Haldia Institute of Technology	
Subject:-B.Tech in ECE	
Assignment – I	3rd sem.
Paper Name: SIGNALS AND SYSTEMS	Paper Code: EC303

1.(a) Determine whether the given signal is Energy signal or power signal $x(t) = \sin\left(\frac{\pi}{3}n\right)$. [CO1]

(b)Determine whether the given signal is Linear or not. $y(n) = 2x(n) + \frac{1}{x(n-1)}$ [CO2]

2. Find out the energy and power of the signal

x(t)=$3e^{-2t}$u(t) [CO1]

3.What is Impulse response? Show that the response of an LTI system is the convolution integral of its impulse response with input signal. [CO1]

4.State the relation between step, ramp and delta functions (CT). [CO1]

5. Determine whether the given system is Linear, Time invariant, Stable and Causal. $y(n)=x^2(n)$ [CO2]

6.Determine the signal periodic or not.

x(t)=2(cos πt)+7 (cos t) .[CO1]

7. Draw the waveform of x(t) = u(t)+r(t)-2r(t-1). [CO1]

8.Write short notes on i)Parsevals Theorem

ii)Energy signal and Power Signal

` [CO1]