

Experiment No.2: Breadboarding, Soldering, and Circuit Housing

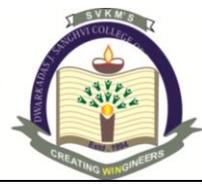
<p>Objective:</p>	<p>To develop hands-on skills in component identification, circuit schematic interpretation, breadboarding, soldering, and circuit housing through a structured learning approach.</p>
<p>Outcome:</p>	<ul style="list-style-type: none"> Learners identify and differentiate resistor and capacitor values and types, as well as recognize and utilize an LSI IC (e.g., IC 555). They assemble a 555 timer-based astable multivibrator circuit on a breadboard with a known oscillation frequency. Learners apply soldering techniques by mounting and soldering the evaluated circuit onto a general-purpose PCB and verifying its functionality. A CAD file (.stl format) for the circuit housing is processed into a .gcode file using slicer software, followed by 3D printing of the housing. The circuit is securely mounted within the housing using basic workshop techniques, including cutting, smoothing with a flat file, and fixing components with self-threading screws
<p>Tasks Problem Statement, Procedure, Observation, Discussion, and Report</p>	<p>Mount the schematic circuit below on the bread-board and after supervisors' permission power with 5 V to observe the LED blink. Refer to this introductory video, Lab Experiment Two Activity 1 for detailed and needful instructions and complete the activity_1:</p> <p>Activity 2: Following soldering practice, solder the mounted circuit on general purpose bread-board style PCB and observe the LED blinking following application of 5V power. Refer to this introductory video, Lab Experiment Two Activity 2 for detailed and needful instructions and complete the activity 1</p>



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	<p>Activity 3: to be decided</p> <p>Activity 4: to be decided</p>
<p>Co ncl usi ons :</p>	<hr/>