Assignment - 04

1.)

a.) $$G(s) = \frac{1}{s^2 + 3s + 2}$$

Sample rate = 10 Hz, Time - sampling = 0.1s

Please check the matlab code & comments

b.) Please check the matlab code & comments

c.) Inference :- by looking at the transfer function by system & c&a analysis, it is seen that both are almost similar & the error approximate between those two is small.

d.) Matlab code & Plot.

2.)

a.) Please find the cutter correlation graph. The parameters are correlated with the correlation-max being 0.7505.($\approx$1)

So. the data are correlated and there is a kind of shift in the graph.

b.). I used "poly fit" for predicting the model. The data was split into 75% training set and 25% testing set.

I got the lowest SSE for Polynomial order 1, so choosing the best fit as order 1 and coefficients are

$$fit = [0.5339 \quad 2.6572]$$

$$P(x) = 2.6572 + 0.5339 \, x$$

Please refer matlab code & comments.

c.) The predicted economic growth for 2015 is 2.390228.