Lab.1

OBJECT: Introduction to MATLAB. Generate different types of signals and their plot (through matlab code and simulink).

1. **Generate and Plot following Signals on MATLAB.**

- u (t)   unit step signal
- r (t)   Ramp signal [r(t)=t.u(t)]
- sin (2πft)
- cos (2πft)
- sin (2πft) . u(t)
- u (t+1)
- u (t-1)
- sin (2πft) . u(-t)

where t= –2:0.01:2 (-2 to 2 seconds with sampling time 0.01) and f=1 Hz.

Show all results in subplot of matrix 2x4

2. **Generate and Plot following Equations on MATLAB.**

- u (t) – u (t-1)
- sin (2πft) + cos (2πft)
- r (t) – r (t-1) – u (t-2)

where t= –4:0.01:4 (-4 to 4 seconds with sampling time 0.01) and f=1 Hz.

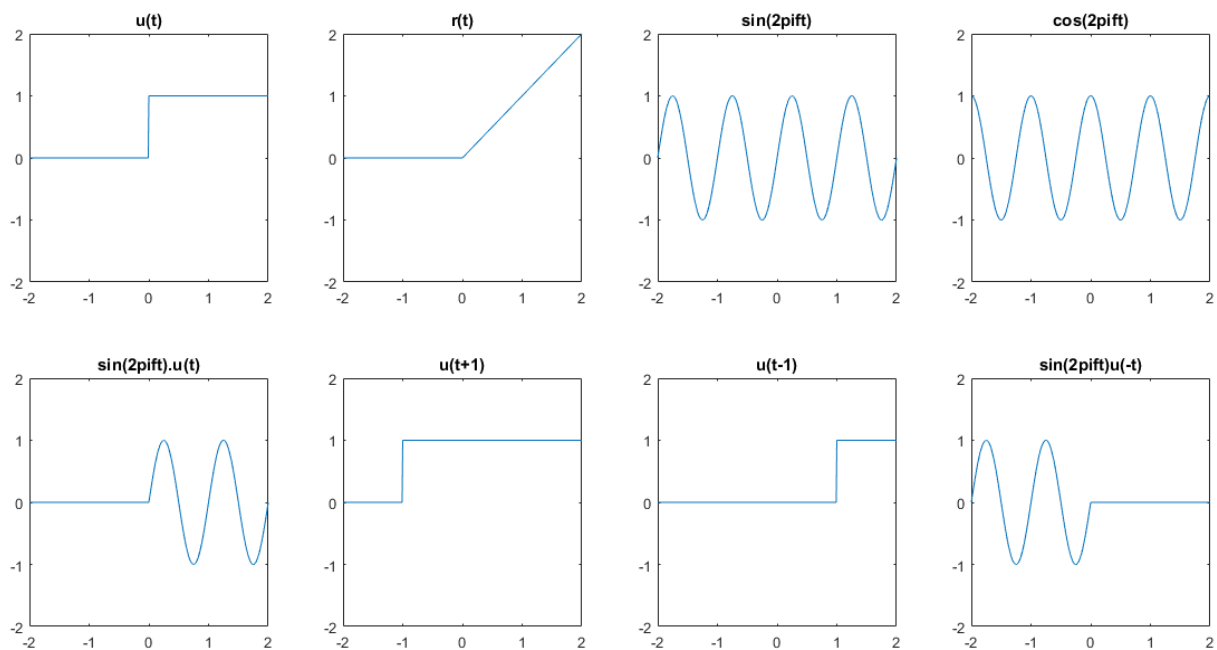## 3. **Generate and Plot X(t), Y(t) and Z(t).**

X(t)= u(t) – r(t-3) + r(t-4)

Y (t)= r(t) – r(t-2) – 2u(t-4)

Z(t)= X(t)+2Y(t)

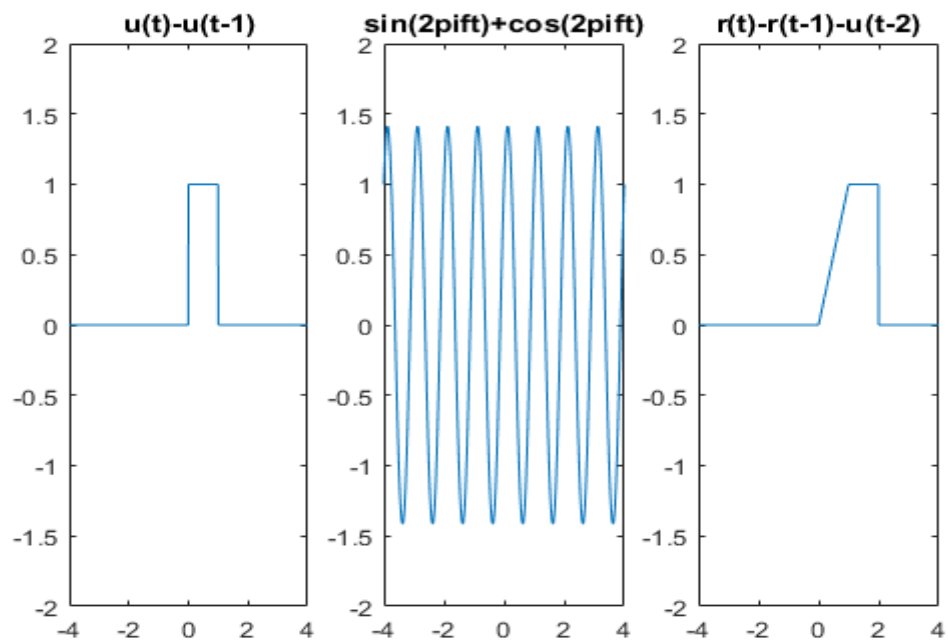where t= -6:0.01:6 (-6 to 6 seconds with sampling time 0.01)

Output Results

1.

2.

3.