

**FINAL YEAR PROJECT REPORT  
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**LABORATORY ROCK INDEX**

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# *Abstract*

Laboratory rock index is a mean of classifying the rock with its properties. To determine the index property of the rock, series of testing conducted on rock samples must comply with the suggested method of testing outlined by the International Society of Rock Mechanic (ISRM).

By knowing and understanding the properties of the rock engineer can determine the potential usage of rock as construction materials and the role of rocks in the civil engineering related work as well as the engineering application of rock. Rock engineering is now gaining popularity in Malaysia and a lot of construction involving rock engineering such as tunneling, underground opening, rock excavation, mining and quarrying had been introduced or improved for the last three decades.

Thus, knowledge in this part of engineering branch is vital for the future engineers.

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# 1. INTRODUCTION

## 1.1. General

Today Rock Mechanics has since been recognised as one of the disciplines in Civil Engineering. There are varieties of engineering application where the knowledge of Rock Mechanics is vital. The modern Rock Mechanics encompass the behaviour of rocks on a wide range of scale, from a fraction of a millimetre to many kilometres. Rock substance can be classified geologically into the three major types, based on their mode of formation.

### (a) Igneous

Crystalline or glassy rocks that are formed by solidification of molten material known as "magma". They are extrusive, solidifying beneath the earth's surface, or extrusive, erupting at the surface before cooling. Rock categorized in the igneous family are as follows:

- (i) Granite
- (ii) Syenite
- (iii) Diorite
- (iv.) Granodiorite
- (v.) Gabbro
- (vi.) Peridotite
- (vii) Dunite