EE344
Electronic Design Lab
Lab Report
TUE-JJ-9-1

Mayur Ware, 19D070070
Siddhant Shingade, 19D070057
Rushikesh Metkar, 19D070034

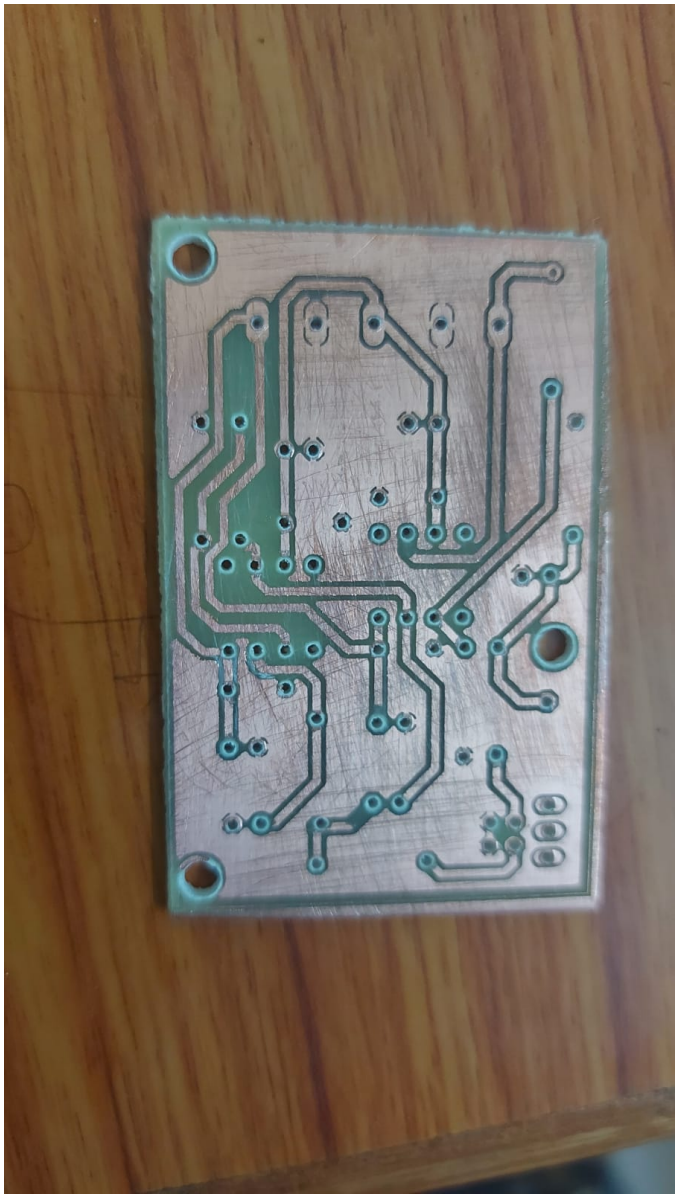
March 28, 2022

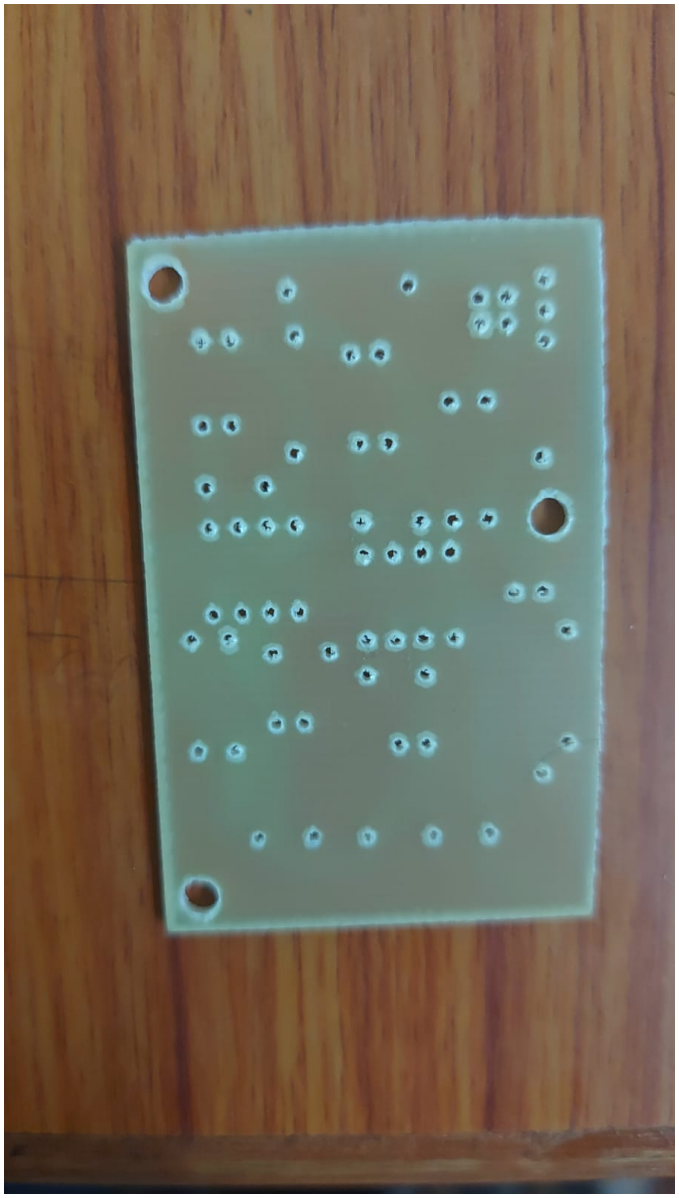
.

Printed circuit Board

Today we got our Printed Circuit Board from the PCB lab. We thoroughly checked it ensuring that there is no shortening between nodes.

After checking for it's correctness, we completed the procedure of finalising our circuit for the purpose of soldering. We aim to complete the procedure of soldering before the next lab session.





Some Changes and LCD interfacing

1) We reduced the cut off frequency of the sallen-key filter to 10 Hz.
2) At cutoff frequency 40 Hz we got peak to peak of 8.5mV and at 10 Hz it got reduced to 5 mV.
3) We began the process of interfacing of the LCD to the arduino and completed the circuit.

.

Given below is the **code for the interfacing**.

```
include < LiquidCrystal.h >
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
const int sensor=A5; // Assigning analog pin A5 to variable 'sensor'
float tempc; //variable to store temperature in degree Celsius
float tempcir;
float vout; //temporary variable to hold sensor reading
int valfromcircuit=0;
void setup() { pinMode(sensor,INPUT); // Configuring sensor pin as input
pinMode(A0,INPUT);
Serial.begin(9600);
lcd.begin(16, 2); // set up number of columns and rows
lcd.setCursor(0, 0); // move cursor to (0, 0)
void loop() {
vout=analogRead(sensor); //Reading the value from sensor
valfromcircuit=analogRead(A0);
Serial.print(vout);
Serial.print(" ");
Serial.print(valfromcircuit);
vout=(vout*500)/1023;
valfromcircuit=(valfromcircuit * 5.00)/1023.00;
tempc=vout; // Storing value in Degree Celsius
tempcir=-0.5964*valfromcircuit*valfromcircuit + 14.834*valfromcircuit + 36.350;
Serial.print("in DegreeC=");
Serial.print("^");
Serial.print(tempc);
Serial.println();
delay(500);//Delay of 1 second for ease of viewing
lcd.setCursor(0, 0); // move cursor to (0, 0)
lcd.print("Temp from LM35 " + String(tempc));
lcd.setCursor(2, 1); // move cursor to (2, 1)
lcd.print(String(tempcir) + String(" deg C"));
```