

Experiment No. 2

Title: Implementation of transfer function of system using MATLAB

Objectives:

1. To find transfer function of system using MATLAB.
2. To find poles, zeroes and gain of system from its transfer function.
3. To visualize the poles and zeroes on s -plane.

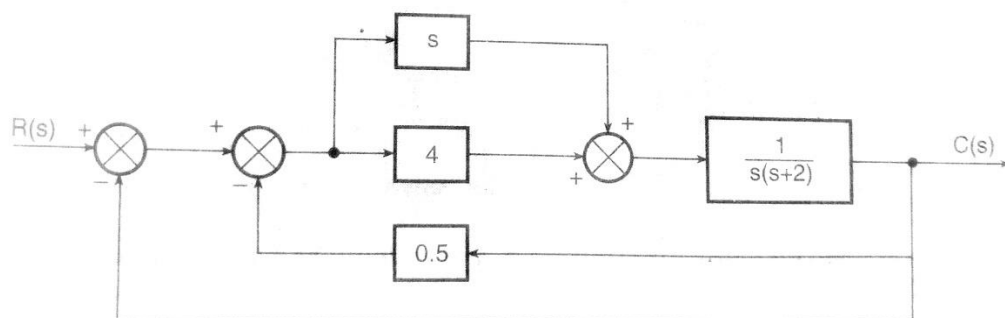
MATLAB:

1. Write a MATLAB program to generate the transfer function, find zeroes, poles and gain and plot poles and zeroes in s -plane for the following systems. (Hint: use MATLAB functions `tf`, `tf2zp` and `pzmap`).

i) $G(s) = \frac{2}{0.1s+1}$

ii) $G(s) = \frac{16}{s^2+4s+16}$

2. Write a MATLAB program to find the transfer functions of the following systems described by its poles, zeroes and gain. (Hint: use MATLAB function `zp2tf`).
3. Write a MATLAB program to obtain close-loop transfer function using block diagram reduction method for the system shown in figure below. (Hint: use MATLAB functions `parallel`, `series`, `cloop`, `feedback` and `printsys`).



4. List and explain new MATLAB functions used to perform tasks mentioned in Q.1, Q.2 and Q.3.

Conclusion: (Hint: write a brief note of tasks performed in this experiment)