**EXPERIMENT 8 Z Transform**

**DATE:**

1. Given a rational polynomial (transfer function) H(z) = B(z)/A(z) which represents discrete time causal LTI system. Write a program to find poles and zeros of this transfer function, find stability of the system, sketch pole-zero plot, plot unit impulse and unit step response of the systems. Also, obtain residues to expand it using partial fraction. Use proper inbuilt functions. ( ‘tf2zpk’ , ‘isstable’, ‘zplane’, ‘impz’, ‘stepz’ ’residuez’). Verify theoretically.
2. H(z)= 1/(1+z-1)
3. H(z)= (1+3z-1)/( 1+3z-1+2z-2)
4. H(z)= (z-6+z-7)/(1-z-1)
5. H(z)= (1+2z-2)/(1+z-2)
6. H(z)=1/(1-z-1+0.5z-2)