HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING COURSE

DIPLOMA PROJECT

DEVELOPMENT OF A VARIABLE D.C. (0-30V, 0-3A) REGULATED POWER SUPPLY

DEVELOPMENT OF A LEAD ACID - AUTOMATIC BATTERY CHARGER

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Project report submitted by

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in part satisfaction of the award
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TO MY PARENTS

AND

FRIENDS

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ABSTRACT

This textbook deals with the designs construction and calibration of a variable d.c supply and also an automatic lead-acid battery charges.

The power supply unit offers an overcurrent protection.

After investigations of suitable circuits which looked to be promising the one most suitable was selected. The investiagions, selection and operation of the circuits are shown analytically.

The construction of PCB and all relevants are also shown in the text book.

Conclusion and suggestions are also included.

The Appendices include some necessary calculations data sheets and characteristics of components

INTRODUCTION

This project deals with the Development of a variable DC (0-30V, 0-30A) requlated power supply and an automatic lead-acid battery charger.

The power supply unit provides the following:

(a) The output voltage is adjustable up to 30V
(b) Output current is up to 3A
(c) Short circuit protection

The text consist first for the power supply 4 chapters and for the battery charger 7 chapters.

First, relevant theory is given both power supply and charger.

A lot of circuit have been investigated but the most significant are shown in the text.

The final circuits is then selected and its description and construction is described.

Complete testing was carried out.

Finally a fully evaluation of the work is carried out.