

**MAWLANA BHASHANI SCIENCE AND TECHNOLOGY
UNIVERSITY**



DEPARTMENT OF ICT

Lab Report No : 05

Course Code : ICT-4206

Course Title : Digital Signal Processing Lab

Lab Report name : Calculate and plot Z-transform of a signal

Submitted by

Md. Faruk Hosen

ID : IT-17035

Session : 2016-2017

Year : 4th Semester : 2nd

Submitted to

Dr. Monir Morshed

Professor,

Department of ICT, MBSTU

Santosh, Tangail-1902

Date of Submission : 24 August 2022

Experiment No: 5

Experiment name: Calculate and plot Z-transform of a signal.

Objectives: Through this experiment we will learn how to calculate and plot Z-transform of a given signal.

Z-transform:

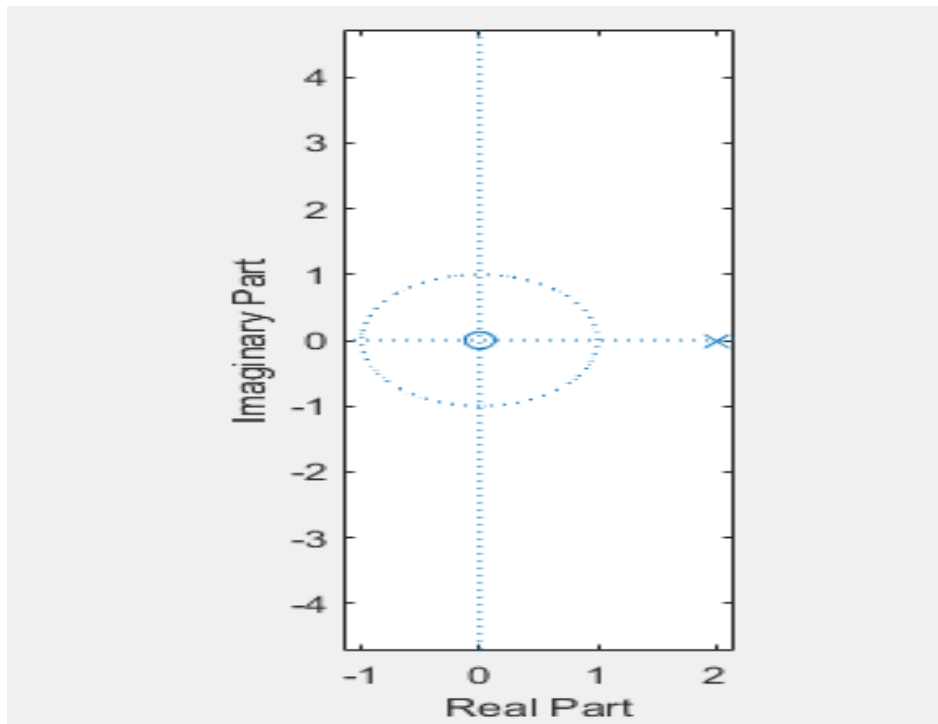
Corresponding code:

```
clc ;  
close all;  
syms n;  
a=2;  
x=1+n;  
X=ztrans(x); %finding z transform  
disp('z tranform of 1+n');  
disp(X);  
subplot(1,3,1);  
zplane([1 0],[1 -2]);
```

Output:

z tranform of 1+n

$$z/(z - 1) + z/(z - 1)^2$$



Discussion: After completing this experiment, we have learnt, about how to calculate and plot Z-transform of a signal.