

Sheet 1

1- Sketch each of the following special digital sequences:

- (a) $5\delta(n)$
- (b) $-2\delta(n-5)$
- (c) $-5u(n)$
- (d) $5u(n-2)$

2- Calculate the first eight sample values and sketch each of the following sequences:

- (a) $x(n)=0.5^n u(n)$
- (b) $x(n)=5\sin(0.2\pi n)u(n)$

3- Sketch the following sequences:

- (a) $x(n)=2\delta(n+3)-0.5\delta(n+1)-5\delta(n-2)-4\delta(n-5)$
- (b) $x(n)=2\delta(n+2)-2\delta(n+1)+5u(n-3)$

4- A discrete-time signal $x[n]$ is defined as

$$x[n] = [2 \quad 0 \quad 3 \quad 1 \quad 1 \quad -1]$$

Sketch the following:

- a) $x[n-2]$
- b) $x[n/2]$
- c) $x[-2n+3]$
- d) $3x[n-2]\delta[n-4]$
- e) $x[n]u[2-n]$
- f) $x[n^2]$