CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This chapter can explain the background of project, problem statement, scope of work, objective and project Gantt chart.

1.2 PROJECT BACKGROUND

The project involves designing and fabricating a Multifunction Ladder. This ladder would be entirely different from existing ladder. As the Diploma final year project allocates the duration of 1 semester, this large man-hour project therefore requires significant efforts of the students to participate. Basically the entire Multifunction Ladder could be divided into 3 stages, which are concept review and development, designing and fabrication.

The Multifunction ladder is equipped by using all necessary items and method for instance sheet metal, rectangular hollow steel, aluminium plate, rivet, skills in manufacturing process by perform to cutting the material. The advantages of the proposed ladder to be developed can be seen in its flexibility to be moved such that, man are offered to make their task easier since the ladder will facilitate them to painting, climbing for easily, wall and etc.

The process of development is initiated from designing the shape of the ladder by considering the function as well. In order to produce user friendly product that is suitable
to the consumer, consideration to the ergonomic factor is taken into account. It involves the measurement process before the materials are cut into pieces before joined together.

My project title is Development of Multifunction Ladder. The project involves small analysis of the Multifunction Ladder chassis or frame body and fabrication of the ladder itself with concerns regarding strength, durability, ergonomic factor, dynamic resistance and convenience. New concept of ladder is required to improve its durability and functions. Test need to be done to verify the strength of the ladder right before the fabrication process to avoid material and fund wasting. The projects prerequisites are Static, Dynamic and Strength of Material. Overall, the project will meet acquire skills of design, analysis, and fabrication.

1.3 PROBLEM STATEMENT

There are problem statement in my project

1.3.1 Consumer are facing problem to save for many place
1.3.2 Consumer is also difficult to move the ladder from place to place.
1.3.3 Existing ladder in the market only has limited function.

1.4 OBJECTIVE

The project objectives is develop and fabricate the Multifunction Ladder and to minimize the manufacturing cost
1.5 SCOPE

The scope of this project had been establish as

1.5.1 The maximum load of ladder is 150 kg.
1.5.2 The maximum height or the ladder can stand at 2.5 meters.
1.5.3 Multifunction ladder and portable use.