

Preface to the Latest NSQF Level-3 Edition

Directorate General of Training (DGT) under the Ministry of Skill Development and Entrepreneurship (MSDE) is the apex body in the country as regards planning, formulating and prescribing norms, standards, procedures and guidelines in respect of various vocational training schemes of which Craftsmen Training Scheme (CTS) implemented in ITI's is the most important one. Prescribing well designed curriculum and putting in place appropriate assessment and certification procedure are among the vital aspects of vocational training.

Certain changes have been done with respect to curriculum of designated trades under CTS, especially with regard to their compliance with appropriate NSQF levels. These changes have been duly notified by DGT and made effective from admission session of September 2022. The latest syllabus for **Carpenter (Sector: Construction)** trade as revised has also come into force. The significant change has been the revision of NSQF level of this trade to three.

A carpenter is a person who makes things out of wood like making furniture and even repair wooden objects. He is required to not only have good knowledge of wood and other carpentry materials but also should have good hand dexterity and an eye for details. He is also considered to be a construction professional who works with construction crew to build, adjust and repair wood frameworks in various construction projects. Largely he is required to be skilled in selection, use and operation of woodworking and other related machines and hand tools. The curriculum, therefore, mainly concentrates on training in these vital areas.

The latest revision (Version 2.0 of July 2022) of the already well-designed curriculum has rightly incorporated currently relevant topics of **Modular Kitchen and Modular Furniture**. At the same two topics, i.e. Pattern Making and Sheet Metal Tools have been done away with. This edition of the Carpenter Trade Theory Book has been **revised to adequately cover the new additional topics**, while retaining the existing 3 – in – 1 pattern, viz.

- **Trade Theory** – Easy-to-understand language and profusely illustrated modules.
- **Assignment / Test (Solved)** – Each module supplemented by a set of short Q – Ans. and Multiple Choice Questions.
- **Model Papers** – Eight Model Papers with key and necessary explanatory notes, which we believe will be of great help to trainees to prepare for Annual A. I. T. T.

We sincerely hope that trainees will find this book very much helpful to adjust with the latest changes in syllabus related to Carpenter trade. We would welcome suggestions for further improvement of this book in its subsequent editions.

— Author

CONTENTS

NSQF (Level-3) compliant competency based curriculum for Carpenter under CTS (Sept. 2022)..... v – viii

1. SAFETY	1–11	6. BOARDS AND SHEETS	73–88
<i>Types Of Carpentry, Job Of A Carpenter, Importance Of Carpentry, Occupational Hazards, General Workshop Safety, General Safety Precautions In Carpentry, Personal Protective Equipment (Ppe), Maintaining Discipline In Iti, Fire Hazard, Fire Extinguishers, Safety Signs And Symbols, Electric Shock, Housekeeping, 5 S Concept , First Aid.</i>		<i>Veneers, Plywoods, Laminates, Fibreboards, Blockboards, Plywood Vs. Blockboard, Particle Boards, Nails, Wood Screws, Nuts And Bolts, Washers, Fasteners, Hinges, Hasp And Staple, Locks, Door Handles And Knobs, Door Stoppers.</i>	
Assignment/Test—Solved		Assignment/Test—Solved	86–88
<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes		<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes	
2. TIMBER	12–26	7. WOODWORKING MACHINES	89–104
<i>Tree, Wood, Timber, Qualities Of Good Timber, Selection Of Timber, Stacking Timber Correctly, Seasoning Of Timber, Methods Of Seasoning, Classification Of Timber With Respect To Seasoning, Impreg Timbers, Compreg Timbers, Preservation Of Timber, Conversion Of Timber, Wood Used For Furniture Making.</i>		<i>Band Saw, Band Saw Operating Procedure, Band Sawing Operations, Band Saw Safety, Circular Saw, Planing Machine, Wood Turning, Drilling, Sanding Machine, Grinder, Mortiser Machine.</i>	
Assignment/Test—Solved		Assignment/Test—Solved	102–104
<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes		<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes	
3. SAWS AND PLANES	27–38	8. BASIC FITTING	105–131
<i>Rip Saw And Crosscut Saw, Handsaw, Panel Saw, Back Saws, Tenon Saw, Dovetail Saw, Bow Saw, Compass Saw, Coping Saw, Nest-of-saws, Keyhole Saw , Fretsaw, Using Saw Correctly, Safety Tips In Use Of Saws, Block Plane, Jack Plane, Small Block Plane, Smoothing Plane, Trying Plane, Tothing Plane, Bullnose Plane, Rebate Plane, Combination Plane, Machine Plane, Grooving Plane Or Plough Plane, Router Plane, Use Of Plane, Using The Plane.</i>		<i>Surface Plate, Scriber, Steel Rule, Outside and Inside Callipers, Trammel, Divider, Prick Punch, Centre Punch, Surface Gauge, "V" - Blocks, Angle Plates, Parallels, Combination Set, Hammers, Bench Vice, Screw Driver, Spanners, Pliers, Vernier Calliper, Micrometer, Vernier Height Gauge, Chisel, Hacksaw, File, Scraper, Drilling, Reaming, Tapping, Threading Dies.</i>	
Assignment/Test—Solved		Assignment/Test—Solved	126–131
<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes		<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes	
4. HAND TOOLS	39–62	9. MODULAR CONCEPT AND DESIGN	132–153
<i>Hammer, Claw Hammer, Wooden Folding Rule, Steel Rule, Tape Measure, Try Square, Marking Gauge, Mortise Gauge, Utility Knife, Moisture Meter, Chisel, Level, Plumb Bob, Screw Driver, Nail Set, Sliding Bevel, Layout Square, Divider, Calliper, Jenny Calliper, Wing Compass, Trammel, Vernier Calliper, Combination Set, Clamp, Work Bench, Bench Vice, Bench Hook, Bench Stop Shooting Board, Mitre Box, File, Rasp And Riffler, Hand Drill, Ratchet Brace, Portable Electric Drilling Machine, Drill Bit.</i>		<i>Modular Kitchen, Benefits of Modular Kitchen, Assembling Modular Kitchen, Kitchen Cabinets, Tools and Machines Required, Modular Furniture, Benefits of Modular Furniture, Examples of Home Modular Furniture, Sunmica in Different Colour Contrasts, Assembling Modular Furniture.</i>	
Assignment/Test—Solved		Assignment/Test—Solved	152–153
<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes		<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes	
5. CARPENTRY JOINTS	63–72	10. CARPENTRY BUILDING WORK	154–187
<i>Halving Joint, Mortise And Tenon Joint, Bridle Joint, Dowel Joint, Dovetail Joint, Finger Joint, Dado, Rabbet, Mitre Joint, Tongue And Groove Joint, Scarf Joint, Adhesives.</i>		<i>Doors, Sizes of Doors, Door Frame, Windows, Fixtures and Fastening, Hinges, Door Locks, Door Bolts, Roof Truss, Wood Substitutes, Other Wood Substitutes, PVC, PVC Moulding, Paint, Wood Stain, Sander, Wall Putty, French Polishing, Wax Polish, Aluminium, Aluminium Windows, Beam and Joist Floors.</i>	
Assignment/Test—Solved		Assignment/Test—Solved	183–187
<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes		<ul style="list-style-type: none">• Short Q-Ans. (Helpful in solving MCQs)• Multiple Choice Questions and Key to MCQs• Explanatory Notes	
		11. GLOSSARY OF TERMS	188–193

Appendix : Model Papers 1 to 8 (Annual A.I.T.T. Exam – NSQF Level – 3) 194–248