## Preface to NSQF (Level-4) compliant Latest Edition (For Annual A.I.T.T. Exam)

Directorate General of Training (DGT) under the Ministry of Skill Development & Entrepreneurship, being the apex organization for development and coordination of vocational training at the national level, undertakes steps from time to time to improve its various aspects in line with changing market and industry requirements. The curriculum of each CTS trade has been reoriented with appropriate National Skill Qualification Framework (NSQF) level.

Revised curriculum for Electrician trade has been made NSQF Level 4 compliant under Power sector from the session starting September 2022. Electrician is one among the top couple of most popular trades delivered nationwide through a large network of Industrial Training Institutes. The duration of training for this trade is two years. During this duration the trainees are trained on subjects Professional Skill, Professional Knowledge, Engineering Drawing, Workshop Science & Calculation and Employability Skills.

In keeping these latest changes, this volume has been updated and enlarged to be fully in line with the latest curriculum of Electrician trade.

We sincerely feel that this concise Q–Bank will be of immense help to the trainees to prepare for Annual All India Trade Test.

Besides the ITI trainees in Electrician trade, candidates appearing for various competitive examinations / interviews for jobs in many public, private, state and central government enterprises should find this book of great help. Several enterprises prescribe ITI level as necessary qualification for recruitment. Railway Recruitment Board (RRB), is among a few such examples.

It is trusted that our effort will be able to fulfil the requirements of trainees and instructors. Suggestions from our esteemed readers for further improvement of this volume are welcome.

- Authors

## **Contents**

## Ist Year

• Multiple Choice Questions (with key)

1.	Occupational Hazards, Safety and Health2–13		Alternating Current 68–80
2	Cutting Tools and Fasteners 14–18		Circuit Breakers 81–86
			Earthing 87–92
	Carpentry 19–20		Electrolysis, Cells and Batteries 93-107
4.	Sheet Metal Work	15.	Domestic and Industrial Wiring 108–122
5.	Fundamentals of Electricity 24-36	16.	Meauring Instruments 123–137
6.	Electrical Accessories 37–45	17.	Transformers
7.	Resistors 46-47	18.	Illumination 155–157
8.	Conductors, Insulators and	19.	Sources of Light 158–162
	Insulating Materials 48-55	20.	Decoration Lighting 165–166
9.	Capacitors 56-60	21.	Electrical Appliances 167–176
10.	Magnetism and Electromagnetism 61-67	22.	Estimation and Costing 177-178
4	Multiple Choice Q     2, 14		
	• Multiple Choice Q		] ons (with kev)
	D.C. Generators2-14	11.	House Service Connections and Wiring Layout89–98
	D.C. Motors 15–27	40	
3.		12.	Semi-conductor Devices 99-125
	Alternatros 28-36		Semi-conductor Devices 99–125 Relays and Voltage Regulators 126-127
4.	Alternatros         28–36           Polyphase Induction Motors         37–49	13.	Relays and Voltage Regulators 126-127
		13. 14.	Relays and Voltage Regulators 126-127 Generation of Electrical Energy 128-137
5.	Polyphase Induction Motors 37-49	13. 14. 15.	Relays and Voltage Regulators 126-127 Generation of Electrical Energy 128-137 Transmission and Distribution 138-145
5. 6.	Polyphase Induction Motors	13. 14. 15. 16.	Relays and Voltage Regulators 126-127 Generation of Electrical Energy 128–137 Transmission and Distribution 138–145 Carona, Lightning and Skin Effects 146–148
5. 6. 7.	Polyphase Induction Motors	13. 14. 15. 16.	Relays and Voltage Regulators 126-127 Generation of Electrical Energy 128-137 Transmission and Distribution 138-145
5. 6. 7. 8.	Polyphase Induction Motors	13. 14. 15. 16. 17.	Relays and Voltage Regulators 126-127 Generation of Electrical Energy 128-137 Transmission and Distribution 138-145 Carona, Lightning and Skin Effects 146-148 Resistor Colour Codes
5. 6. 7. 8. 9.	Polyphase Induction Motors       37–49         Synchronous Motors       50–52         Single Phase Motors       53–63         Winding       64–71         Convertor and Rectifier       72–76	13. 14. 15. 16. 17. 18.	Relays and Voltage Regulators 126-127 Generation of Electrical Energy 128-137 Transmission and Distribution 138-145 Carona, Lightning and Skin Effects 146-148 Resistor Colour Codes