**Electrical design**

The design for the electrical circuit and simulation was done on Proteus because it was user friendly and suited our project needs.

**Achievements**

* Successfully controlled the feed rates and cutting speeds using feedbacks from the vibration, force and temperature sensor.
* Able to monitor the input and output parameters in real time using a Virtual Serial Monitor.
* Programmed our Arduino UNO microcontroller on Arduino software which would then control our process.

**Challenges**

* The virtual monitor delayed to display the data on the start of the simulation as the input parameters were altered.
* Running the stepper motor at higher speeds results to the motor wobbling.