VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM - 590014

A KSCST SPONSORED

PROJECT ON

"DESIGN AND FABRICATION OF PICO HYDROELECTRIC POWER PLANT"

Submitted By,

SAMARTH S GANGA	**4JN09ME080**
SHREYAS S GUJJAR	**4JN09ME094**
SWAGATH N S	**4JN09ME103**

Under the guidance of

Mr. C. MANJUNATH.

Associate professor,

Department of Mechanical Engineering,

J.N.N.C.E. Shivamogga.

Department of Mechanical Engineering

JAWAHARLAL NEHRU NATIONAL COLLEGE OF ENGINEERING

SHIVAMOGGA – 577204

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ABSTRACT

Electrical Energy is one of the most important needs of human life, we needelectrical energy in every walk of our life. Hydro, solar and thermal energy are the important sources of electrical energy. During last few decades increasing population, depleting sources created hunger for electrical energy. There is an immediate need to find alternate sources of energy in order to meet the increasing demand, among all the available alternatives, Pico hydro power plants are the most efficient and eco-friendly and hence the best suited for the application.

Pico power plants are the best suited for applications inremote places where it is difficult to supply energy from main grid, the project is intended to develop a system which can be used for such off grid applications.

There are already few power plants which are installed, most of them are employing Pelton wheel for the purpose of power generation. The main draw back with these power plants is that Pelton wheels have low efficiency at low heads. This project is intended to get best of the available energy by making use of propeller turbine, which is best suited for low head and high discharge applications.

The fabricated pico power plant is very easy to install and maintain, the requirements for the installation are very less.The provisionis made in such a way that the system can be directly connected to water stream using a hose pipe, which is used as pen stock. Another advantage of the system is that, at required discharge the unit can give 1440 RPM, this RPM is best suited for commercially available alternator, and this avoids the usage ofgear reduction.