**Registration#\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

University of Engineering & Technology Lahore, FSD Campus

Experiment # 5

Title: Inverse z-transform

Equipment Required: Personal computer (PC) with windows operating system and MATLAB software

**Task 1**

**Questions**

1. Find inverse Z-transform of H(z) on paper. Find all poles and zeros and draw them in z-plane.
2. Find inverse Z-transform of H(z) using MATLAB. Plot all poles and zeros in z-plane using MATLAB. Read the help topics on the following functions:
3. roots **b)** residuez **c)** zplane
4. Substitute in the expression above and calculate its Fourier transform H() on paper. Plot the response using MATLAB. Based on the shape of it’s response, what kind of a system do you think it is (stable or not)?

**Task 2**

1. Compute the inverse z transform using “residuez” function and verify result using MATLAB.