

**Department of Electronics and Communication Engineering**

**SUBJECT: SATT (PC303 EC)**

**ASSIGNMENT-II**

1. Write the properties of convolution.
2. Perform the convolution between two signals x(n)={1,2,1,2} and h(n)={2,0,2,0}.
3. Perform the convolution of the continuous signals using graphical method.

 x1(t)=e-2t u(t) and x2(t)=t u(t)

1. Find inverse Z-transform of X(Z)= $\frac{1+Z^{-1}}{1-(\frac{1}{3})Z^{-1}}$ if ROC |Z| > 1/3 .
2. Consider a causal discrete-time system whose output y(n) and input x(n) are related

 by $y\left(n\right)-\frac{5}{6}$ y(n-1)+$\frac{1}{6}y\left(n-2\right)=x\left(n\right)$

 i)Find its transfer function H(z).

 ii) Find its impulse response h(n).

1. Determine the response of the LTI system whose input x(n) and impulse response h(n) are given by, x(n)={1,2,3,-1} and h(n)={2,1,-1,2}
2. Write short notes on Stability and causality of the system.
3. Write short notes on Time shifting and scaling operations of discrete time sequences.

**Note**: Last date for submission of assignment-I is 28-10-2018