



**UNIVERSITI TEKNOLOGI MARA  
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**MEC299**

**DESIGN AND FABRICATION OF CLEANER  
MACHINE 2 IN 1. (VACUUM AND  
BLOWER)**

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**2020273708**

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**A. PROPOSED PROJECT**

Vacuum cleaner is a system that enables cleaning of the floor by the help of highly stabilized and rapidly functionalized electronic and mechanical control system. Dust removing problems are increasing more and more now a days. Hence it has become to provide some equipment for removing dust. There are different types of waste, dry waste, vegetable waste, dust particles and soon. Generally little equipment has been evolved in the market for cleaning the dust particles which are known as vacuum cleaner. But these vacuum cleaner costs more in the market and not every human being can afford it. We need to develop low cost, user friendly vacuum cleaning machine. Thus, we came with this multipurpose vacuum cleaner. The goal is to build a vacuum cleaner using an air blower. We concluded that an air blower is enough to build a vacuum cleaner rather than using a battery of higher Volts. So that this air blower works effectively and easily. The machine functions even better by using low voltage machines. Materials used to build the vacuum cleaner are: cans of rice, air blower, switch, m-seal, PVC duct, square rods and tyres. In this work, modelling and fabrication of the vacuum cleaning machine was done using suitable commercially available software and components. These vacuum cleaners may be used in homes.

# TABLE OF CONTENTS

<b>1.0 INTRODUCTION</b> .....	5
<b>1.1 Problem Statement</b> .....	6
<b>1.2 Objectives</b> .....	6
<b>1.3 Scope of The Project</b> .....	6
<b>1.4 Expected Result</b> .....	7
<b>2.0 LITERATURE REVIEW</b> .....	7
<b>CHAPTER 3</b> .....	11
<b>3.0 METHODOLOGY</b> .....	12
<b>3.1 Flowchart</b> .....	12
<b>3.2 Preliminary Results</b> .....	13
<b>3.3 Gantt Chart</b> .....	24
<b>3.4 REFERENCES (APA FORMAT)</b> .....	25

## CHAPTER 1

### 1.0 INTRODUCTION

Cleaning is the essential need of the current generation. Basically, in household the floor has to be cleaned regularly. This machine deals with designing and fabrication of floor cleaning machine. The main aim is that it combines operation of all two different device's operation i.e. vacuum cleaner and blower. For floor cleaning, many types of machines are available in the market are of high ranges and high weights. So, keeping the focus on weight as well as cost, they are not affordable to everyone. As many type of machines is widely used for this purpose. Hence, there is need to design and develop a floor cleaning machine which is multi use and cost effective.

### 1.1 Problem Statement

Vacuum cleaner is a device that uses an air pump to create a partial vacuum to suck up dust and dirt, usually from floors, and from other surfaces such as upholstery and draperies.

Nowdays, every machine cleaner has its own function. For example, vacuum only has one function which is to suck up dust and dirt. For the second example is blower, this machine only has one function which is to blow dust or dry leaves.

I want to improve the old cleaner machine to make it easy to use for every human and make a cleaner machine have two function which are vacuum and blower. This improvement suitable for house wife.

## **1.2 Objectives**

To design a cleaner machine that can be use to vacuum and blow using computer additional design (CAD) software.

To fabricate the prototype a cleaner machine that can be use to vacuum and blow.

## **1.3 Scope of The Project**

1. Designing the product with solidwork
2. Fabricating the product
3. The product hope is to facilitate housewives
4. Suitable to be use inside and outside house.

## **1.4 Expected Result**

This is the new project. This product will be easy to use for house wife. The design is very simple and cordless design. This design is user friendly and easy to carry anywhere.

## CHAPTER 2

### 2.0 LITERATURE REVIEW

TITLE	AUTHORS	PUBLICATION	OBJECTIVES	ISSUES	METHOD	FINDINGS
Design and fabrication of floor cleaner robot (manual and automatic)	MANREET KAUR (2014)	Review paper on floor cleaning machine	To design a robot to clean floor in both automatic mode as well as manual mode.	Not enough staff working as a cleaner.	The robot was equipped with ir sensors for obstacle detection, four motors and water pump.	Convenience of dual mode operation and easy floor cleaning.
Domestic and industrial purpose to clean the surface automatically.	MANYAJAIN , PANKAJ SINGH RAWAT (2016)	Review paper on floor cleaning machine	To design in such a way that it is capable of cleaning the area reducing the human effort just by starting the cleaning unit.	In the modern era, the automatic floor cleaner is required.	When it is turned on, it sucks in the dust by moving all around the surface (floor or any other area) as it passes over it.	Domestic and industrial.