सत्यमेव जयते

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

COMPETENCY BASED CURRICULUM

AUTOMOTIVE LOGISTICS TECHNICIAN

(Duration: Two Years)

CRAFTSMEN TRAINING SCHEME (CTS)

(Flexi-MoU)

NSQFLEVEL- 4

SECTOR – AUTOMOTIVE

कौशलं बलम्
Directorate General of Training

AUTOMOTIVE LOGISTICS TECHNICIAN

(Designed in 2024)

Version: 1.0

CRAFTSMEN TRAINING SCHEME (CTS)

Under Flexi-MoU

NSQF LEVEL- 4

Developed By

Toyota Kirloskar Motor Pvt. Ltd.

&

Government of India

Ministry of Skill Development and Entrepreneurship

Directorate General of Training

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1. COURSE INFORMATION

Flexi- MoU is one of the pioneer program under DGT on the basis of the MoU in between DGT & Industry Training Partner (ITP) for propagating vocational training to allow industries to take advantage of various schemes for conducting training program in higher employment potential courses according to needs of industries. The concept of Flexi- MoU was introduced in June-July 2014. DGT and Industry Training Partner (ITP) shall decide to sign the memorandum of understanding to provide an opportunity to the youth to acquire skills related to Automobile and Manufacturing industry through specially designed "Learn and Earn" approach consisting of a mix of theoretical and On-the-Job Training (OJT) components and hence improve their employability potential & to contribute in the overall growth of automobile and manufacturing industry by creating a pool of skilled resources.

The content broadly covers skills in manufacturing process of automobiles components and automobiles in today's automobile industry. The year wise course coverage is categorized as below:

FIRST YEAR:

In the first year, the contents covered are safety aspects related to trade, familiarization with automobile systems and components, company's policies on: safety policies and procedures; warehouse safety standards; basic compliance to technical requirements and standards; safety and hazards. practical training starting with practice with tools & measuring instruments like. Vernier calliper, micrometer, height gauge, dial gauge, slip gauge, feeler gauge, go-no go gauges etc. The different supply chain system like, minomi system (Without Packaging, only the content) Jundate system (Process of preparing the parts as per production line), jumbiki system (Supplier preparing the parts as per the production line), SPS system (Set parts supply), Manifest check (ordering vs received process),Progressive In & Out line, Vanning, Devanning, Delivery, Truck unloading & Loading, To receive, Store & Deliver Right parts, Right quantity, Right Time, Right Place with Quality & Safety to Achieve Zero Accident, Zero Line stop, Zero Wrong part, Individuals at this job need to operate a forklift for loading and unloading heavy raw materials, parts, assemblies and finished goods within the shop floor and in stores/warehouse for various manufacturing processes of an organization. This job requires the individual to drive/operate continuously for long hours in physically demanding conditions on the shop floor. by using hard wares like dollies, Roller shooters, Flow racks, Box pallet, Metal trolley, Metal pallet, Wooden skid, Individual must be physically fit and have a good sense of balance, ability to judge distances and good eye-hand-foot coordination. The individual should also be able to demonstrate skills for information ordering, oral expression and comprehension. This is followed by on job training in practice in different store house including line of automation in manufacturing & automation components.

SECOND YEAR:

In this year, Individuals at this job need to operate a Tow motor & Tow Truck for loading and unloading heavy raw materials, parts, assemblies and finished goods within the shop floor and in stores/warehouse for various manufacturing processes of an organization, they will be covered Kanban & Different Kanban (IKBP (Inhouse Kanban bar code print), E - Kanban), Standardized work documents preparation, Sorting Line, Baton Pass line, Import Parts, Local Parts storage in PC (Parts control) zone, , This job requires the individual to drive continuously for long hours in physically demanding conditions on the shop floor. Individual must be physically fit and have a good sense of balance, ability to judge distances and good eye-hand-foot coordination. This is followed by on job training in practice in different store house including line of automation in manufacturing & automation components.by using hard wares like dollies, Flow racks, Boxes, pallets, Metal trolley, Metal pallet, Wooden skid, Different dolly, FIFO & LIFO Advantages & Disadvantages OF FIFO & LIFO.

The trainee also undergoes project work and Industrial visit/ In plant training at the end of each year which gives them more practical exposure and helps to build up confidence level.

2.1 GENERAL

The Directorate General of Training (DGT) under Ministry of Skill Development and Entrepreneurship offers a range of vocational training courses catering to the need of different sectors of economy/labor market. DGT is futuristic in preparing the prospective Indian workforce in building skills and capabilities as per the needs of the industry. In this quest, it has changed the paradigm of growth to a job-oriented training by partnering with industry to be an enabler of responsible, sustainable and inclusive growth. Towards this objective, DGT signed this MOU with Industrial Training Partner (ITP).

Automotive Logistics Technician trade under CTS (Flexi-MoU) is of two years' duration. It mainly consists of Domain area and Core area. The Domain area (Trade Theory and Practical) imparts professional skills and knowledge, while Core area (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 under Flexi-MoU which is recognized worldwide.

Industrial Training Partner (ITP) shall conduct courses at the Industry Partner's location. On the Job Training will be conducted inside the Plant premises. It will also ensure the eligible trainees take up Apprenticeship / higher education in suitable streams and shall also guide the students to become Entrepreneurs. Industrial Training Partner (ITP) will strictly follow the policy guidelines for Flexi-MoU as in place from time to time. No deviation for the same would be permitted. Admission and Exam for trades run under Flexi-MoU at training locations of Industrial Training Partner. Theory content is provisioned to be 25% and practical content is provisioned to be 75%.

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 and 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, Supervisor and can rise up to the level of Manager.
- Can become Entrepreneur in the related field.
- Can appear in 10+2 examination through National Institute of Open Schooling (NIOS) for acquiring higher secondary certificate and can go further for General/Technical education.
- Can take admission in diploma course in notified branches of Engineering by lateral entry.
- 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.
- Can join Advanced Diploma (Vocational) courses under DGT as applicable.

2.3 COURSE STRUCTURE

Table below depicts the distribution of training hours across various course elements during period of two-years:

S No.	Course Element	Notional Training Hours	
		1st Year	2nd Year
1	Professional Skill (Trade Practical)	330	330
2	Professional Knowledge (Trade Theory)	240	240
3	Employability Skills	120	60
4	On the Job Training	840	900
5	Project Work	60	60
	Total	**1590**	**1590**

2.4 ASSESSMENT AND 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 DGT from 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 DGT from 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% and for all other subjects is 33%. There will be no grace marks.

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 scrap/ wastage as per procedure, behavioral attitude, sensitivity to environment and regularity in training. The sensitivity towards OSHE (Occupational Safety and Health Environment) and self-learning attitude are to be considered while assessing competencies.

Assessment will be evidence based, comprising the following:

- Job carried out in labs/workshop
- Record book/daily diary
- Answer sheet of assessment
- Viva-voce
- Progress chart
- Attendance and Punctuality
- Assignment

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 while assessing:

Performance Level	Evidence
(a)Weightage in the range of 60-75% to be allotted during assessment	
For performance in this grade, the candidate should produce work which demonstrates attainment of an acceptable standard of craftsmanship with occasional guidance, and due regard for safety procedures and practices.	• Demonstration of good skill in the use of hand tools, machine tools and workshop equipment. • 60-70% accuracy achieved while undertaking different work with those Demanded by the component/job. • A fairly good level of neatness and consistency in the finish. • Occasionalsupport in completing the project/job.
(b)Weightage in the range of above 75%-90% to be allotted during assessment	
For this grade, a candidate should produce work which demonstrates attainment of a reasonable standard of craftsmanship, with little guidance, and regard for safety procedures and practices.	• 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. • A good level of neatness and consistency in the finish • Little support in completing the project/job.
(c)Weightage 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. • A high level of neatness and consistency in the finish. • Minimal or no support in completing the project.

3. JOB ROLE

Brief Description of Job Role:

Forklift Truck Operator: Forklift Truck Operator operates power driven truck fitted with lifting fork to transport or stack merchandise and other material in warehouse, storage yard, factory. Drives truck to location of load; positions truck near load and moves levers to place forklift below load and raise; drives position; unloads and stacks material by operating lifting fork.

Loader and Unloader: Loaders and Unloaders load and unload cargo, Explosive Materials, Bulk Materials etc.

Warehouse Worker: The person is responsible for receiving, sorting, storing Assist in documenting and organizing for transportation of goods stored to customer locations.

Loader, Transport Associate/Loader/Unloader: Loader/Unloader in the Logistics industry is also known as Loader. Individuals in this role need to identify goods based on the product code, unload them from the truck onto the inbound area and move them to the staging area. A similar sequence is done for loading. Their responsibilities include identifying damaged goods and moving goods safely.

Loader/Loading and Unloading Operator: Loading and Unloading needs to safely load and unload different vehicles, parts, assemblies, components etc. internally to various departments of a manufacturing process and on to the vehicles for dispatch based on requirements.

Inventory Clerk: Inventory Clerk in the Logistics industry is also known as Inventory Executive. Individuals in this role need to collect the stored items list, perform physical counting of goods, cross checking the physical count with the system numbers. Their responsibilities include locating missing items for reconciliation and preparing detailed reports for the management.

Warehouse Picker: Warehouse Picker in the Logistics industry is also known as Picker, Individuals in this role need to pick items from storage. Individuals are responsible for picking items according to the list.

Warehouse Binner: Warehouse Binner in the Logistics industry is also known as Binner. Individuals in this role need to bin items to put away into storage. Individuals are responsible for binning items according to a list. The difference in tasks performed under the Binner role thus varies according to the volume of operations, however the core function of the role is to bin items and put them away into storage.

Warehouse Packer: Warehouse Packer in the Logistics industry is also known as Packer. Individuals are responsible for packing items that require additional pre-packing or outbound packaging.

Mobile Equipment Operator: Mobile Equipment Operator inspects mobile equipment like Forklift truck, loading and driving vehicles for carrying materials from one place to another inside the plant. This job also involves carrying

Reference NCO-2015:

a) 8344.0201 – Forklift Truck Operator
b) 9333.0100 – Loader and Unloader
c) 9333.0201 – Warehouse Worker
d) 9333.0202 – Loader, Transport Associate/Loader/Unloader
e) 9333.0101 – Loader/Loading and Unloading Operator
f) 4321.0601 – Warehouse Picker
g) 4321.0602 – Warehouse Binner
h) 4321.0603 – Warehouse Packer
i) 8342.2101 – Mobile Equipment Operator

Reference NOS:

a) CSC/N9401
b) CSC/N9402
c) ASC/N9531
d) ASC/N9532
e) ASC/N9533
f) ASC/N9534
g) ASC/N9535
h) ASC/N9536
i) ASC/N9537
j) ASC/N9538
k) ASC/N9539
l) ASC/N9540
m) ASC/N9541
n) ASC/N9542
o) ASC/N9543
p) ASC/N9544
q) ASC/N9545
r) ASC/N9546
s) ASC/N9547
t) ASC/N9548
u) ASC/N9549
v) ASC/N9550
w) ASC/N9551
x) ASC/N9552
y) ASC/N9553

4. GENERAL INFORMATION

Name of the Trade	**Automotive Logistics Technician (Flexi MoU)**
NCO–2015	8344.0201, 9333.0100, 9333.0201, 9333.0202, 9333.0101, 4321.0601, 4321.0602, 4321.0603, 8342.2101
Mapped NOS	CSC/N9401, CSC/N9402, ASC/N9531, ASC/N9532, ASC/N9533, ASC/N9534, ASC/N9535, ASC/N9536, ASC/N9537, ASC/N9538, ASC/N9539, ASC/N9540, ASC/N9541, ASC/N9542, ASC/N9543, ASC/N9544, ASC/N9545, ASC/N9546, ASC/N9547, ASC/N9548, ASC/N9549, ASC/N9550, ASC/N9551, ASC/N9552, ASC/N9553
NSQF Level	Level-4
Duration of Craftsmen Training (Instructional Hours)	Two year (3180 Hours)
Entry Qualification	Passed 10th class examination or its equivalent.
Minimum Age	18 years as on first day of academic session.
Unit Strength (No. Of Student)	20
Space Norms	1000 Sq M
Power Norms	17 KW
Instructors Qualification for	
(i) Automotive Logistics Technician Trade	B.Voc/ Degree in Automobile/ Mechanical Engg. (with specialization in Automobile) from AICTE/ UGC recognized Engineering College/ university with one-year experience in the relevant field. **OR** Three years Diploma in Automobile/ Mechanical (specialization in automobile) 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 the related trades with 3 years' experience in the relevant field. **Essential Qualification:** Relevant National Craft Instructor Certificate (NCIC) in any of the variants 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	B.Voc./Degree in Engineering from AICTE/UGC recognized

Calculation and Science	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. **Essential Qualification:** National Craft Instructor Certificate (NCIC)in relevant trade **OR** 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 Electrical groups (Gr-II) trades categorized under Engg. Drawing'/ D'man Mechanical / D'man Civil' with three years' experience. **Essential Qualification:** National Craft Instructor Certificate (NCIC)in relevant trade **OR** NCIC in RoDA/D'man (Mech/Civil) 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 it is with short term ToT Course in Employability Skills
(v) Minimum age for Instructor	21 years
List of Tools and 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.

LEARNING OUTCOMES

FIRST YEAR

1. Recognize and adhere to health, safety, and environmental protocols in vehicle manufacturing plants. (NOS: ASC/N9531)
2. Identify and demonstrate the use of essential tools and measuring instruments in industrial settings. (NOS: ASC/N9532)
3. Illustrate logistics processes, identify risks, and describe logistics equipment and technology. (NOS: ASC/N9533)
4. Demonstrate forklift types and attachments, explain their functions and applications. (NOS: ASC/N9534)
5. Conduct thorough pre-drive forklift inspections, ensuring operational readiness. (NOS: ASC/N9535)
6. Apply forklift safety practices, including load capacity awareness and stability management. (NOS: ASC/N9536)
7. Conduct regular forklift inspections, identifying issues and performing basic troubleshooting. (NOS: ASC/N9537)
8. Safely demonstrate forklift operations, including forward, reverse, and zigzag driving techniques. (NOS: ASC/N9538)
9. Perform safe loading/unloading of pallets and correctly load pallets onto shooters. (NOS: ASC/N9539)
10. Demonstrate best practices for truck loading/unloading with forklifts on the PLUS TRACK. (NOS: ASC/N9540)
11. Interpret logistics concepts like Minomi, Jundate, Jumbiki, and the SPS System for production efficiency. (NOS: ASC/N9541)
12. Illustrate the function of a progressive lane and its impact on material flow. (NOS: ASC/N9542)
13. Execute devanning and vanning processes to prevent damage. (NOS: ASC/N9543)
14. Emphasize quality standards in logistics, demonstrating quality control measures. (NOS: ASC/N9544)
15. Demonstrate warehouse operations with forklifts and identify essential hardware for efficiency. (NOS: ASC/N9545)
16. Read and apply engineering drawing for different application in the field of work. (NOS: CSC/N9401)
17. Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic science in the field of study. (NOS: CSC/N9402)

SECOND YEAR

18. Create standardized work documents and implement Kanban for efficient inventory management. (NOS: ASC/N9546)
19. Perform manifest checks, explain the "B" line in production, and effectively sort items. (NOS: ASC/N9547)
20. Interpret the flow rack system and demonstrate its role in organizing and delivering materials. (NOS: ASC/N9548)
21. Conduct tow motor pre-drive inspections and demonstrate driving techniques in the "B" line. (NOS: ASC/N9549)
22. Perform tow truck pre-drive inspections and demonstrate driving techniques. (NOS: ASC/N9550)
23. Demonstrate dolly connection and safe handling/loading/unloading of dollies. (NOS: ASC/N9551)
24. Identify modules and boxes, and demonstrate methods for receiving, storing, and supplying parts. (NOS: ASC/N9552)
25. Apply FIFO and LIFO inventory methods, analyze their impact on production. (NOS: ASC/N9553)
26. Read and apply engineering drawing for different application in the field of work. (NOS: CSC/N9401)
27. 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
FIRST YEAR	
1. Recognize and adhere to health, safety, and environmental protocols in vehicle manufacturing plants. (NOS: ASC/N9531)	Practice and understand precautions to be followed while working in Logistics Area
	Safe use of equipment generally used in Logistics area with operating standard.
	Understand class of fire and be able to operate fire extinguishers.
	Practical use and understanding of PPEs.
2. Identify and demonstrate the use of essential tools and measuring instruments in industrial settings. (NOS: ASC/N9532)	Identification of different types of Tools
	Identification of Classification of tools
	Demonstrate Hand tools, Holding Tools, Marking Tools, Cutting Tools, Measuring Tools
	Demonstrate Vernier caliper, Micrometer, Vernier height gauge,
	Demonstrate Dial gauge, slip gauge, feeler gauge, go-no go gauges
	Demonstrate safe handling of Measuring Tools
3. Illustrate logistics processes, identify risks, and describe logistics equipment and technology. (NOS: ASC/N9533)	Definition of Logistics
	Evolution of the term Logistics
	Evolution of Modern-day Logistics
	Types of Logistics
	Flow of Logistics in Automobile Industry
	Risk in Logistics
	Logistics Equipments used in Automobile Industry
4. Demonstrate forklift types and attachments, explain their functions and applications. (NOS: ASC/N9534)	Definition & History of Forklift
	Nomenclature of Forklift
	Working principal of forklift
	Classification of forklifts
	Definition of Battery & types of battery
	Forklift attachment
5. Conduct thorough pre-drive forklift inspections, ensuring operational readiness. (NOS: ASC/N9535)	Visually check the forklift before starting for: Engine oil level, fuel level, radiator water level (LPG, gas and diesel forklifts).
	Identify Battery is fully charged; check cables for exposed wires; battery plug connections not loose, worn or dirty; vent caps not clogged; (battery operated FLT's)
	Identify electrolyte levels in cells; hold-downs or brackets to keep battery securely in place.

	Identify Bolts, nuts, guards, chains, or hydraulic hose reels are not damaged, missing or loose.
	Identify Wheels and tyres for wear, damage.
	Identify Forks are not bent; no cracks present; positioning latches are in good working condition; carriage teeth not broken, chipped or worn.
	Identify Chain anchor pins are not worn, loose or bent.
	Identify Fluid Leaks - no damp spots or drips.
	Identify Hoses are held securely; not loose, crimped, worn or rubbing
	Identify Horn is working and loud enough to be heard in working environment; other warning devices operational.
	Identify Lights - head lights and warning lights operational.
	Identification of following components of forklift for operational ease:
	Identify Foot Brake, Parking brake, Seat brake, Clutch, Gearshift, Dash control panel, Steering.
	Identify Lift Mechanism – operates smoothly (check by raising forks to maximum height then lowering forks completely).
	Identify Tilt Mechanism – moves smoothly and holds (check by tilting mast all the way forward and backward).
	Identify Cylinders and Hoses, Listen for any unusual sounds or noises
	Start the forklift and check for the following once again: check that all warning devices operate (horn, indicator lights, rear and brake lights and the reverse alarm).
	Check that the mast tilts forward and back correctly and that the mast extends.
	Ensure following preventive maintenance as per schedules laid down guidelines.
6. Apply forklift safety practices, including load capacity awareness and stability management. (NOS: ASC/N9536)	Illustration of Forklift safety
	Forklift safety rules & its Importance
	Illustration when working in overhead (Height work)
	Causes of Accident
	Important safety tips
	Measure of good forklift training & operation
	Role of a forklift operator
7. Conduct regular forklift inspections, identifying issues and performing basic troubleshooting. (NOS: ASC/N9537)	Checking Front zone inspection.
	Checking Right zone inspection.
	Checking Back zone inspection.
	Checking Left zone inspection.
	Checking Forklift before startup.

8. Safely demonstrate forklift operations, including forward, reverse, and zigzag driving techniques. (NOS: ASC/N9538)	Illustrate Getting ON.
	Illustrate Getting OFF.
	Illustrate Driving forward.
	Illustrate Driving Reverse.
	Illustrate Driving Zigzag.
9. Perform safe loading/unloading of pallets and correctly load pallets onto shooters. (NOS: ASC/N9539)	Define Loading, Unloading.
	Illustrate different types of pallets.
	Illustrate Procedure for Loading & unloading of pallets.
	Illustrate Flow rack Pallet Chute.
	Illustrate Procedure for Loading & unloading of pallets to shooter.
	Purpose of Flow rack Pallet Chute.
10. Demonstrate best practices for truck loading/unloading with forklifts on the PLUS TRACK. (NOS: ASC/N9540)	Explain Truck Loading & Unloading
	Illustrate Procedure for Loading & unloading of pallets to Truck
	Explain Loading & Unloading of pallets in PLUS track
	Illustrate Procedure for Loading & unloading of pallets In PLUS track with safety, Quality, Key point, Knack point & Time.
11. Interpret logistics concepts like Minomi, Jundate, Jumbiki, and the SPS System for production efficiency. (NOS: ASC/N9541)	Define Minomi system.
	Define Jundate system.
	Define Jumbiki system.
	Define SPS system.
	Purpose of above system.
12. Illustrate the function of a progressive lane and its impact on material flow. (NOS: ASC/N9542)	Define Progressive Line.
	Define P - LANE In & P - LANE Out.
	Purpose of Progressive Lane.
13. Execute devanning and vanning processes to prevent damage. (NOS: ASC/N9543)	Define Devanning, Vanning.
	Process flow of Devanning, Vanning.
	Major confirmation points of Devanning, Vanning.
14. Emphasize quality standards in logistics, demonstrating quality	Define quality.
	Explain Concept of quality.
	Explain Design quality.

control measures. (NOS: ASC/N9544)	Explain Manufacture quality.
	Explain Importance of quality.
15. Demonstrate warehouse operations with forklifts and identify essential hardware for efficiency. (NOS: ASC/N9545)	Define Ware house & Illustrate Procedure for Loading & unloading of parts in Ware house.
	Define hardware & illustrate different types of hardware's used in forklift operation.
16. 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.
17. 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.
SECOND YEAR	
18. Create standardized work documents and implement Kanban for efficient inventory management. (NOS: ASC/N9546)	Define Standardized work & document preparation.
	What is E -kanban & Importance of Kanban.
19. Perform manifest checks, explain the "B" line in production, and effectively sort items. (NOS: ASC/N9547)	Illustrate Manifest check, "B" Line (Baton pass line) & Sorting.
	Operation of "B" Line (Baton pass line).
20. Interpret the flow rack system and demonstrate its role in organizing and	Define flow rack.
	Define delivery process & key points while delivery of parts (Dolly handling, Box handling) empty box collection.

delivering materials. (NOS: ASC/N9548)	
21. Conduct tow motor pre-drive inspections and demonstrate driving techniques in the "B" line. (NOS: ASC/N9549)	Demonstrate tow motor & Nomenclature of tow motor.
	Checking Front zone, Right zone, Back zone, Left zone inspection.
	Checking Tow motor before startup.
	Illustrate Getting ON, Getting OFF, Driving forward, Driving Reverse, Driving Zigzag.
22. Perform tow truck pre-drive inspections and demonstrate driving techniques. (NOS: ASC/N9550)	Demonstrate tow Truck & Nomenclature of tow Truck.
	Checking Front zone, Right zone, Back zone, Left zone inspection.
	Checking Tow truck before startup.
	Illustrate Getting ON,Getting OFF, Driving forward, Driving Reverse, Driving Zigzag.
23. Demonstrate dolly connection and safe handling/loading/unloading of dollies. (NOS: ASC/N9551)	Demonstrate handling of dollies & different types of dolly.
	Demonstrate Loading & Unloading of dollies.
	Demonstrate supply of parts using Tow truck with different dolly.
24. Identify modules and boxes, and demonstrate methods for receiving, storing, and supplying parts. (NOS: ASC/N9552)	Define Modules, Boxes & Different types of Modules, Boxes.
	Demonstrate Unpacking.
	Illustrate Import parts, Local parts, Receiving, Storing & Supply method.
25. Apply FIFO and LIFO inventory methods, analyze their impact on production. (NOS: ASC/N9553)	Illustrate FIFO & LIFO.
	Demonstrate advantages & disadvantages of FIFO & LIFO.
26. 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.

27. 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

SYLLABUS – AUTOMOTIVE LOGISTICS TECHNICIAN (FLEXI-MOU)			
FIRST YEAR			
Duration	**Reference Learning Outcomes**	**Professional Skills (Trade Practical)**	**Professional Knowledge (Trade Theory)**
Professional Skill 08 Hrs. Professional Knowledge 08 Hrs. On the Job Training 14 Hrs.	Recognize and adhere to health, safety, and environmental protocols in vehicle manufacturing plants.	**Workshop Safety** 1. Importance of trade training, List of tools & Machinery used in the trade. 2. Safety attitude development of the trainee by educating them to use Personal Protective Equipment (PPE). 3. First Aid Method and basic training. 4. Safe disposal of waste materials like cotton waste, metal chips/burrs etc. 5. Hazard identification and avoidance. 6. Safety signs for Danger, Warning, caution & personal safety message. 7. Preventive measures for electrical accidents & steps to be taken in such accidents. 8. Use of Fire extinguishers. 9. Practice and understand precautions to be followed while working in fitting jobs. 10. Safe use of tools and equipment used in the trade.	**Workshop Safety** • All necessary guidance to be provided to the newcomers to become familiar with the working of Industrial Training Institute system including stores procedures. • Soft Skills, its importance and Job area after completion of training. • Importance of safety and general precautions observed in the in the industry/shop floor. • Introduction of First aid. • Operation of electrical mains and electrical safety. Introduction of PPEs. • Response to emergencies e.g.; power failure, fire, and system failure. • Importance of Housekeeping & good shop floor practices. Introduction to 5S concept & its application. • Occupational Safety & Health: Health, Safety and Environment guidelines, legislations & regulations as applicable.

Professional Skill 26 Hrs. Professional Knowledge 16 Hrs. On the Job Training 78 Hrs.	Identify and demonstrate the use of essential tools and measuring instruments in industrial settings.	11. Health and safety in Manufacturing Environment 12. Practice and understand precautions to be followed while working in Logistics line 13. Safe use of equipment generally used in Logistics line with operating standard. 14. Understand class of fire and be able to operate fire extinguishers. 15. Practical use and understanding of PPEs. 16. Plant and personal safety demonstration.	Precautions to be followed while working in Logistics Line • Safe use of equipment generally used in Logistics line • Maintaining health and safety for workers in Logistics line • Emergency and evacuation procedures to be followed in the Logistics line • First-Aid, nature and causes of injury and utilization of first-aid. • Safety: - its importance, classification, personal, general,
Professional Skill 14 Hrs. Professional Knowledge 08 Hrs. On the Job Training 38 Hrs.	Illustrate logistics processes, identify risks, and describe logistics equipment and technology.	**Introduction to Logistics** 17. Overview of Logistics 18. Flow of parts in automobile industry 19. Risk in logistics 20. Types of Logistics equipment's used in automobile industry (Forklift, Tow motor, Tow truck, Tow kurur)	**Introduction to Logistics** • Definition of Logistics, • Evolution of Modern-day Logistics • Types of Logistics & Flow of Logistics in automotive industry • Logistics Equipments & Risk in Logistics
Professional Skill 12 Hrs. Professional Knowledge 08 Hrs. On the Job Training 40 Hrs.	Demonstrate forklift types and attachments, explain their functions and applications.	**Forklifts & Its attachments** 21. Nomenclature of Forklift 22. Working principal of forklift 23. Classification of forklifts 24. Identification of Battery & types of battery 25. Identification of Forklift attachment	**Forklifts & Its attachments** • Definition & History of Forklift • Working principal & Nomenclature of forklift • Classification of forklifts • Definition of Battery & types of battery • Forklift attachment
Professional Skill 20 Hrs.	Conduct thorough pre-drive forklift inspections,	**Forklift Pre drive Inspection** 26. Visually check the forklift before starting: Engine oil	**Forklift Pre drive Inspection** • Engine oil level, fuel level, radiator water level

Professional Knowledge 08 Hrs. On the Job Training 92 Hrs.	ensuring operational readiness.	level, fuel level, radiator water level (LPG, gas and diesel forklifts). 27. Identify Battery is fully charged; check cables for exposed wires; battery plug connections not loose, worn or dirty; vent caps not clogged; (battery operated FLT's). 28. Identify electrolyte levels in cells; hold-downs or brackets to keep battery securely in place. 29. Identify Bolts, nuts, guards, chains, or hydraulic hose reels are not damaged, missing or loose. 30. Identify Wheels and tyres for wear, damage. 31. Identify Forks are not bent; no cracks present; positioning latches are in good working condition; carriage teeth not broken, chipped or worn. 32. Identify Chain anchor pins are not worn, loose or bent. 33. Identify Fluid Leaks - no damp spots or drips. 34. Identify Hoses are held securely; not loose, crimped, worn or rubbing. 35. Identify Horn is working and loud enough to be heard in working environment; other warning devices	checking standards • Battery, Do's & Don'ts of Battery charging • How to Inspect Hydraulic hose, Bolts, Nuts, Guards, chains • How to check Wheel or Tyre damage • How to check Forks for crack, bend • Check for Chain Anchor pins, split pins • Check for Horn, Head lights & other warning lights **Identification of components of forklift Before start** • How to inspect Foot brake, Parking brake, Seat brake. • How to inspect Clutch. • Check for Dash control panel. • Check for Steering play. • Check for raising forks & Lowering forks for any damage, oil leakage, • Checking for Tilting mechanism. • Check for cylinder, hose for leaking. • Check for unusual sound while driving.

		operational. 36. Identify Lights - head lights and warning lights operational. **Identification of components of forklift Before start** 37. Identify Foot Brake – that pedal holds and unit stops smoothly 38. Identify Parking Brake – that brake holds against slight acceleration 39. Identify Seat Brake – that brake holds when operator rises from seat 40. Identify Clutch and Gearshift – shifts smoothly with no jumping or jerking 41. Identify Dash Control Panel – that all lights and gauges are operational 42. Identify Steering – that moves smoothly 43. Identify Lift Mechanism – operates smoothly (check by raising forks to maximum height then lowering forks completely) 44. Identify Tilt Mechanism – moves smoothly and holds (check by tilting mast all the way forward and backward) 45. Identify Cylinders and Hoses – not leaking after above checks 46. Listen for any unusual sounds or noises.	

Professional Skill 16 Hrs. Professional Knowledge 08 Hrs. On the Job Training 36 Hrs.	Apply forklift safety practices, including load capacity awareness and stability management.	**Forklift safety & Its importance** 47. Illustration of Forklift safety 48. Forklift safety rules & its Importance 49. Illustration when working in overhead (Height work) 50. Causes of Accident 51. Important safety tips 52. Measure of good forklift training & operation 53. Role of a forklift operator	**Forklift safety & Its importance** • Forklift Safety & Its importance • Causes of Accident • Safety tips while using forklift • Measure of good training • Role of an operator
Professional Skill 16 Hrs. Professional Knowledge 08 Hrs. On the Job Training 36 Hrs.	Conduct regular forklift inspections, identifying issues and performing basic troubleshooting.	**Forklift Inspection** 54. Checking Front zone inspection 55. Checking Right zone inspection 56. Checking Back zone inspection 57. Checking Left zone inspection 58. Checking Forklift before startup	**Forklift Inspection** • Total Productive Maintenance • Check for Front zone inspection • Check for Right zone inspection • Check for Back zone inspection • Check for Left zone & Before startup inspection
Professional Skill 14 Hrs. Professional Knowledge 08 Hrs. On the Job Training 38 Hrs.	Safely demonstrate forklift operations, including forward, reverse, and zigzag driving techniques.	**Forklift Driving** 59. Getting on & Off 60. Driving forward 61. Driving reverse 62. Driving forward zigzag 63. Driving reverse zigzag	**Forklift Driving** • How to Getting on & Off • How to Drive forward • How to Drive reverse • Driving forward zigzag • Driving reverse zigzag
Professional Skill 28 Hrs. Professional Knowledge 08 Hrs.	Perform safe loading/unloading of pallets and correctly load pallets onto shooters.	**Loading, Unloading & handling of different pallets** 64. Loading & unloading of Pallets 65. Loading & unloading of different types of pallets 66. Loading & unloading of	**Loading, Unloading & handling of different pallets** • Define Loading, Unloading • Different types of pallets handling • Procedure for Loading & unloading of pallets to

On the Job Training 69 Hrs.		pallets to shooter	shooter
Professional Skill 38 Hrs. Professional Knowledge 26 Hrs. On the Job Training 86 Hrs.	Demonstrate best practices for truck loading/unloading with forklifts on the PLUS TRACK.	**Truck Loading & Unloading** 67. Truck Loading, Unloading at manufacturing process. 68. Driving in PLUS track. 69. Loading & unloading of pallets In PLUS track with safety, Quality, Key point, Knack point & Time.	**Truck Loading & Unloading** • Explain Truck Loading, Unloading • Explain Driving in PLUS track • Illustrate Procedure for Loading & unloading of pallets in PLUS track with safety, Quality, Key point, Knack point & Time"
Professional Skill 28 Hrs. Professional Knowledge 08 Hrs. On the Job Training 69 Hrs.	Interpret logistics concepts like Minomi, Jundate, Jumbiki, and the SPS System for production efficiency.	70. Working in Minomi system 71. Working in Jundate system 72. Working in Jumbiki system 73. Working in SPS system at manufacturing process	**Working in Minomi, Jundate, Jumbiki, SPS System** • Define Minomi system • Define Jundate system • Define Jumbiki system • Define SPS system • Purpose of above system
Professional Skill 36 Hrs. Professional Knowledge 24 Hrs. On the Job Training 60 Hrs.	Illustrate the function of a progressive lane and its impact on material flow.	**Working in Progressive Lane** 74. Working in P - LANE In 75. Working in P - LANE Out at manufacturing process	**Working in Progressive Lane** • Define Progressive Line • Define P - LANE In • Define P - LANE Out • Purpose of Progressive lane
Professional Skill 28 Hrs. Professional Knowledge 18 Hrs. On the Job Training 74 Hrs.	Execute devanning and vanning processes to prevent damage.	**Working in Container Yard** 76. Working in Devanning process 77. Working in Vanning process at manufacturing process	**Working in Container Yard** • Define Devanning • Process flow of Devanning • Major confirmation points of Devanning • Define Vanning • Process flow of Vanning • Major confirmation points of Vanning

Professional Skill 16 Hrs. Professional Knowledge 08 Hrs. On the Job Training 36 Hrs.	Emphasize quality standards in logistics, demonstrating quality control measures.	**Hands on experience** 78. Right parts, Right location, Right time, Right quantity, Right quality with safety, & hands on experience at manufacturing process	**Explain Importance of quality in Logistics** • Define quality • Explain Concept of quality • Explain Design quality • Explain Manufacture quality • Explain Importance of quality
Professional Skill 30 Hrs. Professional Knowledge 16 Hrs. On the Job Training 74 Hrs.	Demonstrate warehouse operations with forklifts and identify essential hardware for efficiency.	**Explain warehouse & Forklift operation in ware house** 79. Loading of parts in Ware house 80. Unloading of parts in Ware house **Hands on experience** 81. Hands on experience on different types of hard wares used in forklift at manufacturing process	**Explain warehouse & Forklift operation in ware house** • Define Ware house • Illustrate Procedure for Loading & unloading of parts in Ware house • Purpose of warehouse Hardwares used in forklift operation • Define hardware • Illustrate different types of hard wares used in forklift operation • Purpose of hard wares in forklift operation
ENGINEERING DRAWING: 30 HRS.			
Professional Knowledge ED- 30 Hrs.	Read and apply engineering drawing for different application in the field of work.	Introduction to Engineering Drawing and Drawing Instruments – Conventions Sizes and layout of drawing sheets Title Block, its position and content Drawing Instrument Lines- Types and applications in drawing Free hand drawing of – Geometrical figures and blocks with dimension Transferring measurement from the given object to the free hand sketches. Free hand drawing of hand tools and measuring tools. Drawing of Geometrical figures: Angle, Triangle, Circle, Rectangle, Square, Parallelogram. Lettering & Numbering – Single Stroke. Dimensioning Types of arrowhead Leader line with text	

		Position of dimensioning (Unidirectional, Aligned) Symbolic representation – Different symbols used in the related trades. Concept and reading of Drawing in Concept of axes plane and quadrant Concept of Orthographic and Isometric projections Method of first angle and third angle projections (definition and difference) Reading of Job drawing of related trades.
WORKSHOP CALCULATION AND SCIENCE: 30 HRS		
Professional Knowledge WCS- 30 Hrs.	Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic science in the field of study.	**Unit, Fractions** Classification of unit system 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 **Speed and Velocity, Work, Power and Energy** Speed and velocity - Rest, motion, speed, velocity, difference between speed and velocity, acceleration and retardation Speed and velocity - Related problems on speed & velocity Work, power, energy, HP, IHP, BHP and efficiency **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, electric current AC, DC their comparison, voltage, resistance and their units **Mensuration** Area and perimeter of square, rectangle and parallelogram Surface area and volume of solids - cube, cuboid, cylinder, sphere and hollow cylinder Finding the lateral surface area, total surface area and capacity in litres of hexagonal, conical and cylindrical shaped vessels **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 **Trigonometry** Measurement of angles Trigonometrical ratios Trigonometrical tables
Project work 60 Hrs.	Prepare Safety Standards to ensure safe Operation in Pre-Identified Fork Lift Operation Zone: a) Observation of Process b) Problem Identification c) Analyze the Route Cause d) Coutner Measure Planning e) Implementation f) Check the Result g) Standardization	
Note: The duration of Professional skills (Trade practical), Professional knowledge (Trade theory) and On the Job Training are indicative only. The Training Institute has the flexibility to adopt suitable training duration for effective training.		

SYLLABUS – AUTOMOTIVE LOGISTICS TECHNICIAN (FLEXI MoU)			
SECOND YEAR			
Duration	**Reference Learning Outcomes**	**Professional Skills (Trade Practical)**	**Professional Knowledge (Trade Theory)**
Professional Skill 46 Hrs. Professional Knowledge 24 Hrs. On the Job Training 140 Hrs.	Create standardized work documents and implement Kanban for efficient inventory management.	**Standard work documents preparation hands on experience** 82. Standardized work observation & preparation at manufacturing process	**Standard work observation & documentation preparation kanban & Its Importance** • Define Standardized work, Documents preparation • What is Kanban & E - kanban • Importance of kanban
Professional Skill 44 Hrs. Professional Knowledge 26 Hrs. On the Job Training 110 Hrs.	Perform manifest checks, explain the "B" line in production, and effectively sort items.	**Manifest check, "B" Lane & Sorting process** 83. Working in manifest check area, B lane & Sorting process at manufacturing process	**Define Manifest check, "B" Lane & Sorting process** • Define Manifest check process, "B" Lane & sorting process • Operation of "B" Lane • Define Sorting & Why Sorting is required
Professional Skill 16 Hrs. Professional Knowledge 22 Hrs. On the Job Training 52 Hrs.	Interpret the flow rack system and demonstrate its role in organizing and delivering materials.	**Parts delivery process** 84. Working in parts delivery process (Manual Process) 85. Dolly Handling & Box handling skill at manufacturing process	**Parts delivery process** • Define flow rack & why it is required • Define delivery process & key points while delivery of parts (Dolly handling, Box handling) empty box collection
Professional Skill 50 Hrs. Professional Knowledge 18 Hrs.	Conduct tow motor pre-drive inspections and demonstrate driving techniques in the "B" line.	**Tow motor & Pre drive Inspection** Total Productive maintanence 86. Checking Front zone inspection 87. Checking Right zone inspection	**Tow motor & Pre drive Inspection** • Nomenclature of tow motor • How to inspect Front zone inspection • How to inspect Right zone

On the Job Training 142 Hrs.		88. Checking Back zone inspection 89. Checking Left zone inspection 90. Checking Tow motor before startup **"B" lane supply** 91. Working in "B" lane supply System 92. Supply of different supplier parts at manufacturing process using tow motor	inspection • How to inspect Back zone inspection • How to inspect Left zone inspection • How to inspect Tow motor before startup **"B" lane supply** • Illustrate "B" lane supply system • Illustrate Different types of supplier parts
Professional Skill 48 Hrs. Professional Knowledge 22 Hrs. On the Job Training 110 Hrs.	Perform tow truck pre-drive inspections and demonstrate driving techniques.	**Tow Truck & Pre drive Inspection** Total Productive maintenance 93. Checking Front zone inspection 94. Checking Right zone inspection 95. Checking Back zone inspection 96. Checking Left zone inspection 97. Checking Tow truck before startup	**Tow Truck & Pre drive Inspection** • Nomenclature of tow truck • How to inspect Front zone inspection • How to inspect Right zone inspection • How to inspect Back zone inspection • How to inspect Left zone inspection • How to inspect Tow truck before startup
Professional Skill 46 Hrs. Professional Knowledge 24 Hrs. On the Job Training 110 Hrs.	Demonstrate dolly connection and safe handling/loading/unloading of dollies.	**Different types of dolly supply** 98. Working in with different types of dolly at manufacturing process using tow truck	• Illustrate Dolly handling • Different types of dolly handling
Professional Skill 56 Hrs.	Identify modules and boxes, and demonstrate methods for receiving, storing,	**Unpacking process** 99. Working in Unpacking process line at manufacturing process 100. Working in handling of	**Unpacking process** • Define Modules, Boxes • Demonstrate Different types of Modules, Boxes • Demonstrate Unpacking

Professional Knowledge 26 Hrs. On the Job Training 158 Hrs.	and supplying parts.	different types of modules **Import (CKD – Completely Knock Down) & Local parts receiving, storing & supply system** 101. working in Import parts line 102. Working in export parts line at manufacturing process	**Import (CKD – Completely Knock Down) & Local parts receiving, storing & supply system** • Illustrate Import parts, Local parts • Illustrate Import, Local parts Receiving, Storing & Supply method
Professional Skill 24 Hrs. Professional Knowledge 18 Hrs. On the Job Training 78 Hrs.	Apply FIFO and LIFO inventory methods, analyze their impact on production.	**Hands on experience** 103. Working in first in first out process at manufacturing area	**FIFO & LIFO, Advantages & Disadvantages** • Illustrate FIFO • Illustrate LIFO • Demonstrate advantages & disadvantages of FIFO & LIFO
ENGINEERING DRAWING: 30 HRS.			
Professional Knowledge ED- 30 Hrs.	Read and apply engineering drawing for different application in the field of work.	Reading of Electrical, Electronic & Mechanical Sign and Symbols used in Automobile. Sketches of Electrical, Electronic & Mechanical components used in Automobile. Reading of Electrical wiring diagram and Layout diagram used in Automobile. Drawing of Electrical circuit diagram used in Automobile. Drawing of Block diagram of Instruments & equipment of trades	
WORKSHOP CALCULATION AND SCIENCE: 30 HRS.			
Professional Knowledge WCS-30 Hrs.	Demonstrate basic mathematical concept and principles to perform practical operations. Understand and explain basic	**Friction** Friction - Advantages and disadvantages, simple problems related to friction Friction - Lubrication **Estimation and Costing** Estimation and costing - Simple estimation of the requirement of material etc., as applicable to the trade Estimation and costing - Problems on estimation and costing	

	science in the field of study.	
Project work 60 Hrs.	Prepare Safety Standards to ensure safe Operation in Pre-Identified Tow Motor / Tow Truck Operation Zone a) Observation of Process b) Problem Identification c) Analyze the Route Cause d) Coutner Measure Planning e) Implementation f) Check the Result g) Standardization	
Note: The duration of Professional skills (Trade practical), Professional knowledge (Trade theory) and On the Job Training are indicative only. The Training Institute has the flexibility to adopt suitable training duration for effective training.		

SYLLABUS (CORE SKILLS)
Employability Skills (Common for all CTS trades) (120 Hrs.+ 60 Hrs.)

Learning outcomes, assessment criteria, syllabus and tool list of core skill subjects which are common for a group of trades, provided separately in www.bharatskills.gov.in / www.dgt.gov.in

ANNEXURE-I

List of Tools and Equipment			
AUTOMOTIVE LOGISTICS TECHNICIAN (for batch of 20 candidates)			
Sl. No.	**Name of the Tools and Equipment**	**Specification**	**Quantity**
TOOLS, EQUIPMENT, MACHINERIES AND VEHICLES			
1.	Tow Motor	4 Ton	4 Nos.
2.	Tow Truck	10 Ton	1 No.
3.	Forklift (Battery)	1.5 Ton, 2 Ton,	3 Nos.
4.	Dollies	1 Mtr * 0.8 Mtrs	20 Nos.
5.	Pylon		50 Nos.
6.	Barrications		50 Nos.
7.	Half "A" Pallets		20 Nos.
8.	Half "B" Pallets		8 Nos.
9.	Modules		5 Nos.
10.	Schooter		2 Nos.
11.	Module Rack		1 Nos.
12.	Impact Gun		2 Nos.
13.	Scanner (Manifest Check Process)		1 Nos.
14.	Boxes With Parts		40 Nos.
15.	Flow Racks		4 Nos.
16.	Truck Simulator		1 Nos.
17.	Hydrometer		1 Nos.
18.	Andon Board as per B Lane		1 Nos.
19.	Speedometer		1 Nos.
20.	Pallet Skids		20 Nos.
21.	Desktop Computers for Basic Training		8 Nos.
22.	Hoist For Battery Changing		1 Nos.
23.	Roller Track for Battery Changing		1 Nos.
24.	Buffer Battery for All Vehicles		7 Nos.

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.*

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	Dwarfisms
MI	Mental Illness
AA	Acid Attack
PwD	Person with disabilities