Appendix B (CODE)

**Code 1 for P=3**

float x;

void setup(){

pinMode(8, OUTPUT);

pinMode(7, OUTPUT);

Serial.begin(9600);

}

void loop(){

int val = analogRead(0);

x = map(val, 0, 1023,200, 10);

Serial.print(x);

digitalWrite(8, HIGH);

delayMicroseconds(30\*x);

digitalWrite(8, LOW);

delayMicroseconds(10\*x);

digitalWrite(8, HIGH);

delayMicroseconds(50\*x);

digitalWrite(8, LOW);

delayMicroseconds(10\*x);

digitalWrite(8, HIGH);

delayMicroseconds(30\*x);

digitalWrite(8, LOW);

//......

digitalWrite(7, HIGH);

delayMicroseconds(30\*x);

digitalWrite(7, LOW);

delayMicroseconds(10\*x);

digitalWrite(7, HIGH);

delayMicroseconds(50\*x);

digitalWrite(7, LOW);

delayMicroseconds(10\*x);

digitalWrite(7, HIGH);

delayMicroseconds(30\*x);

digitalWrite(7, LOW);

}

**Code 2 for P=7**

float x;

float y;

void setup(){

pinMode(8, OUTPUT);

pinMode(9, OUTPUT);

}

void loop(){

int freqread = analogRead(0);

int voltread = analogRead(1);

x = map(freqread, 0, 1023,200, 1);

y = map(voltread, 0, 1023,0, 100);

digitalWrite(8, HIGH);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, HIGH);

delayMicroseconds((15\*x)-((15\*x\*y)/100));

digitalWrite(8, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, HIGH);

delayMicroseconds((25\*x)-((25\*x\*y)/100));

digitalWrite(8, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, HIGH);

delayMicroseconds((40\*x)-((40\*x\*y)/100));

digitalWrite(8, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, HIGH);

delayMicroseconds((25\*x)-((25\*x\*y)/100));

digitalWrite(8, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, HIGH);

delayMicroseconds((15\*x)-((15\*x\*y)/100));

digitalWrite(8, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, HIGH);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(8, LOW);

//......

digitalWrite(9, HIGH);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, HIGH);

delayMicroseconds((15\*x)-((15\*x\*y)/100));

digitalWrite(9, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, HIGH);

delayMicroseconds((25\*x)-((25\*x\*y)/100));

digitalWrite(9, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, HIGH);

delayMicroseconds((40\*x)-((40\*x\*y)/100));

digitalWrite(9, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, HIGH);

delayMicroseconds((25\*x)-((25\*x\*y)/100));

digitalWrite(9, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, HIGH);

delayMicroseconds((15\*x)-((15\*x\*y)/100));

digitalWrite(9, LOW);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, HIGH);

delayMicroseconds((10\*x)-((10\*x\*y)/100));

digitalWrite(9, LOW);

}