VISVESVARAYA TECHNOLOGICAL UNIVERSITY

BELGAUM – 590 014

A PROJECT REPORT ON

"MODIFICATION OF EVACUATED TUBE SOLAR COOKER"

Submitted to Visvesvaraya Technological University in partial fulfillment of the requirement for the award of the degree of Bachelor of Engineering
In
MECHANICAL ENGINEERING

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ABSTRACT

Conventional energy resource is exhaustible in nature. This concern has let for a search of an alternate energy resource. Solar energy is an energy resource which is inexhaustible and readily available at zero cost. Solar energy is has been put into use for various applications like cooking, drying, lighting, water heating etc,. Solar cookers have satisfactorily met it purpose to cook food using solar energy.

The present project has been carried out in line of improving its performance like reducing the time for cooking, storage of heat to be used when sun goes off.

The project deals with modification, fabrication and performance evaluation of a solar cooker with evacuated tubes filled with thermic fluid (low specific heat) as a medium for absorbing the solar energy, with concentrating parabolic reflectors on either side of the tubes.

The experiment was carried out for different percentage composition of thermic fluid (ethylene glycol) and water. The readings obtained are compared and calculation has been done for both actual and theoretical efficiencies and graph is plotted. The time taken by the mixture (ethylene glycol+water) to reach 100 ° C is 246mins.