SCHOOL OF ENGINEERING

B. ENG (HONS) ELECTRICAL AND ELECTRONIC

FINAL REPORT

DESIGN OF ANALOGUE DIRECT FORCE METER

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ABSTRACT

Analog instruments are those that present the physical variables of interest in the form of continuous variations with respect to time. These instruments usually consist of simple functional elements. Therefore the majority of instruments are of analog type as they generally cost less and are easy to maintain and repair compare to digital instruments. Furthermore, this project also will make students to study and understand more on analogue concept.

The objective of this project is to design and develop of analogue direct force meter which the resulting hardware has to be able to measure directly applied force to a certain degree of accuracy. The aim of this project is to develop an applied force measurement system equipped with probes to measure applied force on a contact surface. This project used a strain gauge sensor and will be implements or fed by the signal conditioning element to filtered, attenuate and compensate the signal before gives the reading at the analogue meter. Material such as plastic has been used as a strain where the sensor will be fed to. The accuracy, stability and reliability of the project will be tested under different circumstances and result obtain will be compared, which indicated as the project result performance. The input will be the force, pressure or any vibration equipment and the reading will be display at the analogue meter in the voltage range.