

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590018



Mini Project Report on

**“DESIGN AND POTABLE MANUAL ARECA NUT
PEELING MACHINE”**

Submitted in partial fulfillment of the requirements for the award of degree

**BACHELOR OF ENGINEERING
IN
MECHANICAL ENGINEERING**

Submitted By

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**Under the Guidance of
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Designation

Department of MECHANICAL Engineering



**DEPARTMENT OF MECHANICAL ENGINEERING
ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY**

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MOODBIDRI – 574 225.

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ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

This is to certify that the following students,

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has submitted Project synopsis on **"DESIGN AND PORTABEL MANUVAL ARECA NUT MACHINE"** for VI Semester B.E. in mechanical Engineering during the academic year 2023-24. The mini project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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Mini Project Guide

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CHAPTER 1

ABSTRACT

Areca nut is one of leading agricultural commodity in Indonesia. The economic prospect of Betel Nut could support financially the people which resided in country-side to a new level of prosperity. The increasing of betel nut demand especially which derived from outside of country such as India and Thailand of the Betel Nut which is used as the raw material for medicine and cosmetic products will need new machine design of betel nut cutter to supply the demand. Current process of betel nut manufacture is still using a hand-tool for cutting the Betel Nut in rural areas. It takes lot of time and resulted low productivity. The design of the machine betel nut manufacture provides the solution to increase the productivity and low production cost because of cut in half process is still manually. This equipment can produce the cutting work with average 300 Betel Nut per hour. The force resulting from lever is 0.03 N and the cutting speed for 1 fruit only takes 4 seconds. This equipment is able to cut in half of two or three the Betel Nut in one time. This cutting machine prototype has been used widely in rural area of Riau province like village of Penyalai-Kuala Kampar, district of Pelalawan and several villages in the district of Indragiri Hilir.

India is a major arecanut growing country. Of the many problems identified in arecanut processing, dehusking is found to be a major one, which is cumbersome and needs to be mechanised. Presently, there are a few types of equipments available, but these machines are basically of low capacity and cater to small arecanut growers. Performance evaluation of three high capacity green arecanut dehusking equipments was taken up, to work out its possible adoption for entrepreneurship development.