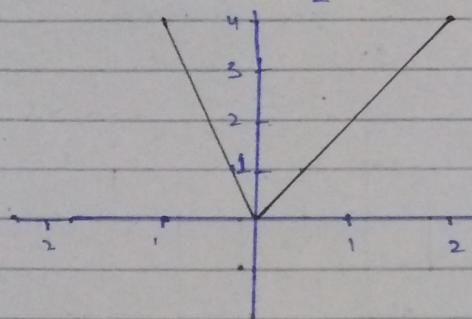
b:

Ans

- to get even part,

$$x_{\text{even}}(t) = \frac{1}{2} \{ x(t) + x(-t) \}$$

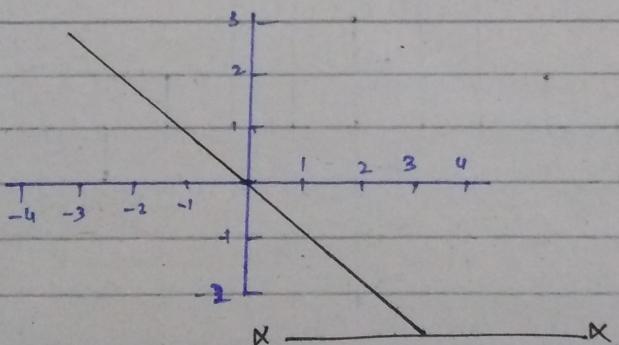
$$= \frac{x(t) + x(2t)}{2} = x \frac{(3t)}{2}$$



odd part of 1tn signal:

$$x_{\text{odd}}(t) = \frac{1}{2} \{ x(t) - x(-t) \}$$

$$= x(-t/2)$$

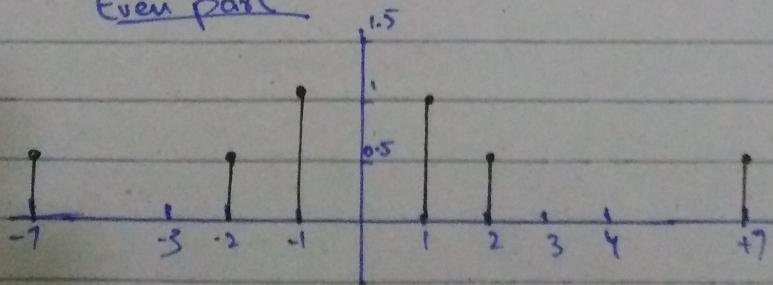


Question #5

E:

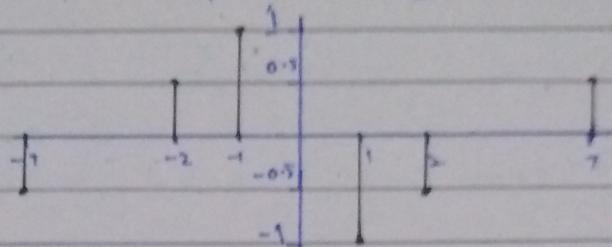
Ans

Even part



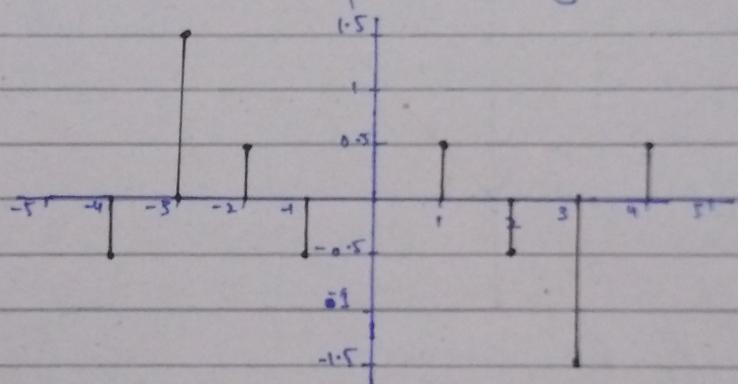
(G)

odd part of the signal

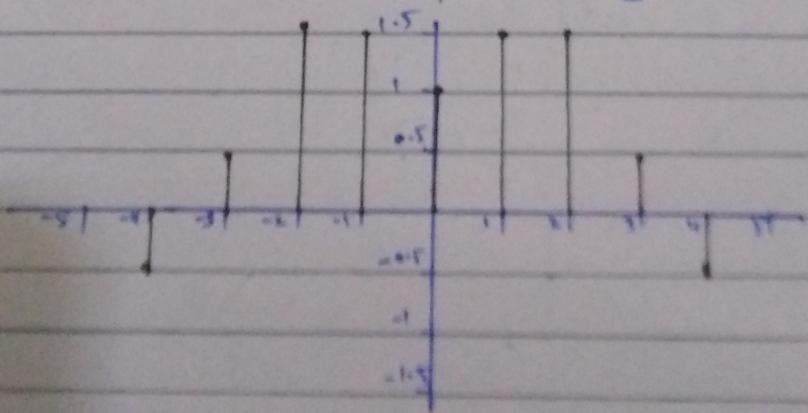


F :

Ans ~~Even~~ odd part. of the signal.



even part of the signal.



\* ————— \* ————— \* ————— \*