GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
DIRECTORATE GENERAL OF TRAINING

COMPETENCY BASED CURRICULUM

WAREHOUSE TECHNICIAN

(Duration: One Year)

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 3.5

SECTOR –LOGISTICS

Directorate General of Training

WAREHOUSE TECHNICIAN

(Engineering Trade)

(Revised in March 2023)

Version: 2.0

CRAFTSMEN TRAINING SCHEME (CTS)

NSQF LEVEL- 3.5

Developed By

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1. COURSE INFORMATION

During the one year duration of the trade Warehouse Technician, a candidate is trained on professional skills& knowledge, Engineering Drawing, Workshop Calculation & Science and Employability skill related to job role. In addition to this a candidate is entrusted to undertake practical work, industries visit and extracurricular activities to build up confidence.

This candidate trained in this job role will be employed in the warehouse of any sub sector of logistics namely ***warehousing - storage and packaging, courier and express service, ports terminals, supply chain, air cargo operations, e commerce, cold chain logistics, inland water ways and marine services*** etc. Each employee in logistics has a specific job. There are different job titles in each of the different types of logistic activities and each has different importance.

The Broad components covered during the course are given below:

During the course the trainee learns about Safety and Precaution which includes different type of dangerous goods and associated risks and ways of handling, Safety rules and Procedures, SOP and the handling procedure in case of miss-happenings, safety policy inside the company premises, Importance of Proper usage of PPE and consequences of wrong usage. The trainee will learn to drives a light truck to pick up and delivery materials when required. The trainee will understand key concepts of Logistics. The trainee will learn Loading, Unloading, Receiving, sorting, Storing, Picking, assembly line feeding, dispatch activities, basic of inventory & stores management.

He/She will also practice different types of inventory management, the use of Technology and equipmentlike computer based scanners, RFID scanners, other associated software used in Warehouse management, Inbound process like Identify and classify raw materials / goods into different types, Out-bound process like read and verify dispatch orders and collect acknowledgment and delivery reports and Prepare reports related to inventory change, dispatches, delivery success, inbound receipts.

2. TRAINING SYSTEM

2.1 GENERAL

The Directorate General of Training (DGT) under Ministry of Skill Development & Entrepreneurship offers a range of vocational training courses catering to the need of different sectors of economy/ Labour market. The vocational training programmes are delivered under the aegis of Directorate General of Training (DGT). Craftsman Training Scheme (CTS) with variantsand Apprenticeship Training Scheme (ATS) are two pioneer schemes of DGT for strengthening vocational training.

Warehouse Technician trade under CTS will be delivered nationwide through network of ITIs. The course is of one-year duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory & Practical) impart professional skills and knowledge, while Core area(Workshop Calculation and science, Engineering Drawing and Employability Skills) impart requisite core skill, knowledge and life skills.After passing out of the training programme, the trainee is awarded National Trade Certificate (NTC) by DGT which is recognized worldwide.

Trainees broadly need to demonstrate that they are able to:

- Read and interpret technical parameters/ documents, plan and organize work processes, identify necessary materials and tools;
- Perform task with due consideration to safety rules, accident prevention regulations and environmental protection stipulations;
- Apply professional skill, knowledge & employability skills while performing jobs.
- Check the job/ assembly as per drawing for functioning identify and rectify errors in job/ assembly.
- Document the technical parameters related to the task undertaken.

2.2 PROGRESSION PATHWAYS

- Can join industry as Technician and will progress further as Senior Technician/ Executive, Supervisor and can rise to the level of Manager and above.
- Can become Entrepreneur in the related field.
- Can join Apprenticeship programme in different types of industries leading to National Apprenticeship certificate (NAC).
- Can join Crafts Instructor Training Scheme (CITS) in the trade for becoming instructor in ITIs.

2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during a period of one year: -

S No.	Course Element	Notional Training Hours
1	Professional Skill (Trade Practical)	840
2	Professional Knowledge (Trade Theory)	240
3	Employability Skills	120
	Total	**1200**

Every year 150 hours of mandatory OJT (On the Job Training) at nearby industry, wherever not available then group project is mandatory.

On the Job Training (OJT)/ Group Project	150
Optional Courses (10th/ 12th class certificate along with ITI certification or add on short term courses)	240

Trainees of one-year or two-year trade can also opt for optional courses ofup to 240 hours in each year for 10th/ 12th class certificate along with ITI certification, or, add on short term courses.

2.4 ASSESSMENT & CERTIFICATION

The trainee will be tested for his skill, knowledge and attitude during the period of course through formative assessment and at the end of the training programme through summative assessment as notified by the DGTfrom time to time.

a) The Continuous Assessment(Internal)during the period of training will be done by **Formative Assessment Method** by testing for assessment criteria listed against learning outcomes.The training institute has to maintain individual *trainee portfolio* as detailed in assessment guideline. The marks of internal assessment will be as per the formative assessment template provided on www.bharatskills.gov.in.

b) The final assessment will be in the form of summative assessment. The All India Trade Test for awarding NTC will be conducted by Controller of examinations, DGT as per the guidelines. The pattern and marking structure is being notified by DGTfrom time to time. **The learning outcome and assessment criteria will be basis for setting question papers for final**

assessment. The examiner during final examination will also check individual trainee's profile as detailed in assessment guideline before giving marks for practical examination.

2.4.1 PASS REGULATION

For the purposes of determining the overall result, weightage of 100% is applied for six months and one year duration courses and 50% weightage is applied to each examination for two years courses. The minimum pass percent for Trade Practical and Formative assessment is 60% & for all other subjects is 33%.

2.4.2 ASSESSMENT GUIDELINE

Appropriate arrangements should be made to ensure that there will be no artificial barriers to assessment. The nature of special needs should be taken into account while undertaking assessment. Due consideration should be given while assessing for teamwork, avoidance/reduction of scrap/wastage and disposal of scarp/wastage as per procedure, behavioral attitude, sensitivity to environment and regularity in training. The sensitivity towards OSHE and self-learning attitude are to be considered while assessing competency.

Assessment will be evidence based comprising some of the following:

- Job carried out in labs/workshop
- Record book/ daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and punctuality
- Assignment
- Project work
- Computer based multiple choice question examination
- Practical Examination

Evidences and records of internal (Formative) assessments are to be preserved until forthcoming examination for audit and verification by examination body. The following marking pattern to be adopted for formative assessment:

Performance Level	Evidence
(a) Marks in the range of 60 -75% to be allotted during assessment	
For performance in this grade, the candidate	• Demonstration of good skill in the use

with occasional guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of an acceptable standard of craftsmanship.	of hand tools, machine tools and workshop equipment • 60-70% accuracy achieved while undertaking different work with those demanded by the component/job/set standards. • A fairly good level of neatness and consistency in the finish • Occasional support in completing the project/job.
(b)Marks in the range of above75% - 90% to be allotted during assessment	
For this grade, the candidate, with little guidance and showing due regard for safety procedures and practices, has produced work which demonstrates attainment of a reasonable standard of craftsmanship.	• Good skill levels in the use of hand tools, machine tools and workshop equipment • 70-80% accuracy achieved while undertaking different work with those demanded by the component/job/set standards. • A good level of neatness and consistency in the finish • Little support in completing the project/job
(c) Marks in the range of above 90% to be allotted during assessment	
For performance in this grade, the candidate, with minimal or no support in organization and execution and with due regard for safety procedures and practices, has produced work which demonstrates attainment of a high standard of craftsmanship.	• High skill levels in the use of hand tools, machine tools and workshop equipment • Above 80% accuracy achieved while undertaking different work with those demanded by the component/job/set standards. • A high level of neatness and consistency in the finish. • Minimal or no support in completing the project.

3. JOB ROLE

A Warehouse Technician is responsible for coordinating for managing the warehouse storage within the stock yard, movement of goods within the Warehouse premise, and movement of inbound and out bound goods. These include identification, storage, packing, movement of goods from supply point to stocking point, distribution line and movement of finished goods and finally deliver the required Quality goods to the consumer in specified Right Quantity at Right Time and at the Right place. He or She is also responsible for ensuring timely quality delivery of goods, maintaining records of inventory, receipt and dispatches from the stock yard, providing daily and weekly reports on the inventory to the superiors, developing daily and weekly schedule for inbound and outbound activities, ensuring the safety and security of materials within the stockyard, initiate and apply new methods to reduce logistics costs and improve the processflow.

Reference NCO-2015:

a) 4321.0100 – Store Keeper
b) 4321.0601 – Warehouse Picker
c) 4321.0602 –Warehouse Binner
d) 4321.0603 –Warehouse Packer
e) 4321.0604 –Kitting and Labelling Executive

Reference NOS:

i) LSC/N9909
ii) LSC/N9908
iii) LSC/N0102
iv) LSC/N0101
v) LSC/N0104
vi) LSC/N2117
vii) LSC/N2320
viii) LSC/N2102
ix) CSC/N9401
x) CSC/N9402

4. GENERAL INFORMATION

Name of the Trade	Warehouse Technician
Trade Code	DGT/2016
NCO - 2015	4321.0100, 4321.0601, 4321.0602, 4321.0603, 4321.0604
NOS Covered	LSC/N9909, LSC/N9908, LSC/N0102, LSC/N0101, LSC/N0104, LSC/N2117, LSC/N2320, LSC/N2102, CSC/N9401, CSC/N9402
NSQF Level	Level-3.5
Duration of Craftsmen Training (Instructional Hours)	One Years (1200 hours + 150 hours OJT/Group Project)
Entry Qualification	Passed 10th class examination.
Minimum Age	14 years as on first day of academic session.
Eligibility forPwD	LD,LC,DW,AA,DEAF,HH
Unit Strength (No. Of Student)	20(There is no separate provision of supernumerary seats)
Space Norms	25 Sq. m
Power Norms	4 KW
Instructors Qualification for	
(i) Warehouse Technician Trade	B.Voc/Degree in Mechanical/ Production Engineering from AICTE/UGC recognized Engineering College/ university with one-year two years experience in the relevant field. **OR** 03 years Diploma in Mechanical/ Production Engineering from AICTE/recognized board of technical education or relevant Advanced Diploma (Vocational) from DGT with two years' experience in the relevant field. **OR** NTC/NAC passed in the trade of "Warehouse Technician" with three years' experience in the relevant field. **Essential Qualification:** Relevant Regular / RPL variants of National Craft Instructor

	Certificate (NCIC) under DGT. ***NOTE: Out of two Instructors required for the unit of 2(1+1), one must have Degree/Diploma and other must have NTC/NAC qualifications. However, both of them must possess NCIC in any of its variants.***
(ii) Workshop Calculation & Science	B.Voc/Degree in Engineering from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field. **OR** 03 years Diploma in Engineering from AICTE / recognized board of technical education or relevant Advanced Diploma (Vocational) from DGT with two years' experience in the relevant field. **OR** NTC/ NAC in any one of the engineering trades with three years' experience. **<u>Essential Qualification:</u>** Regular / RPL variants of National Craft Instructor Certificate (NCIC) in relevant trade **OR** Regular / RPL variants NCIC in RoDA or any of its variants under DGT
(iii) Engineering Drawing	B.Voc/Degree in Engineering from AICTE/UGC recognized Engineering College/ university with one-year experience in the relevant field. **OR** 03 years Diploma in Engineering from AICTE / recognized board of technical education or relevant Advanced Diploma (Vocational) from DGT with two years' experience in the relevant field. **OR** NTC/ NAC in any one of the engineering/ Draughtsman group of trades with three years' experience. **<u>Essential Qualification:</u>** Regular / RPL variants of National Craft Instructor Certificate (NCIC) in relevant trade OR Regular/RPL variants NCIC in RoDA or any of its variants under DGT

(iv) Employability Skill	MBA/ BBA / Any Graduate/ Diploma in any discipline with Two years' experience with short term ToT Course in Employability Skills. (Must have studied English/ Communication Skills and Basic Computer at 12th / Diploma level and above) **OR** Existing Social Studies Instructors in ITIs withshort term ToT Course in Employability Skills.
(v) Minimum age for Instructor	21 years
List of Tools & Equipment	As per Annexure-I

5. LEARNING OUTCOME

Learning outcomes are a reflection of total competencies of a trainee and assessment will be carried out as per the assessment criteria.

5.1 LEARNING OUTCOMES

1. Recognize & comply safe working practices, environment regulation, safety and security and housekeeping. (NOS: LSC/N9909)
2. Maintain integrity and ethics in operation while operating warehouse equipment. (NOS: LSC/N9908)
3. Perform Loading and Unloading using proper tools and procedures. (NOS: LSC/N0102)
4. Carry out packing and labeling of the materials. (NOS: LSC/N0101)
5. Use of Binning methods for proper categorizations of materials. (NOS: LSC/N2102)
6. Perform Kitting to combine various single items into one unit of various items. (NOS: LSC/N0101)
7. Identify up keeping of warehouse infrastructure. (NOS: LSC/N0104)
8. Practice Reporting Activities, MIS System and its use. (NOS: LSC/N2117, LSC/N2320)
9. Read and apply engineering drawing for different application in the field of work. (NOS: CSC/N9401)
10. Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic science in the field of study. (NOS: CSC/N9402)

6.ASSESSMENT CRITERIA

LEARNING OUTCOMES	ASSESSMENT CRITERIA
1. Recognize & comply safe working practices, environment regulation, safety and security and housekeeping. (NOS: LSC/N9909)	Identify, handle and store/ dispose of dangerous/unsalvageable goods and substances according to site policy and procedures following Occupational Health & safety regulations/requirements.
	Follow and maintain procedures to achieve a safe working environment in line with occupational health and safety regulations and requirements.
	Appraise company safety policy inside the company premises.
	Identify Personal Productive Equipment (PPE) and use the same as per related working environment.
	Demonstrate Safety precautions.
	Demonstrate First aid&fire fighting preparedness.
	Demonstrate security procedures&organizational protocol.
2. Maintain integrity and ethics in operation while operating warehouse equipment. (NOS: LSC/N9908)	Identify &Demonstrate ethical and non-ethical practises.
	Demonstrate routine ethical process.
	Demonstrate interpersonal communication with clients.
3. Perform Loading and Unloading using proper tools and procedures. (NOS: LSC/N0102)	Demonstrate wear of PPE.
	Demonstrate checking of product to be loaded and unloaded.
	Demonstrate the use of appropriate tool.
	Assess the requirement o and maintain the required inventory of different items.
	Select MHEs like forklift etc. based on their capacity, their usage, their technical limitations and suitability if use for different activities.
	Demonstrate the operation of MHEto load or unload the items from the pallet/ racks/ vehicle.
	Prepare daily report to supervisor reporting total loading/Unloading done, damages, delays. Report miss happenings and accidents.
4. Carry out packing and labeling of the materials. (NOS: LSC/N0101)	Demonstrate collection of material from stores as per packing list.
	Demonstrate segregation of materials.
	Demonstrate standard packing Techniques.
	Demonstrate the packing and use of signage in packaging.

	Perform sealing of pack items.
	Demonstrate Labeling of pack item with bar codes.
	Prepare daily report to supervisor reporting total packing done, damages, delays and accidents.
5. Use of Binning methods for proper categorizations of materials. (NOS: LSC/N2102)	Demonstrate noting of instructions from supervisor.
	Arrange equipment's and stationery required like bins, bar codes and product tags.
	Segregate items to be shipped in different bins of different geographical regions.
	Segregate the items to be stored in warehouse.
	Bin the items as per instructions, seal and attach label and bar code.
	Prepare daily report to supervisor reporting total binning done, damages, delays and accidents.
6. Perform Kitting to combine various single items into one unit of various items. (NOS: LSC/N0101)	Demonstrate use of appropriate PPE.
	Check item for damages and other errors.
	Segregate items to be kitted and check Bill of Material (BOM) for any missing components.
	Kit the items as per BOM, Standard Operating Procedures (SOP) and place it in the packing case.
	Demonstrate sealing of Packing case and label them with tags and bar codes.
	Submit daily reports to supervisor reporting total kitting done, damages, delays and accidents.
7. Identify up keeping of warehouse infrastructure. (NOS: LSC/N0104)	Demonstrate checking of all Material Handling Equipment (MHE).
	Demonstrate checking of storage racks.
	Demonstrate checking of PPE.
	Identify non-operational equipment.
	Correct the non-operational equipment by the maintenance department.
	Demonstrate a small plan for preventive maintenance.
8. Practice Reporting Activities, MIS System and its use. (NOS: LSC/N2117, LSC/N2320)	Prepare different types of reports related to inventory change, dispatches, delivery success, inbound receipts, etc.
	Handle different types of MIS systems that are commonly used for reporting.
	Update the reports in MIS. Use Microsoft excel and office.

	Good practices associated with reporting activities and their benefits.
9. Read and apply engineering drawing for different application in the field of work. (NOS: CSC/N9401)	Read & interpret the information on drawings and apply in executing practical work.
	Read &analyze the specification to ascertain the material requirement, tools and assembly/maintenance parameters.
	Encounter drawings with missing/unspecified key information and make own calculations to fill in missing dimension/parameters to carry out the work.
10. Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic science in the field of study. (NOS: CSC/N9402)	Solve different mathematical problems
	Explain concept of basic science related to the field of study

7. TRADE SYLLABUS

SYLLABUS FOR WAREHOUSE TECHNICIAN TRADE			
DURATION: ONE YEAR			
Duration	**Reference Learning Outcome**	**Professional Skills (Trade Practical)**	**Professional Knowledge (Trade Theory)**
Professional Skill 100 Hrs.; Professional Knowledge 15 Hrs.	Recognize & comply safe working practices, environment regulation, safety and security and housekeeping.	1. Make note of all safety processes in different location (cargo loading area, ramp operation area, unloading area, etc.) with reference to area of operation. 2. Wear all PPE such as goggles, ear plugs, helmet, mask, shoes, etc. as applicable in the cargo movement area. 3. Follow standard driving practice to ensure safety of life and material. 4. Follow organizational protocol to deploy action in case of signs of any emergency situation or accident or breach of safety. 5. Undertake periodical preventive health checkups. 6. Follow necessary Standard Operating Procedures (SOP) and precautions while handling dangerous and hazardous goods. 7. Follow security procedures like green gate in port,	• Health, safety and security policies and procedures. • Special instructions for hazardous cargo handling. • Defined standard operating procedures. • Risk and impact of not following defined procedures/work instructions with reference to health, safety and security operations. • Escalation matrix for reporting identified problem. • Basics of Occupational Safety and Health Administration (OSHA). • 5'S implementation and practice. TQM Concepts. • Necessary security procedures for airport, customs area, etc. • Tools and equipment for material handling. • Standard material handling procedures while handling cargo. • Safety and security signage and their functions.

		customs area, factory security, etc. 8. Comply with data safety regulations of the organization. 9. Follow standard safety procedures while handling hazardous / fragile cargo and walk only on the designated pathway.	• Different security tags, labels and signage. • Handling procedure for hazardous / fragile cargo. • Security procedures for dangerous / hazardous shipment. • Different PPE, their usage and purpose. • Safe driving techniques.
Professional Skill 100 Hrs.; Professional Knowledge 20 Hrs.	Maintain integrity and ethics in operation while operating warehouse equipment.	10. Refrain from indulging in corrupt practices. 11. Avoid using company's funds, property or resources for undertaking personal activities. 12. Protect customer's information and ensure it is not misused. 13. Protect data and information related to business or commercial decisions. 14. Avoid acceptance of cash or kind from vendors for support or contract negotiations. 15. Demonstrate and practice ethics in day-to-day processes and dealings with customers and colleagues. 16. Avoid nepotism. 17. Consult supervisor or senior management when in situations that may require differentiating between ethical and	• Company Mission & Vision • Company's policies and Culture. • Company's Human Resources policies. • Company's code of ethics • Company's reporting structure. • Company's documentation policy. • Principles of code of ethics and business ethics. • Various regulatory requirements. • Documentary compliance for various regulations. • Different dangerous shipment. • Regulations with regard to w.r.t dangerous shipment. • Customer service.

		unethical. 18. Report promptly all violations of code of ethics. 19. Dress up and conduct in a professional manner. 20. Communicate with clients and stakeholders in a soft and polite manner. 21. Follow etiquettes in accordance to the place.	
Professional Skill 100 Hrs.; Professional Knowledge 20 Hrs.	Perform Loading and Unloading using proper tools and procedures.	22. Obtain loading and unloading schedule including docking bay and time of transport arrival from supervisor. 23. Arrange necessary material handling equipment, tools, tackles, chains, and ropes for loading or unloading. 24. Wear the appropriate PPE required for operations. 25. Check the product to be loaded or unloaded with respect to the order and report to supervisor, in case of discrepancies. 26. Use the appropriate tools, ropes/chains and secure the product/crate. 27. Operate MHE to load or unload the items from the pallet/ racks/ vehicle as required. 28. Deliver the unloaded packages to the specified location as per the instructions.	• Use of computer and data handling devices. • Use of different MHE and their uses. • Operating MHEs. • Different geographical locations. • Information from the ERP system, instruction list. • Various escalations regarding resolving and catering to the customer query, feedback and timely service. • Overall process in operations. • Different types of goods being handled. • Handling requirements for dangerous and special goods. • Various types of PPEs and their usages.

		29. Report any breakages, spillages of package or consignment. 30. Move damaged goods to the quarantine area. 31. Park the MHE at the designated parking location. 32. Submit a daily report to the supervisor.	
Professional Skill 100 Hrs.; Professional Knowledge 20 Hrs.	Carry out packing and labeling of the materials.	33. Obtain packing list from the supervisor. 34. Collect the packing material such as labels, tags, barcodes, etc from the stores. 35. Receive the items for packing from the picker or binner, check for damages and report preparation. 36. Segregate and pack items, label them with bar codes and product tags, signages and seal the packages. 37. Handover the packed items to binner or loader. 38. Submit daily reports to the supervisor. 39. Packing and types of packing techniques, labelling etc.	• Introduction to warehouse. Principles of Warehousing. • Describe various stages in receiving goods • Types of ware houses. broad functions in a warehouse. Warehouse layouts and layout related to functions Associate warehouse and its functions with equipment's available. • Steps to be taken in each stage of receipt. • Procedure for Arranging of goods ondock for counting and conduct visual inspection of goods unloaded. • Formats for recording of goods unloadedfrom carriers. • Use of computer and data handling devices. • Use of different material handling equipment and

			their uses. • Different geographical locations. • Types of packing material such as bubble wrap, shrink wrap, corrugated boxes, thermocol beads, etc. • Packing techniques such as boxing, lashing, etc. • Packaging machines and their usage. • Documentation procedures of inbound and stocks. • Procedure to Prepare Warehouse dispatches. • State picking and packing activities and their importance in a warehouse. • Define the quality check and state the need and its importance. • Procedure to develop packing list /dispatch note.
Professional Skill 140 Hrs.; Professional Knowledge 25 Hrs.	Use of Binning methods for proper categorizations of materials.	40. Obtain binning instructions for the day from supervisors. 41. Arrange for various equipment and stationery required like bins, bar codes and product tags. 42. Receive the items for binning, check for damages and report the same to supervisor.	• Use and applications of binning. • Storage location codes and its application. • Explain put away list and its need. • Process of put away activity.

		43. Segregate items that need to be stored in the warehouse and the ones that need to be shipped in different bins of different geographical regions. 44. Bin the items as per instructions, seal and attach label and bar code. 45. Handover binned items to the picker or loader for transport. 46. Submit daily reports to the supervisor.	
Professional Skill 100 Hrs.; Professional Knowledge 20 Hrs.	Perform Kitting to combine various single items into one unit of various items.	47. Obtain kitting list from supervisor and details of shift schedule for kitting. 48. Use the appropriate PPE based on the product and environment. 49. Check items received for kitting for damages, bar code /product label errors and report the same to supervisor. 50. Segregate items to be kitted and check Bill of Material (BOM) for any missing components, and report the same to supervisor. 51. Receive replacement or missing components. 52. Collect required packing cases and sealing material from the packing and storage supervisor. 53. Kit the items as per BOM, Standard Operating	• Knowledge of types of products to be kitted. • Quantity and types of components required for each product. • Component variations among different models of the same product. Knowledge of quick fixes for minor issues. • Types of workplace hazards that one can encounter on the job. • Knowledge of unique characteristics of products such as hazard, handling method to be used, etc.

		Procedures (SOP) and place it in the packing case. 54. Seal the packing case and label it with tags and barcodes. 55. Handover kitted items to picker or loader for transport. 56. Submit daily reports to supervisor reporting total kitting done, damages, delays and accidents.	
Professional Skill 100 Hrs.; Professional Knowledge 20 Hrs.	Identify up keeping of warehouse infrastructure.	57. Ensure all Material Handling Equipment (MHE), storage racks, and PPE are in working condition. 58. Escalate non-operational equipment and ensure they are corrected by the maintenance department. 59. Support in planning and executing preventive maintenance. 60. Support supervisor in planning for new equipment purchase, installation and commissioning.	• Use of computer and associated data management devices. • Scheduling and planning of different activities. • Different inventory models and type of warehouses. • Types of goods being handled • Labels and instructions regarding shipments, MHEs, equipment and work-. • Videos on each stages of warehousing. • Five different Industrial Visits to warehouses. • Mini project work. • MIS Reports, JIT, Key Performance Indicators. • General Maintenance and Preventive Maintenance of MHE and Packaging equipment's.

Professional Skill 100 Hrs.; Professional Knowledge 20 Hrs.	Practice Reporting Activities, MIS System and its use.	61. Prepare reports related to inventory change, dispatches, delivery success, inbound receipts, etc. 62. Use MIS systems for reporting use Microsoft excel and office. 63. Watch video of MIS systems generating reports. 64. Follow various good practices associated with reporting activities and their benefits.	• Different types of reports related to inventory change, dispatches, delivery success, inbound receipts, etc. • Different types of MIS systems that are commonly used for reporting • Making and updating reports in MIS or Microsoft excel and office. • Various good practices associated with reporting activities and their benefits.
ENGINEERING DRAWING(40 HOURS)			
Professional Knowledge ED- 40 Hrs.	Read and apply engineering drawing for different application in the field of work.	**ENGINEERING DRAWING:** Introduction to Engineering Drawing and Drawing Instruments • Conventions • Sizes and layout of drawing sheets • Title Block, its position and content • Drawing Instrument Free hand drawing of – • Geometrical figures and blocks with dimension • Transferring measurement from the given object to the sketches. • Free hand drawing of hand tools. Drawing of Geometrical figures: • Angle, Triangle, Circle, Rectangle, Square, Parallelogram. • Lettering & Numbering – Single Stroke. • Reading of dimension and Dimensioning Practice. Symbolic representation – • Different packing and labeling materials used in the trades. Reading of Warehouse layout / Job stacking/ pallet stack drawing plan	
WORKSHOP CALCULATION & SCIENCE (40 HOURS)			
Professional Knowledge	Demonstrate basic mathematical concept and	**WORKSHOP CALCULATION & SCIENCE:** **Unit, Fractions** Classification of unit system	

WCS- 40 Hrs.	principles to perform practical operations. Understand and explain basic science in the field of study.	Fundamental and Derived units F.P.S, C.G.S, M.K.S and SI units Measurement units and conversion Factors, HCF, LCM and problems Fractions - Addition, substraction, multiplication & division Decimal fractions - Addition, subtraction, multilipication& division Solving problems by using calculator **Square root, Ratio and Proportions, Percentage** Square and suare root Simple problems using calculator Applications of pythagoras theorem and related problems Ratio and proportion Ratio and proportion - Direct and indirect proportions Percentage Precentage - Changing percentage to decimal and fraction **Material Science** Types metals, types of ferrous and non ferrous metals Physical and mechanical properties of metals **Mass, Weight, Volume and Density** Mass, volume, density, weight and specific gravity, numerical related to L,C,O section only Related problems for mass, volume, density, weight and specific gravity **Heat & Temperature and Pressure** Concept of heat and temperature, effects of heat, difference between heat and temperature, boiling point & melting point of different metals and non-metals Concept of pressure - Units of pressure, atmospheric pressure, absolute pressure, gauge pressure and gauges used for measuring pressure **Basic Electricity** Introduction and uses of electricity, molecule, atom, how electricity is produced, electric current AC,DC their comparison, voltage, resistance and their units Conductor, insulator, types of connections - series and parallel Ohm's law, relation between V.I.R & related problems Electrical power, energy and their units, calculation with assignments Magnetic induction, self and mutual inductance and EMF

		generation Electrical power, HP, energy and units of electrical energy **Mensuration** Area and perimeter of square, rectangle and parallelogram Surface area and volume of solids - cube, cuboid, cylinder, sphere and hollow cylinder **Levers and Simple machines** Simple machines - Effort and load, mechanical advantage, velocity ratio, efficiency of machine, relationship between efficiency, velocity ratio and mechanical advantage Lever & Simple machines - Lever and its types
Project work / Industrial visit **Broad Areas:** a) Inboundandoutbound process management in warehouse. b) Generating reports using MIS systems c)Good practices associated with reporting activities and their benefits. d) Use of Material Handling Equipments in different in-plant setups, their technical and practical limitations, etc.		

SYLLABUS FOR CORE SKILLS
1. Employability Skills (Common for all CTS trades) (120 Hrs.)

Learning outcomes, assessment criteria, syllabus and Tool List of Core Skills subjects which is common for a group of trades, provided separately inwww.bharatskills.gov.in/dgt.gov.in

ANNEXURE-I

List of Tools & Equipment			
Warehouse Technician (for batch of 20Candidates)			
S No.	**Name of the Tools and Equipment**	**Specification**	**Quantity**
A. TRAINEES TOOL KIT (For each additional unit trainees tool kit Sl. 1-12 is required additionally)			
1.	Safety Shoes		(20 +1) pairs
2.	Safety Helmet		(20 +1) Nos.
3.	Gloves		(20 +1) pairs.
4.	Reflector Jackets		(20 +1) Nos.
5.	Ear Plugs		(20 +1) pairs.
6.	Industrial Goggles		(20 +1) Nos.
7.	SOP Charts		(20 +1) Nos.
8.	Safety Norms Handbook		(20 +1) Nos.
9.	Technical specification Sheet		1x5 sets (1 (each/packing machines type)
10.	Material Safety Data Sheet		(20 +1) Nos.
11.	DO's and Don'ts Sheet		1x5 sets (1 (each/packing machines type)
B. SHOP TOOLS & EQUIPMENT – For 2 (1+1) units no additional items are required			
(i) List of Tools & Accessories			
12.	Tools required for assembly line set up		05 set
(ii) List of Equipment			
13.	MHE equipment's Battery Operated Pallet Truck, Forklift, Reach Truck and Order Picker		1each
14.	Demarcation equipment		1 No.
15.	Pallets		5 Nos.
16.	Packaging materials		25 Nos.
17.	Packaging devices		10 Nos.
18.	Alarm		1 No.
19.	Scanner		15 Nos.
20.	PPE		15 Nos.
C. Shop Machinery			

21.	Assembly of components Set up		
22.			
23.			
D. Shop Floor Furniture and Materials - For 2 (1+1) units no additional items are required			
24.	Working Bench	2.5 m x 1.20 m x 0.75 m	4 Nos.
25.	white board	4 feet x 6 feet	1 No.
26.	Instructor's table	Suitable size	1 No.
27.	Instructor's chair	Normal class room chair	2 Nos.
28.	Metal Rack	100cm x 150cm x 45cm	4 Nos.
29.	Lockers with drawers		1 for Each Trainee
30.	Almirah	2.5 m x 1.20 m x 0.5 m	1 No.
31.	Black board/	(minimum 4X6 feet)	1 No.
32.	Fire Extinguisher CO2	2 KG	2 Nos.
33.	Fire Buckets	Standard size	2 Nos.
34.	Projector		1 No.
35.	Video player or TV		1 No.
36.	Printer		1 No.
37.	Tracker		1 No.
38.	Safety Norms Handbook		25 Nos.
39.	Technical specification Sheet		25 Nos.
40.	SOP		10 Nos.
41.	Computer		1 No.
42.	Stationeries		25 Nos.
43.	Marker		2 No.
44.			

Note: -

1. *All the tools and equipment are to be procured as per BIS specification.*
2. *Internet facility is desired to be provided in the class room.*

ANNEXURE – II

The DGT sincerely acknowledges contributions of the Industries, State Directorates, Trade Experts, Domain Experts, trainers of ITIs, NSTIs, faculties from universities and all others who contributed in revising the curriculum.

Special acknowledgement is extended by DGT to the following expert members who had contributed immensely in this curriculum.

List of Expert Members contributed/ participated for finalizing the course curriculum of Warehouse Technician trade.			
S No.	**Name & Designation**	**Organization**	**Remarks**
1.	Sh. J. D. Masilamani, Director	DGT HQ, New Delhi	STCC Convener
2.	Sh. C. S. Murthy, JDT	CSTARI Kolkata	Member
3.	Sh. M Kumarvel, Deputy Director	NSTI Banglore	Member
4.	Sh. T V Rajasekhar, Deputy Director	NSTI Chennai	Member
5.	Sh. Aryan Jangra, Assistant Direct	TT Cell, DGT HQ	Member
6.	Sh. Subhankar Bhowmick, Assistant Manager	NIMI Chennai	Member
7.	Sh. S. Bandopadhyay, Training Officer	CSTARI Kolkata	Member
8.	Sh. Lokpal, Principal	Govt ITI Pusa., New Delhi	Member
9.	Capt. Ramanujam, CEO	Logistics SSC, Chennai	Expert
10.	Dr. T C Saravabava, Head – Apprenticeship	LSC, Chennai	Expert
11.	Sh. Anil Kumar Srivastava	Under Secretary(Logistics), New Delhi	Expert
12.	Sh. S A Mohan, CEO	Armes Maini Storage Systems, Bengaluru	Expert
13.	Sh. S Ramachandran, General Manager	TVS Supply Chain Solutions, Chennai	Expert
14.	Sh. Ashish Singh, Principal	Adarsh Rashtriya Pvt ITI. Cholapur, Varanasi	Expert
15.	Dr. M.V.Venkatesan, DGM	L & T Construction, Chennai	Expert
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24.	Sh. B Biswas, Training Officer	CSTARI Kolkata	Member
25.	Akhilesh Pandey, Training Officer	CSTARI, Kolkata	Member

ABBREVIATIONS

CTS	Craftsmen Training Scheme
ATS	Apprenticeship Training Scheme
CITS	Craft Instructor Training Scheme
DGT	Directorate General of Training
MSDE	Ministry of Skill Development and Entrepreneurship
NTC	National Trade Certificate
NAC	National Apprenticeship Certificate
NCIC	National Craft Instructor Certificate
LD	Locomotor Disability
CP	Cerebral Palsy
MD	Multiple Disabilities
LV	Low Vision
HH	Hard of Hearing
ID	Intellectual Disabilities
LC	Leprosy Cured
SLD	Specific Learning Disabilities
DW	Dwarfism
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities


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