**EXPERIMENT 7 Laplace Transform**

**DATE:**

1. Given a rational polynomial (transfer function) H(s) = B(s)/A(s). Write a program to create a continuous time causal system transfer function H(s) in MATLAB, find poles and zeros of this transfer function, find stability of the system, sketch pole-zero. Plot unit impulse and unit step response of the systems. Also, obtain residues to expand it using partial fraction. Use proper inbuilt functions. (‘tf’ , ‘tf2zp’ , ‘isstable’, ‘pzmap’ or ‘pzplot’, ‘impulse’, ‘step’, ’residue’). Verify theoretically.
2. H(s)= (s+5)/(s2+4s+3)
3. H(s)= s/( s2-4s+3)
4. H(s)= (s+1)/(s2+s+1)
5. H(s)= s/(s2+4s+4)
6. H(s)=(s+1)/(s2+ 1)