

Preface

In its endeavor to improve the quality of craftsmen training in the Industrial Training Institutes (ITI's), Directorate General of Employment and Training (DGET), under the Ministry of Labour and Employment, Government of India introduced the scheme "Centers of Excellence" initially in some selected ITI's in the country. The number of such ITI's has been on the rise since introduction of this scheme. The core objective of the scheme is to produce multi-skilled workforce of world standard, who can face ever changing technological challenges.

Under this scheme, first year of training comprises of broad-based basic training. This is then followed by training in industry and advanced courses on modular basis. The various sectors chosen for training include Production & Manufacturing, Electrical, Electronics, Automobiles, Fabrication (Fitting & Welding), Chemical, Information Technology, Refrigeration & Air Conditioning etc.

The theory curriculum of the first year broad-based basic training in all sectors includes "Workshop Calculation & Science" (2 hours per week) and "Engineering Drawing" (2 hours per week). The trainees have to appear for a 4-hour duration paper in the final trade test which covers both these subjects.

In order to assist the trainees to prepare for this common question paper, this book has been written by the authors who have decades of experience of working closely with vocational training. The book has been divided into three parts, covering the prescribed syllabus in "Workshop Calculation", "Workshop Science" and "Engineering Drawing". Efforts have been made to keep the book as concise as possible and yet cover all essential aspects of the syllabus.

It is sincerely hoped that this volume will be of great assistance to the trainees in learning and comprehending the subject matter and prepare well for the trade test. We would obviously welcome suggestion for improvement of the contents and style of presentation in this book. This would help us make further improvements in subsequent editions.

— *Authors*

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