



# Eastern Mediterranean University

"For Your International Career"

Department of Mechanical Engineering



# Design and Development of a Micro Vertical Axis Wind Turbine



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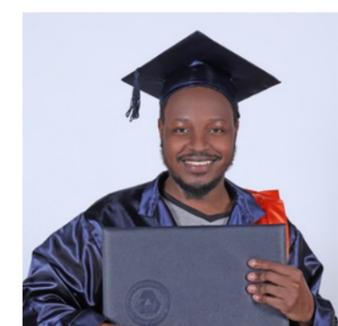
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## PRODUCT DESCRIPTION

The micro vertical axis wind turbine can be designed using simple, cheap, available and easily accessible materials. The manufacturing of this project was performed at the EMU mechanical engineering department workshop. This micro vertical axis wind turbine consists of pvc plastic blades, with the rest of the parts being mainly made of metals.

## OBJECTIVE

- Design a cost effective wind turbine.
- Design using local available materials.
- Design for ease of assembly.
- Design for reliability



## AIM

Our aim is for our wind turbine to generate a significant amount of power that will be able to light up a little LED light bulb with the help of a rectifier circuit, within the wind speed range of 1-5 m/S<sup>2</sup>.

## SELECTED DESIGN

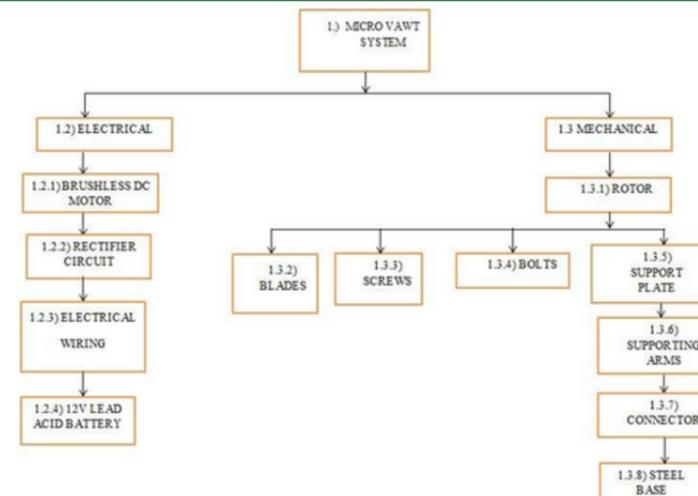


## RECTIFIER CIRCUIT

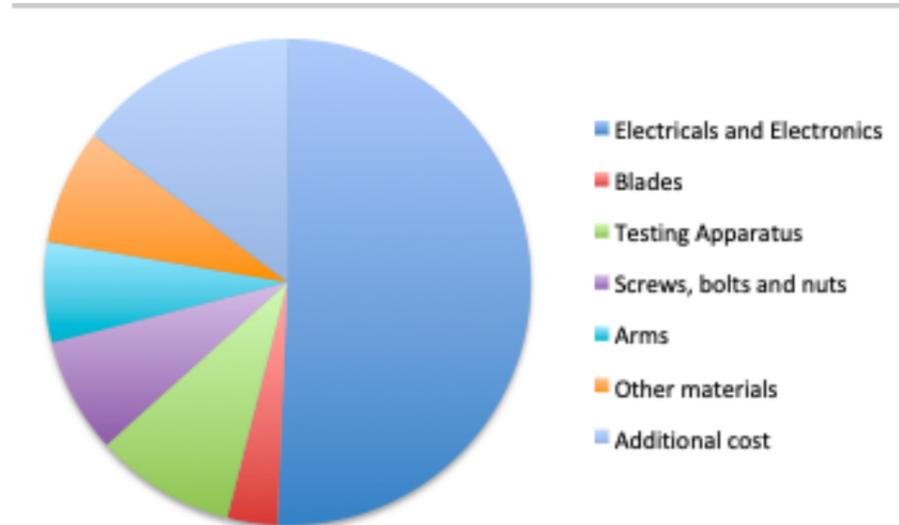


Rectifier circuit converts alternating current to direct current, and protects the battery from overload

## SYSTEM BREAKDOWN STRUCTURE



## COST ANALYSIS



The expected budget set by the team was \$600. But the actual total amount spent was \$300

## PRODUCT FEATURES

- Self Start
- Stable in heavy winds
- Powers a little LED light bulb
- Easy to use and do maintenance

