

**UNIVERSITI TEKNOLOGI MARA**



**BACHELOR OF ENGINEERING  
(HONS.) MECHANICAL**

**FACULTY OF MECHANICAL ENGINEERING**

**FKM TORSION TEST MACHINE  
(A STUDENT MODEL)**

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**UNIVERSITI TEKNOLOGI MARA**



**BACHELOR OF ENGINEERING  
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FACULTY OF MECHANICAL ENGINEERING**

**“DECLARATION OF ORIGINAL WORKS”**

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Hereby, declare that:

- ❖ This work has not previously has been accepted in substance for any degree, locally or overseas, and is not being concurrently submitted for this degree or any other degrees.
- ❖ This project paper is the result of my independent work investigation, except where otherwise stated.
- ❖ All verbatim extracts have been distinguished by quotation marks and sources of my information have been specifically acknowledged.

Signature: \_\_\_\_\_

A handwritten signature in black ink, appearing to read 'Azrol Hisham Abdullah', written over a horizontal line.

**(AZROL HISHAM ABDULLAH)**

Date: **OCT 31, 2003**

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# CHAPTER 1

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## 1.0 INTRODUCTION

### 1.1 An Overview

**E**ngineering training involves classroom-learning, lab works, and industrial training. These elements are essential for preparing engineering graduates when entering into professional areas.

Most of the time, a subject is taught with greater emphasis on the theoretical viewpoint rather than practical aspect. However students are exposed on experimental works to relate the theoretical concept to the technical work. It is known that studies become more effective with the aid of practical applications and experimental works. As a result, a fresh engineering graduate, on entering the job-market would gain some amount of practical knowledge.

With this in mind, an attempt has been made to design a testing apparatus that is useful for engineering students. Students can utilize this work project to perform a series of torsion testing using the modified design torsion test machine.

### 1.2 Scope of Work

The project main purpose was to design and fabricate a torsion test machine. The new machine must be an educational type, i.e., simple, easy to handle, cheaper to fabricate and most importantly functional and effective. The first phase of this project was to design and fabricate a prototype