



HYDRO-ELECTRIC CHARGER

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## DECLARATION

We declare that the work in this report is our own research excepts as cited in the references. The report has not been accepted for any diploma and is not currently submitted for any other diploma.

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## **ABSTRACT**

For this project, a hydro-electric charger has been created. This project is used to generate energy and charge the 12V rechargeable lead acid battery that used. This application is used in home because when the users use water to wash the dish at the kitchen, the water will firstly go through the turbine and rotate the turbine. As the turbine rotate, it will also rotate the generator and from there, electricity is generated. Because of the low electricity that generated, a booster circuit have been used to boost the output voltage from 4V-6V to 12V from the generator used. Before the voltage output from the generator entered and charged the 12V rechargeable lead acid battery, it will firstly go through a charging controller circuit to avoid the battery from overcharged. From the battery, there will be two outputs that can be used and the outputs are an automatic lamp and an Universal Serial Bus (USB) circuit that can be use to charge mobile phone. The automatic lamp used a Light Dependant Resistor (LDR) to detect light and the lamp will turn off whenever its detect light and turn on when there is a light. The USB circuit used a 7805 voltage regulator to regulate the 12V input from the battery to 5V and go through the USB's hub.

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