



GOVERNMENT OF TAMIL NADU

HIGHER SECONDARY SECOND YEAR

VOCATIONAL EDUCATION

Basic Electrical Engineering

THEORY & PRACTICAL

A publication under Free Textbook Programme of Government of Tamil Nadu

Department of School Education

Untouchability is Inhuman and a Crime

Government of Tamil Nadu

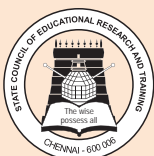
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NOT FOR SALE

Content Creation



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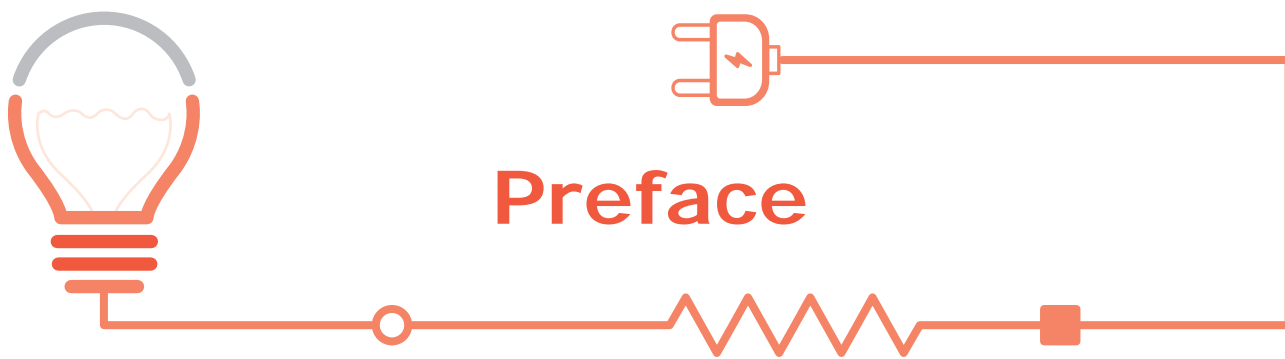
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Preface

We are living in a modern world where all the systems are interconnected for effective performance. By the year 2050, the demand of electrical energy is double or even becomes triple due to the advancement in Electrical Technology. Now-a-days affordable knowledge is essential in the field of electrical sciences for better understanding of electrical appliances.

This book has been written primarily as a text book for the higher secondary vocational students and is designed to serve the introductory part of electrical engineering. The basic concepts of electrical sciences are explained with neat diagrams for better understanding. This book is intended for the clear understanding of electrical engineering and its applications.

This book has been written in a simple language and easy to understand by the students. Various stages of the electrical system such as generation, transmission, distribution and utilization of electrical power is clearly written and the concepts are described with color diagrams. This book is made to meet the requirements of International standards and made to compete with the global level.

The chapters are designed and formulated from the inspiration and interaction of experts from India and abroad in the field of Electrical Engineering. The design of the book is based on bloom's taxonomy which is a learning tool for all students. The concepts available in this text book obviously motivate the students for better understanding. The contents of this book are mainly confined to the content of syllabus fulfilling the objectives an electrical engineer.

I originally undertook the task of writing the text book for the vocational group students as basic subject in the field of electrical engineering due to the knowledge which I shared my experienced in three decades.

As a result, the students will definitely follow along with the subject teacher in demonstrating an example while handling the classes. I hope this book will definitely satisfy the primary needs of the student's community to pursue higher level courses.

Myself with our subject experts' team have provided this text book a more knowledgeable and readable one fulfilling the needs of students. Consequently, the teacher will feel more comfortable using the book because it reflects the electrical engineering concepts in a pedagogy way.

I would like to extend my sincere appreciation to the teachers who cooperated with me to form and frame the new book in a successful way. Also, I express my thanks to the faculty from various academic and technical institutions for the improvement of this book writing.

Finally, it is immense pleasure to express the gratitude and sincere thanks to State Council of Educational Research and Training faculty who gave this opportunity to write this book for vocational stream students.

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How to Use the Textbook?

	Learning Objectives	Learning objectives are brief statements that describe what students will be expected to learn by the end of school year, course, unit, lesson or class period.
	Chapter Outline	Illustrate the complete overview of chapter
	Do You Know?	Amazing facts, Rhetorical questions to lead students to biological inquiry
	Activity	Directions are provided to students to conduct activities in order to explore, enrich the concept.
	Infographics	Visual representation of the lesson to enrich learning.
	Evaluation	Assess students to pause, think and check their understanding
		To motivate the students to further explore the content digitally and take them in to virtual world
	Carrier Corner	List of professions related to the subject
	References	List of related books for further details of the topic
	Web Links	List of digital resources
	Glossary	Explanation of scientific terms
	Competitive Exam Questions	Model questions to face various competitive exams



Career Guidance

VOCATIONAL STREAM

After completion of Higher Secondary course (+2), Vocational stream,

LATERAL ENTRY FOR DIPLOMA IN ENGINEERING: (FOR +2 Students)

The Vocational stream students, on completion of Higher Secondary, are eligible to continue their educational career to Polytechnic Colleges by Lateral entry.

(i.e.,) They can directly join in the Second year of the concerned Diploma courses. They can also join in the Engineering colleges by counselling.

After that, they can register their names in the “Board of Apprenticeship training, No. 4th Cross street, CIT Campus, Taramani, Chennai – 13” for employment opportunities.

LATERAL ENTRY FOR BE / B.TECH: (FOR DIPLOMA HOLDERS)

On completion of Diploma courses of any trade, the students can directly join in the SECOND YEAR of the Engineering course (BE / B.TECH) in Anna University and Affiliated colleges, by lateral entry.

Then, they can register their names in the “Board of Apprenticeship training, No. 4th Cross street, CIT Campus, Taramani, Chennai – 13” for employment opportunities.

NATIONAL CAREER SERVICE

The students who need for employment opportunities and career guidance, including counseling both in Government, Private and Public sector can see the website of www.ncs.gov.in for further details.



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E-book



Assessment

Basic Electrical Engineering

THEORY