Solution of ECE 315 Test 3 F08

Circle the correct answer for each pair of properties.

1. $y(t) = \sin(x(t))$

   Non-Linear , Static , Stable , Non-Invertible , Time-Invariant

2. $y[n] = \cos(2\pi n / 12)(x[n] + x[n+1])$

   Linear, Dynamic , Stable , Non-Causal , Time-Variant

3. $$y(t) = \begin{cases} 10 \ , & x(t) > 2 \\ 5x(t) \ , & -2 < x(t) \le 2 \\ -10 \ , & x(t) \le -2 \end{cases}$$

   Non-Linear , Static , Stable , Non-Invertible , Time Invariant

4. $$y[n] = \sum_{m=-\infty}^{n+1} x[m]$$

   Linear , Dynamic , Unstable , Non-Causal , Time Invariant

Solution of ECE 315 Test 3 F08

Circle the correct answer for each pair of properties.

1. $y[n] = \cos(2\pi n / 12)\left(x[n] + x[n-1]\right)$

   Linear, Dynamic , Stable , Causal , Time-Variant

2. $$y(t) = \begin{cases} 10 \ , & x(t-1) > 2 \\ 5x(t-1) \ , & -2 < x(t-1) \le 2 \\ -10 \ , & x(t-1) \le -2 \end{cases}$$

   Non-Linear , Dynamic , Stable , Non-Invertible , Time Invariant

3. $y[n] = 10 + \sum_{m=-\infty}^{n-1} x[m]$

   Non-Linear , Dynamic , Unstable , Causal , Time Invariant

4. $y(t) = \sin\left(x(t+1)\right)$

   Non-Linear , Dynamic , Stable , Non-Invertible , Time-Invariant

Solution of ECE 315 Test 3 F08

Circle the correct answer for each pair of properties.

1. $$y(t)=\begin{cases}10\ ,\ x(t+1)>2\\ 5x(t+1)\ ,\ -2<x(t+1)\le 2\\ -10\ ,\ x(t+1)\le -2\end{cases}$$

   Non-Linear , Dynamic , Stable , Non-Causal , Time Invariant

2. $$y[n]=\sum_{m=-\infty}^{n} x[m]$$

   Linear , Dynamic , Unstable , Causal , Time Invariant

3. $$y(t)=\sin(x(t))$$

   Non-Linear , Static , Stable , Non-Invertible , Time-Invariant

4. $$y[n]=\cos(2\pi n/12)(x[n]+x[n+1])$$

   Linear, Dynamic , Stable , Non-Causal , Time-Variant