Report Format ECE410-Lab2

Cover page:
-Title and Course number
-Names and Student numbers
-Lab date
-Submission Date

Note:
-Only one report per group,
-Both hand-written and typed reports are acceptable,
-Please don't use a lab book for the report,
-The lab report is due 2 weeks after your lab session.

1-Introduction and a brief explanation of the "lag controller" and "velocity error constant".

2-Controller Design:

The value of K satisfying $|v(t)|<5$:	
Velocity Error Constant of $K.G(s)$:	
Crossover Frequency of $K.G(s)$:	
PM at the crossover frequency:	
Modified Crossover Frequency (Where PM is 45 degrees):	
Attenuation gain of the lag (K_1):	
Zero of the Lag (z):	
Pole of the Lag (p):	
Lag compensator transfer function: $C_1(s) = K_1.(s+z)/(s+p)$	

(Note1: $G(s)$ is the open loop transfer function from $v(t)$ to $\theta(t)$.)
(Note2: The complete controller is: $C(s) = K.C_1(s)$)

3- DC Motor Response

3.1- Step Response:

Closed loop step response graph
"Position Output $y(t)$"
(Reference, Real data, and
Simulated data)

Closed loop step response graph
"Control Signal $v(t)$"
(Real data and Simulated data)

3.2- Ramp Response:

Closed loop ramp response graph
"Position Output $y(t)$"
(Reference, Real data, and
Simulated data)

Closed loop ramp response graph
"Control Signal $v(t)$"
(Real data and Simulated data)

4- Summary and Conclusion, Answers to the questions: