

**UNIVERSITI TEKNOLOGI MARA**

**MANUALLY ECO-FRIENDLY ROAD  
CLEANER MACHINE**

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## **ABSTRACT**

This project is presenting a manual operated machine. It is using a human power or energy to conduct this machine by pulling and pushing it. This machine is to replace a existing product, broom to lighten the work. The author had compared the available product with this project and summarized it in chapter 2. Next, the 3D drawing design of this project have done by author where the details of drawing, exploded view, bill of material and engineering analysis have been stated in chapter 3. Either, process fabrication, final fabrication prototype and the details also stated in chapter 4. In conclusion, based on the developed system, authors achieve to fabricate the manually eco-friendly road and floor cleaning machine successfully.

## **ACKNOWLEDGEMENT**

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of Study**

Cleaning is a necessary factor of daily routine process. Effective cleaning and sanitizing help and protect the health of human beings directly and indirectly. The Road cleaner is used to keep our surroundings clean. So that we feel fresh while walking on the streets. A machine which should be operated manually so that it can be as an alternative for conventional electric cleaning machine. The dust cleaning machine system is fixed with a pair of wheels which are connected with the help of shaft. The shaft makes the wheels connected to one and other. The wheels are moved to the desired position with the help of manual force, which can handle is provided to move. The handle can be adjusted for a required height and are provided three adjusting holes for it. A chain drive is connected to the wheels and gear at each side. The chain is moved according to the wheel and gear.

### **1.2 Problem Statement**

Generally, in the era of modern technology, different devices such as electric motors, diesel engines, and robots are being used to clean the floor, road. But such processes create abundant pollution, maintenance and are very tough to carry out. So, in order to save energy and save nature, there is a need to develop, user-friendly road and floor cleaning machine. It is also easy to use for everyone.

### **1.3 Objectives**

The main objectives of this project are:

- a) To design Eco-friendly road and floor dust cleaning machine.
- b) To fabricate an ergonomic manual cleaning machine....