

Scintilla Session 2 Electronic Basics

26-09-2019

Abstract

Session 2 of scintilla was held on 26th of September 2019. The session was held at Electronics workshop. Staff-in-charge Vinod G and Lab instructor Sabarinath P made the event graceful with their presence. The full team of Scintilla and other Elacsta members endeavoured to make the event a success.

1 Objectives of the Session

The session was conducted with two major objectives. The former objective is to give a brief introductions to fundamental components of electronics like resistors, capacitors and diodes. The second objective is to introduce our first year students to good soldering practices. Like always we also strives to enhance the aptitude of pupils towards electronics with these session.

2 Participation

List of Participants

No. of First year attendees: 32
No. of Second year attendees: 6
No. of Third year attendees: 3
No. of Fourth year attendees: 0

Total No. of attendees: 41

3 Technical Details

3.1 Capacitive Dropper Supply

A cap dropper circuit is a type of transformerless power supply, converting AC mains input to a much lower voltage output for low-power components without the cost and bulk of a transformer. One major disadvantage of a cap dropper is the lack of galvanic isolation. So keep in mind that you should not touch any part of the circuit while powered on.

3.2 Schematic and PCB

Schematic was done on open source cloud platform easyEDA. No PCB file was created. Instead attendees were encouraged to realize the circuit on general purpose PCBs. The files are readily available at: <https://easyeda.com/SCINTILLA01/capacitive-dropper-for-mains-powered-led>

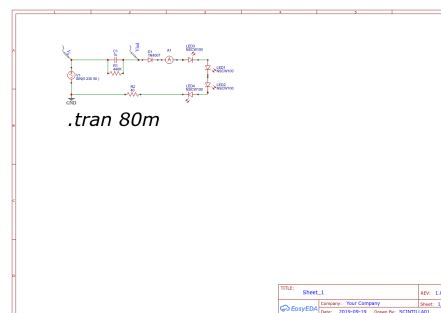


Figure 1: Schematic

4 Images

These are the pictures captured during the session.



Figure 2: Different Stages of circuit making



Figure 3: Soldering



Figure 4: Poster of the session

5 Conclusions and Suggestions

The session was an improvement from session 1. Coordinators exhibited better time management than previous session. Attendees were able to be more involved the various process of circuit making this time. Attendees were unable to grasp the orator completely. So next session should concentrate on delivering information as simple as possible.