

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY
BELGAUM**



A Project Report On

***"DESIGN & DEVELOPMENT OF LOW COST SOLAR POWERED
MULTIPURPOSE DOMESTIC DESIRE MACHINE"***

(SPONCERED BY KSCST AND BEST PROJECT OF THE YEAR 2014)

***A project report submitted in partial fulfillment of requirement of 8th semester
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ABSTRACT

Idea to develop of Domestic Desire machine is come from the real domestic problem that gives a task and a title for this project. This project focuses in design, fabrication of the mechanical part of machine and the system of the Domestic Desire machine. To achieve this project objective, this Domestic Desire machine body structure and mechanical system needs to concern some other criteria such as strength, safety and ergonomic design. This project flow must start from design, analysis, and lastly fabrication process before develop the Domestic Desire machine, it must compare with other product in market. It is because to study the customer need and to create a new design with new feature. This is also one of opportunity to student to show or to apply their knowledge also skill in using manufacturing process and mechanical design software in complete this project. Time management and a good planning also important to make sure the entire plan are in their way. Lastly, discipline needed to complete this project.

This Project mechanism was designed for specific performance of exercise, automatic motion of cradle, food grain filtration of different sizes and shapes by using **solar energy**. Also by this project we get light source in night. By this exercise increases oxygenation of blood and cell metabolism by giving the left & right swinging movement from toe to head like goldfish swimming. It is respiratory oxygen process for 15 minutes is equal to 10,000 s of brisk walk and 8 km in terms of benefit to improve health The three dimensional conceptual model has developed first in CATIA V5. Later kinematics motions were verified using CATIA and also using ADAMS software. By using the ADAMS, the dynamic parameters of three-body vibrating mechanism are analyzed and the simple finite element model is established on the basis of these parameters in ANSYS. The main focus of this project is to analyses behavior of mechanism in diffident loading conditions and also results are verified by manual equations to work for different objectives.

A good design of mechanism must be effective. The mechanism shall not only be work effectively but also must be reliable in its strength and durability yet not over-design. In order to optimize analysis for exercise mechanism, first we need to simulate the Multibody dynamics analysis for load and stress predictions.

Key Words: CAD, Finite Element Analysis, Multibody dynamic analysis, Swing Mechanism, ADAMS.