Assignment-11

Due on 2021-04-25, 09:00 IST.

Exercise-1

Consider a linear time-invariant system with input y[n] and output x[n].

1. Find the transfer function of the system.
2. Find the impulse response of the system.
3. Find the steady-state response of the system to a periodic input.

Exercise-2

Consider a discrete-time system with input x[n] and output y[n].

1. Find the transfer function of the system.
2. Find the impulse response of the system.
3. Find the steady-state response of the system to a periodic input.

Exercise-3

Consider a continuous-time system with input x(t) and output y(t).

1. Find the transfer function of the system.
2. Find the impulse response of the system.
3. Find the steady-state response of the system to a periodic input.

Exercise-4

Consider a nonlinear system with input x[n] and output y[n].

1. Find the transfer function of the system.
2. Find the impulse response of the system.
3. Find the steady-state response of the system to a periodic input.

Exercise-5

Consider a digital filter with input x[n] and output y[n].

1. Find the transfer function of the system.
2. Find the impulse response of the system.
3. Find the steady-state response of the system to a periodic input.