

Kata kunci :Pembangkitenergilistrik, induksielektromagnetik, generator DC, GGL, Lat Pull Down

ABSTRACT

Technology in the world of electronics is growing in this modern era impact on the increasing demand for electric power from consumers. High demand can not be matched by national electricity production only concentrate on a relatively common plant like hydro, power plant and power plants that use unrenowable energy as the main ingredient. Many things in daily life that actually can replace the non-renewable energy to generate electricity, such as fitness equipment. Each person will expend great energy to drive fitness tool and it is utilized to serve the power plant.

Humans can produce the mechanical energy when moving the fitness equipment. The resulting mechanical energy is converted into electrical energy. Rope load on the device will be connected to a DC generator that would produce electrical energy and stored in the battery. DC generator uses the principle of electromagnetic induction. Electromagnetic induction is the change in magnetic flux over time, will cause GGL Faraday law suits. By using a facility for generating electric energy is expected to help increase the amount of electrical energy production. .

On the experiment phase, this equiptment can produce generator voltage between 1,5 V – 4,2 V. And then the voltage will be boost using boost converter and will produce stable voltage 13,5 V which used to charge battery. If this equiptment used for minimal 15 minutes, the battery will be 80 % charge from maximum capacity and it will be able to turn on a 10 Watt lamp for 265s – 635s. When being used, this machine can turn on the light and charge battery at the same time, but it needed time over 200 minutes to reach 80 % of battery capacity.

Keywords: *Power plants,bicycles, DC generators, BatteryControlUnit.*