

3R KIT – ANALOG CIRCUIT TRAINER

A Research Report

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ABSTRACT

The 3R Kit – Analog Circuit Trainer was designed based on the requirement in basic electrical circuit experiment in the Physics Laboratory. It is a low – cost circuit trainer that is locally made and the component are locally available. This trainer has four main different components, the power supply 1.25 – 6V, Voltmeter bank, Ammeter bank, and the Resistor bank. The supply that runs the circuit is an IC type voltage regulator with an over current circuit protection with a maximum load current of 2A. The resistor bank is composed of 5 – watt wire wound resistor and three variable resistors that range from 100 ohms to 600 ohms 1 watt carbon composition resistor at 100 ohms increment. Based on the results of test and evaluation, all percentage of difference obtained from six different tests did not exceed to the maximum allowable tolerance value of $\pm 5\%$ and therefore this trainer met the requirement for the electric circuit experiments.