-1

1. Determine and sketch the even and odd parts of the signals shown below in Fig.1 and 2.

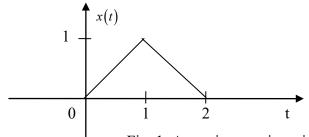


Fig. 1. A continuous-time signal

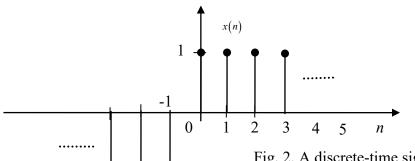


Fig. 2. A discrete-time signal

- 2. Determine the fundamental period of the discrete-time signal given by  $x(n) = e^{j(2\pi/3)n} + e^{j(3\pi/4)n}$
- 3. Develop mathematical model for series RC circuit
- 4. Develop mathematical model for automobile systems
- 5. Develop mathematical model for series RLC circuit as approximation to a physical system
- 6. Develop mathematical model for mass-spring and damper system.
- 7. Develop mathematical model for system as electric motor with load