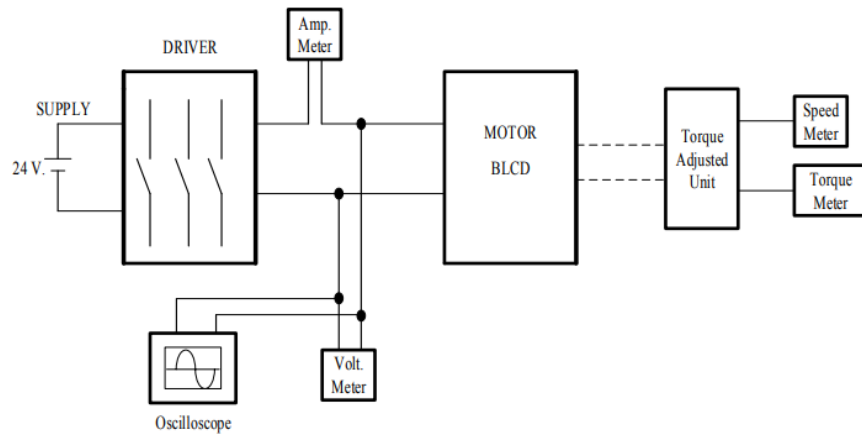


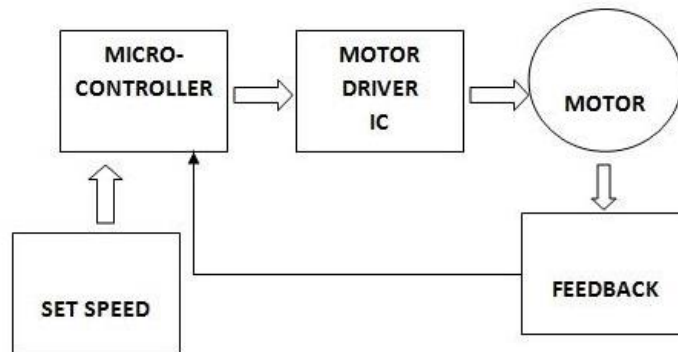
ELG4157 Modern Control Engineering: Midterm 2 March 27, 2018

Name:

Number:



All high performance motor drives use optical quadrature encoders and PID control because of its simplicity and precise control.



The PID controller uses a feedback loop, which controls a parameter of the system called the process variable, which is supposed to match the desired output.

Q1/3

Design a robust control system to improve the transient response of the system.

Q2/2 Physically **realize** the controller

Q3/3 **Digitize** the active controller only: $G_c(s)$ to $D(z)$

Q4/2

Codify the digitized controller $D(z)$: Write the code for $D(z)$: Look for Arduino PID library.