DESIGN AND CONSTRUCTION OF A LOW-COST DC MOTOR TRAINER

THESIS

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DESIGN AND CONSTRUCTION OF A LOW-COST DC MOTOR TRAINER

Undergraduate Thesis
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College of Engineering and Information Technology
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In partial fulfilment
of the requirements for the degree of
Bachelor of Science in Electrical Engineering

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ABSTRACT

AGBANNAOAG, REGIE E. and RODRIGUEZ, RYAN A., Design and Construction of a Low-Cost DC Motor Trainer. Undergraduate Design Project. Bachelor of Science in Electrical Engineering. Cavite State University, Indang, Cavite. March 2013. Adviser: Engr. Efren R. Rocillo

The study, Design and Construction of a Low-Cost DC Motor Trainer, was conducted at Cavite State University Main Campus, Indang Cavite from October 2012 to October 2013. The main objective of the project is to design and construct a low cost DC motor training system. The study was conducted to prove that the low-cost DC motor trainer can enhance the knowledge of the students about the different types and different characteristics of a DC motor.

The trainer has three modules, control unit, motor panel and driving unit. The control unit was used to operate and measure the parameters of the driving unit. The motor panel was used to convert the different poles of the motor. The driving unit was used to test the loading parameters of the trainer.

The design project was setup and evaluated at the Department of Industrial Engineering of College of Engineering and Information Technology by four electrical engineering faculty members and 30 electrical engineering students to determine the user interaction, safety features, knowledge gain and accuracy and efficiency of the trainer.

The total cost of the project was PhP25,275.00.

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DESIGN AND CONSTRUCTION OF A LOW-COST DC MOTOR TRAINER

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[1/] An undergraduate thesis outline submitted to the faculty of the Department of Information Technology, College of Engineering and Information Technology, Cavite State University, Indang, Cavite in partial fulfilment of the requirements for the degree of Bachelor Science in Electrical Engineering with Contribution No._____. Prepared under the supervision of Engr. Efren R. Rocillo.

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INTRODUCTION

By means of education only one's potential can be used to a maximum extent. Theory and research suggest that meaningful learning is possible in the laboratory if all students are provided with activities and opportunities to manipulate equipment and materials while working cooperatively with peers in an environment in which they are free to pursue solutions to problems that interest them. For students to acquire the manual and mental skills associated with learning physics, it is essential that they be fully engage in laboratory activities with sufficient equipment and laboratory stations for groups containing two or three students. To attain these objectives, universities offering technical courses should be equipped with the necessary facilities, manpower, building tools and equipment necessary to train the students before entering the gainful occupation.