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**EC 8352 Signals and Systems**

**Important 2mark questions**

**Unit I**

1. Give the mathematical and graphical representations of a discrete time ramp sequence.
2. Check whether the following system is Time Invariant/ Time variant and also casual/non casual:  $Y(t) = x\left(\frac{t}{3}\right)$ .
3. Define a linear system.

**Unit II**

1. State Dirichlet's conditions.
2. Find the Fourier transform of  $x(t) = e^{-at}u(t)$ .
3. State Parseval's theorem for a continuous time aperiodic signal.

**Unit III**

1. If the system function  $H(s) = 4 - \frac{3}{s+2}$ ;  $Re(s) > -2$ , find the impulse response  $h(t)$ .
2. Will there be two different signals having same Laplace transform? Give an example. How do you differentiate these two signals?
3. Give the expression for convolution integral.

**Unit IV**

1. List the ROC properties of Laplace transform.
2. Find the Z transform of a sequence  $x[n] = \cos(n\omega T)u[n]$ .
3. What is the Z transform of a unit step sequence?

**Unit V**

1. Write the condition for stability of a DT-LTI system with respect to the position of poles.
2. Realize the difference equation  $y[n] = x[n] - 3x[n - 1]$  in direct form I.
3. What is the difference between recursive and nonrecursive systems?