



डीएमआरसी अकादमी
DMRC Academy



QUALIFICATION FILE

Junior Engineer – Rolling Stock (Metro Rail)

☒ Short Term Training (STT) ☐ Long Term Training (LTT) ☐ Apprenticeship

☒ Upskilling ☐ Dual/Flexi Qualification ☐ For ToT ☐ For ToA

☒ General ☐ Multi-skill (MS) ☐ Cross Sectoral (CS) ☐ Future Skills ☐ OEM

NCrF/NSQF Level: 4.5

Submitted by:

DMRC Academy

East approach Road, Delhi Metro Train Depot

Shastri Park, Delhi-110053

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Section 1: Basic Details

1.	Qualification Name	Junior Engineer – Rolling Stock (Metro Rail)							
2.	Sector/s	Logistics							
3.	Type of Qualification: ☒ New ☐ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: NA	Qualification Name of existing/previous version: NA						
4.	a. OEM Name b. Qualification Name (Wherever applicable)	NA Junior Engineer – Rolling Stock (Metro Rail)							
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-4.5-TW-03513-2025-V1-DMRCA & Version 1.0	6. NCrF/NSQF Level: 4.5						
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Certificate							
8.	Brief Description of the Qualification	A Junior Engineer - Rolling Stock (Metro Rail) is responsible for overseeing the maintenance and safety compliance of various rolling stock systems. It involves conducting preventive maintenance checks, implementing essential safety and maintenance procedures, and ensuring that rolling stock operates optimally. The individual will also participate in GSM and MSM simulator training for enhanced diagnostic skills and engage in specialized training across traction, electrical & mechanical (E&M), signaling & telecommunications (S&T), P-way, and related departments to maintain proficiency. An understanding of VCC and pneumatic circuit operations is critical to support safe, efficient rolling stock performance.							
9.	Eligibility Criteria for Entry for Student/Trainee/Learner/Employee	a. Entry Qualification & Relevant Experience: <table border="1"> <thead> <tr> <th>S. No.</th> <th>Academic/Skill Qualification (with Specialization - if applicable)</th> <th>Required Experience (with Specialization - if applicable)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>3 years Engineering Diploma*/ equivalent</td> <td></td> </tr> </tbody> </table> *Diploma in Electrical / Mechanical / Electronics or in relevant field b. Age: 18 years		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	3 years Engineering Diploma*/ equivalent	
S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)							
1.	3 years Engineering Diploma*/ equivalent								
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	17	11. Common Cost Norm Category (I/II/III) (wherever applicable): I						

12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	NA																			
13.	Training Duration by Modes of Training Delivery (Specify <i>Total Duration</i> as per selected training delivery modes and as per requirement of the qualification)	☒ Offline ☐ Online ☐ Blended <table border="1"> <thead> <tr> <th>Training Delivery Modes</th> <th>Theory (Hours)</th> <th>Practical (Hours)</th> <th>OJT Mandatory (Hours)</th> <th>OJT Recommended (Hours)</th> <th>Total (Hours)</th> </tr> </thead> <tbody> <tr> <td>Classroom (offline)</td> <td>210</td> <td>150</td> <td>150</td> <td></td> <td>510</td> </tr> <tr> <td>Online</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> (Refer Blended Learning Annexure for details)		Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	210	150	150		510	Online					
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																
Classroom (offline)	210	150	150		510																
Online																					
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/2153.9900																			
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	Junior Engineer – Rolling Stock (Metro Rail) (L4.5) Engineer – Rolling Stock (Metro Rail) (L6.0) →																			
16.	Other Indian languages in which the Qualification & Model Curriculum are being submitted	Hindi																			
17.	Is similar Qualification(s) available on NQR-if yes, justification for this qualification	☐ Yes ☒ No URLs of similar Qualifications:																			
18.	Is the Job Role Amenable to Persons with Disability	☒ Yes ☐ No If “Yes”, specify applicable type of Disability: <i>Speech and Hearing Impairments</i>																			
19.	How Participation of Women will be Encouraged	Encouraging the participation of women for the role of Junior Engineer - Rolling Stock (MR) in Metro Railway can be achieved through various strategies aimed at promoting diversity, inclusivity, and gender equality. Training and skill development programs specifically tailored can be offered to female candidates interested in pursuing careers in these roles. By ensuring that the workplace culture within the metro railway system is safe, respectful, and inclusive, free from harassment or discrimination.																			
20.	Are Greening/ Environment Sustainability Aspects Covered (Specify the NOS/Module which covers it)	☒ Yes ☐ No																			
21.	Is Qualification Suitable to be Offered in Schools/Colleges	Schools ☐ Yes ☒ No Colleges ☐ Yes ☒ No																			
22.	Name and Contact Details of Submitting / Awarding Body SPOC (In case of CS or MS, provide details of both Lead AB & Supporting ABs)	Name: Chandra Kishor Prasad Email: ckprasad@dmrc.org Website: https://dmra.delhimetrorail.com/ Contact No.: 99586 90650																			

23.	Final Approval Date by NSQC: 18-02-2025	24. Validity Duration: 3 Years post NSQC Approval	25. Next Review Date: 17-02-2028
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Section 2: Module Summary

NOS/s of Qualifications

(In exceptional cases these could be described as components)

Mandatory NOS/s:

Specify the training duration and assessment criteria at NOS/ Module level. For further details refer curriculum document.

Th.-Theory Pr.-Practical OJT-On the Job Training Man.-Mandatory Rec.-Recommended Proj.-Project

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
1.	Implement Metro Operations Training and Safety Procedures	DMR/LSC/N9 901, v1.0	Core	4.5	3	60	30	-	-	90	20	20	-	10	50	10
2.	Understand and Compare Rolling Stock and Other Rolling Stock Systems, Safety, and M&P Fundamentals	DMR/LSC/N0 301, v1.0	Core	4.5	3	35	25	30	-	90	20	20	-	10	50	15
3.	Develop Proficiency in Other Rolling Stock Systems	DMR/LSC/N0 302, v1.0	Core	4.5	3	24	36	30	-	90	20	20	-	10	50	15
4.	Implement Key Safety and Maintenance Procedures for Rolling Stock	DMR/LSC/N0 303, v1.0	Core	4.5	2	24	06	30	-	60	20	20	-	10	50	15
5.	Conduct Preventive Maintenance Checks for Rolling Stock	DMR/LSC/N0 304, v1.0	Core	4.5	2	20	10	30	-	60	20	20	-	10	50	15
6.	Undergo GMSM & MSM	DMR/LSC/N0	Core	4.5	2	02	28	30	-	60	20	20	-	10	50	15

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/ Non-Core	NCrF/NS QF Level	Credits as per NCrF	Training Duration (Hours)					Assessment Marks					
						Th.	Pr.	OJT-Man.	OJT-Rec.	Total	Th.	Pr.	Proj.	Viva	Total	Weightage (%) (if applicable)
	Maintenance Simulator Training	305, v1.0														
7.	Undergo Training on Important VCC & Pneumatic Circuits of Rolling Stock and Other Rolling Stocks	DMR/LSC/NO 306, v1.0	Core	4.5	1	15	15	-	-	30	20	20	-	10	50	10
8.	Employability Skills (30 Hours)	DGT/VSQ/NO 101, v1.0	Non-Core	2.0	1	30	-	-	-	30	20	30	-	-	50	5
Duration (in Hours) / Total Marks					17	210	150	150	-	510	160	170		70	400	100

Assessment - Minimum Qualifying Percentage

Please specify **any one** of the following:

Minimum Pass Percentage – Aggregate at qualification level: 60 % (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Pass Percentage – NOS/Module-wise: 60 % (Every Trainee should score specified minimum passing percentage in each mandatory and selected elective NOS/Module to successfully clear the assessment.)

Section 3: Training Related

1.	Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Mechanical Engineering/Automobile Engineering/Railway Engineering. Industry & Training Experience: 2 years of industry experience in relevant field Certification: "Trainer" mapped to the Qualification Pack "MEP/Q2601" Minimum accepted score is 80% aggregate.
2.	Master Trainer's Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Mechanical Engineering/Automobile Engineering/Railway Engineering. Industry & Training Experience: 4 years of industry experience in relevant field

		Certification: “Master Trainer” mapped to the Qualification Pack “MEP/Q2602” Minimum accepted score is 90% aggregate.
3.	Tools and Equipment Required for Training	☒ Yes ☐ No (If “Yes”, details to be provided in Annexure)
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	NA

Section 4: Assessment Related

1.	Assessor’s Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Mechanical Engineering/Automobile Engineering/Railway Engineering. Industry & Training Experience: 2 years of industry experience in relevant field Certification: “Assessor” mapped to the Qualification Pack “MEP/Q2701” Minimum accepted score is 80% aggregate.
2.	Proctor’s Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Mechanical Engineering/Automobile Engineering/Railway Engineering. Industry & Training Experience: 2 years of industry experience in relevant field Certification: “Assessor” mapped to the Qualification Pack “MEP/Q2701” Minimum accepted score is 80% aggregate.
3.	Lead Assessor’s/Proctor’s Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Educational Qualification: Graduate in Mechanical Engineering/Automobile Engineering/Railway Engineering. Industry & Training Experience: 4 years of industry experience in relevant field Certification: “Lead Assessor” mapped to the Qualification Pack “MEP/Q2702” Minimum accepted score is 90% aggregate.
4.	Assessment Mode (Specify the assessment mode)	Offline/ Online
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No (details to be provided in Annexure-if it is different for Assessment)

Section 5: Evidence of the need for the Qualification

Provide Annexure/Supporting documents name.

1.	Latest Skill Gap Study (not older than 2 years) (Yes/No): Yes
2.	Latest Market Research Reports or any other source (not older than 2 years) (Yes/No): NA
3.	Government /Industry initiatives/ requirement (Yes/No): NA

4.	Number of Industry validation provided: -
5.	Estimated nos. of persons to be trained and employed: 1000
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: In Process If "No", why:

Section 6: Annexure & Supporting Documents Check List

Specify Annexure Name / Supporting document file name

1.	Annexure: NCrf/NSQF level justification based on NCrf level/NSQF descriptors <i>(Mandatory)</i>	<i>Annexure 1</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Annexure 2</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Annexure 6</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Annexure 7</i>
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is "Blended Learning")</i>	<i>NA</i>
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	<i>NA</i>
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	<i>Annexure 8</i>
8.	Supporting Document: Model Curriculum <i>(Mandatory – Public view)</i>	<i>Attached</i>
9.	Supporting Document: Career Progression <i>(Mandatory - Public view)</i>	<i>Attached</i>
10.	Supporting Document: Occupational Map <i>(Mandatory)</i>	<i>Attached</i>
11.	Supporting Document: Assessment SOP <i>(Mandatory)</i>	<i>Attached</i>
12.	Any other document you wish to submit:	<i>NO</i>

Annexure 1: Evidence of Level

NCrf/NSQF Level Descriptors	Key requirements of the job role/ outcome of the qualification	How the job role/ outcomes relate to the NCrf/NSQF level descriptor	NCrf/NSQF Level
Professional Theoretical Knowledge/Process	- Process of analyzing and interpreting mechanical system fundamentals, including motion, forces, and energy transfer. - Process of diagnosing and troubleshooting hydraulic	As detailed, the role of a Junior Engineer-Rolling Stock involves a series of structured and predictable tasks focused on maintaining the safe and efficient operation of rolling stock. This includes overseeing pre-operation	4.5

	systems and their components. ● Process of understanding and maintaining electrical systems, including wiring, circuits, and connections. ● Process of identifying and resolving mechanical, hydraulic, and electrical issues using diagnostic tools. ● Process of operating, maintaining, and servicing heavy equipment as per industry standards. ● Process of implementing preventive maintenance to enhance equipment reliability. ● Process of applying lubrication techniques and understanding lubrication system functions. ● Process of interpreting and utilizing technical documentation, such as manuals, schematics, and engineering drawings. ● Process of ensuring workplace safety through hazard identification, PPE usage, and compliance with safety protocols. ● Process of managing environmental responsibilities, including waste disposal and adherence to regulations. ● Process of monitoring and managing inventory, ensuring availability of essential spare parts and tools. ● Process of integrating advanced technologies like automation and digital systems in equipment maintenance.	checks, ensuring the safe operation of trains, overseeing routine maintenance and repairs, and coordinating post-operation activities. The Junior Engineer is also responsible for implementing safety protocols, managing personnel, and ensuring compliance with relevant regulations and standards for rail operations. Additionally, the role includes scheduling and planning maintenance activities, diagnosing mechanical issues, and ensuring that repairs are carried out correctly. The job requires monitoring the performance of the rolling stock, managing documentation, and maintaining clear communication with other departments to prevent delays. As tasks follow standard operating procedures, they become predictable, with clear outcomes based on established processes. The junior engineer's work is methodical, guided by codes, regulations, and maintenance schedules, ensuring a structured and safe working environment.	
Professional and Technical Skills/ Expertise/ Professional Knowledge	● Understand diagnosing and troubleshooting mechanical, hydraulic, and electrical systems. ● Know how to use advanced diagnostic tools and equipment for maintenance and repair. ● Understand hydraulic components, circuits, and fluid dynamics. ● Know electrical systems, including wiring, control systems, and power management. ● Understand interpreting technical drawings, schematics, and manuals for equipment operation and repair. ● Know preventive and predictive maintenance practices for heavy equipment reliability.	The role of a Junior Engineer-Rolling Stock requires a comprehensive understanding of both technical and professional knowledge. The Junior Engineer must possess expertise in the operation, maintenance, and repair of rolling stock, including train systems, mechanical components, and safety protocols. They are responsible for ensuring that the rolling stock operates efficiently and safely by performing pre-operation checks, diagnosing technical issues, and coordinating repairs and maintenance schedules. Their technical knowledge extends to understanding complex systems such as braking, propulsion, and electrical systems, ensuring that they adhere to operational standards and safety	4.5

	• Understand lubrication systems, including selection, application, and maintenance practices. • Know dismantling, assembling, and overhauling mechanical and hydraulic components. • Understand safety inspections and implementing corrective measures to mitigate hazards. • Know environmental compliance, including proper disposal of waste and minimizing environmental impact. • Understand digital tools and technologies for monitoring and improving equipment performance. • Know providing technical support, guidance, and training to peers and subordinates. • Understand the importance of regular equipment inspections and documentation for compliance. • Know the operation and maintenance of tools such as cranes, forklifts, and other heavy machinery. • Understand the importance of working within standard operating procedures (SOPs) and safety protocols. • Know the calibration and performance testing of equipment to ensure optimal operation. • Understand troubleshooting and repairing computerized control systems and equipment.	regulations. Additionally, the Junior Engineer must be skilled in troubleshooting, performing routine inspections, and ensuring compliance with maintenance protocols. This role demands high-level professional skills, including decision-making, communication, and leadership, as the Junior Engineer oversees teams and ensures smooth operations within a regulated environment. The tasks require a high level of technical proficiency, directly aligning with NSQF level descriptors related to professional autonomy, decision-making, and responsibility.	
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	• Understand the importance of maintaining professional conduct, punctuality, and a positive attitude at work. • Know how to manage time effectively to meet deadlines and improve overall productivity. • Understand workplace safety protocols and the necessity of adhering to safety standards and regulations. • Know how to communicate clearly and professionally with team members, junior engineers, and clients. • Understand the value of continuous learning to stay updated with industry trends and technologies. • Know how to tackle work-related challenges with a proactive, solution-oriented approach. • Understand basic principles of budgeting and financial	The role of a Junior Engineer-Rolling Stock not only requires technical expertise but also emphasizes employment readiness and entrepreneurial skills. A Junior Engineer must demonstrate strong leadership abilities, critical thinking, and problem-solving skills in a dynamic work environment. They must effectively manage teams, communicate with various stakeholders, and ensure that operations align with both safety and efficiency standards. As part of the job, they are often required to make decisions independently, particularly in troubleshooting and ensuring that the rolling stock is ready for service.	4.5

	management for small-scale entrepreneurial ventures. • Know how to identify and evaluate business opportunities within the mechanical maintenance or related sectors. • Understand the importance of networking and building professional relationships within the industry. • Know how to plan, organize, and prioritize tasks to ensure smooth operations and productivity. • Understand the need for ethical business practices, such as honesty, integrity, and transparency in all dealings. • Know how to take constructive feedback and use it for personal and professional growth. • Understand how to lead teams effectively, fostering collaboration and motivating others toward achieving common goals. • Know how to develop business plans, market strategies, and operational procedures for entrepreneurial success. • Understand the importance of customer satisfaction and know how to maintain positive relationships with clients. • Know how to manage work-life balance, reducing stress and improving overall job satisfaction.	Additionally, the role requires a mindset that encourages continuous improvement, risk management, and adapting to new technologies, making it well-suited to promote entrepreneurial thinking. These skills align directly with NSQF level descriptors, as the Junior Engineer is expected to show autonomy in decision-making, manage resources efficiently, and maintain accountability for their team's performance. The role demands a proactive approach, with the Junior Engineer continually improving processes while ensuring operational readiness and safety.	
Broad Learning Outcomes/Core Skill	• Understand the principles of mechanical maintenance, ensuring efficient operation of machinery and equipment. • Know the processes involved in diagnosing and troubleshooting mechanical faults to enhance performance and reduce downtime. • Understand the importance of preventive maintenance in reducing repair costs and increasing the lifespan of equipment. • Know how to use various diagnostic tools and equipment to assess the functionality of mechanical systems. • Understand the role of safety protocols and ensure	The Junior Engineer-Rolling Stock role emphasizes the development of key core skills essential for managing the maintenance and operation of rolling stock. These skills include technical proficiency in diagnosing and repairing faults, coordinating maintenance schedules, and managing resources effectively. Junior Engineers must possess strong communication skills to interact with various teams, ensure smooth coordination between departments, and provide clear instructions to maintain safety and efficiency. Additionally, critical thinking, problem-solving, and analytical skills are vital for identifying issues with rolling stock and implementing corrective actions. The job role also requires attention to	4.5

	that the work environment is compliant with industry safety standards. • Know the techniques to operate, repair, and maintain mechanical systems in line with operational specifications and quality standards. • Understand the technical documentation and how to read, interpret, and use manuals, blueprints, and diagrams for repair or assembly work. • Know how to collaborate with cross-functional teams to address issues and improve the operational efficiency of equipment. • Understand how to work with both manual and automated systems, ensuring proper maintenance and calibration. • Know the regulatory and legal requirements surrounding mechanical work, ensuring compliance with all applicable rules and guidelines. • Understand the key factors that influence equipment failure and the proactive steps that can be taken to minimize risk. • Know how to provide timely and effective customer service, resolving issues and enhancing client satisfaction with maintenance solutions.	detail in ensuring compliance with safety and operational standards. These core skills align with the NSQF level descriptors, as the Junior Engineer is expected to demonstrate a high level of responsibility, autonomy, and expertise. The role also supports the development of transferable skills, including teamwork, time management, and leadership, ensuring that the Junior Engineer can manage complex tasks and effectively contribute to the organization's overall operations.	
Responsibility	• Ensure safety standards in mechanical operations. • Diagnose and resolve mechanical issues promptly. • Monitor machinery performance for efficiency. • Lead preventive maintenance to reduce downtime. • Align mechanical systems with operational specs. • Handle hazardous materials safely and dispose of them correctly. • Oversee and guide junior team members. • Maintain accurate maintenance records and documentation. • Manage spare parts inventory effectively. • Ensure proper use of diagnostic tools and equipment. • Coordinate maintenance schedules with teams. • Report issues and deviations to management.	The Junior Engineer-Rolling Stock role involves significant responsibility, reflecting a high level of autonomy and accountability in managing the maintenance and operation of rolling stock. The Junior Engineer is expected to oversee day-to-day operations, ensuring that the rolling stock is maintained in optimal condition to meet operational demands. This includes overseeing the maintenance team, coordinating repairs, ensuring adherence to safety protocols, and managing resources efficiently. The role also entails making critical decisions on fault diagnosis, repair prioritization, and resource allocation, with a focus on minimizing downtime and ensuring operational continuity. The Junior Engineer is responsible for ensuring compliance with regulatory	4.5

	• Coordinate with vendors for parts and services. • Comply with environmental regulations in maintenance tasks. • Troubleshoot and fix mechanical failures quickly. • Follow assembly and disassembly standards. • Adhere to manufacturer instructions for maintenance. • Continuously update skills with emerging technologies.	standards, safety guidelines, and operational procedures. They also lead by example in maintaining workplace discipline and fostering a collaborative environment. These responsibilities align with the NSQF level descriptors, as the Junior Engineer is expected to operate independently, demonstrate leadership skills, and make informed decisions that affect both the safety and efficiency of rolling stock operations.	
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Annexure 2: Tools and Equipment (Lab Set-Up)

List of Tools and Equipment

Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Multimeter	Nos	5
2.	Thermometer	Nos	5
3.	Voltmeter	Nos	5
4.	Ampere Meter	Nos	5
5.	Digital Camera	Nos	1
6.	Clamp meter	Nos	1
7.	Power supply unit	Nos	1
8.	Test lamps	Nos	1
9.	Insulation Resistance Tester	Nos	1
10.	Computer with High-Performance Processing	Nos	1
11.	Virtual Reality (VR) Headset	Nos	1
12.	Data Logging Devices	Nos	1
13.	Infrared thermometer	Nos	1
14.	Power Supply Tester	Nos	5
15.	Oscilloscope	Nos	1
16.	Lux Meter	Nos	1
17.	Set Spanners	Set	1
18.	Pliers	Set	1
19.	Screw Drivers	Set	1
20.	Feeler gauges	Nos	1

21.	Micro meter	Nos	1
22.	Vernier Caliper	Nos	1
23.	Wire Stripers	Nos	1
24.	Cable Crimping Tool	Nos	2
25.	Allen Keys	Nos	10
26.	Bearing puller	Nos	1
27.	Grinders	Nos	1
28.	Drill Machines	Nos	1
29.	Circlip Pliers	Nos	2
30.	Pipe Wrenches	Nos	1
31.	Slings & D Shackle	Nos	1
32.	Ratchet Spanner	Nos	1
33.	Square Key	Nos	2
34.	Pressure Gauge	Nos	1
35.	Rerailing Jacks	Nos	1
36.	Portable Fire Extinguisher	Nos	1
37.	Safety Harness	Nos	1
38.	Smoke Detectors	Nos	2
39.	Shunting Signal Flags	Nos	2

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. Projector
3. Computer/Laptop
4. Chairs
5. Tables
6. Whiteboard marker
7. Duster

Annexure 3: Industry Validations Summary

Provide the summary information of all the industry validations in table. This is not required for OEM qualifications.

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1.							
2.							

Annexure 4: Training & Employment Details

Training and Employment Projections:

Year	Total Candidates		Women		People with Disability	
	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities	Estimated Training #	Estimated Employment Opportunities
2025	200	75	10	5	5	5
2026	300	100	15	10	10	10
2027	500	200	25	10	10	10

Data to be provided year-wise for next 3 years

Training, Assessment, Certification, and Placement Data for previous versions of qualifications:

Qualification Version	Year	Total Candidates				Women				People with Disability			
		Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed	Trained	Assessed	Certified	Placed

Applicable for revised qualifications only, data to be provided year-wise for past 3 years.

List Schemes in which the previous version of Qualification was implemented:

- 1.
- 2.

Content availability for previous versions of qualifications:

☒ Participant Handbook ☒ Facilitator Guide ☒ Digital Content ☒ Qualification Handbook ☐ Any Other:

Languages in which Content is available:

Annexure 5: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

Refer NCVET “Guidelines for Blended Learning for Vocational Education, Training & Skilling” available on:

<https://ncvet.gov.in/sites/default/files/Guidelines%20for%20Blended%20Learning%20for%20Vocational%20Education,%20Training%20&%20Skilling.pdf>

S. No.	Select the Components of the Qualification	List Recommended Tools – for all Selected Components	Offline : Online Ratio
1	☐ Theory/ Lectures - Imparting theoretical and conceptual knowledge	Classroom Training through PPTs	60:40
2	☐ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	Classroom Training through PPTs	60:40
3	☐ Showing Practical Demonstrations to the learners	Practical demonstrations at DMRC Metro Stations	60:40
4	☐ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	Practical demonstrations & OJT at DMRC Metro Stations	60:40
5	☐ Tutorials/ Assignments/ Drill/ Practice	Drills / Practice at DMRC Academy & Metro Stations	60:40
6	☐ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	Online Examination in DMRC Academy Computer Lab	60:40
7	☐ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	OJT at DMRC Metro Stations	60:40

Annexure 6: Detailed Assessment Criteria

Detailed assessment criteria for each NOS/Module are as follows:

NOS/Module Name	Assessment Criteria for Performance Criteria/Learning Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
DMR/LSC/N9901: Implement metro operations training and safety procedures	<i>Training Module Overview</i>	2	2	-	1
	PC1. follow schedules for weekly activities and guidelines on punctuality, discipline, and conduct.	-	-	-	-
	PC2. conduct identity verification and maintain attendance records	-	-	-	-
	PC3. ensure adherence to training timelines and program deliverables	-	-	-	-
	<i>Safety Overview</i>	2	2	-	1
	PC4. identify the role of the safety department and follow measures for personal, passenger, and system safety	-	-	-	-

PC5. use appropriate Personal Protective Equipment (PPE) in all designated areas	-	-	-	-
PC6. follow the hazard identification and risk assessment processes	-	-	-	-
<i>Store Management and Procurement</i>	2	2	-	1
PC7. perform store management activities, including stock handling, documentation, and interdepartmental coordination for procurement.	-	-	-	-
PC8. monitor inventory levels and ensure timely requisitions for required materials	-	-	-	-
PC9. maintain records of procurement processes and vendor communication	-	-	-	-
<i>Overview of Telecom, Signaling, and Track Systems</i>	2	2	-	1
PC10. identify telecom components (AFC, CCTV, PIDS, radio systems, clocks) and perform basic functional checks	-	-	-	-
PC11. identify signaling systems (CATC, CBTC) and observe/report signal functioning during visits.	-	-	-	-
PC12. identify P-Way components (rails, sleepers, crossings) and report track conditions through basic patrolling tasks	-	-	-	-
PC13. report malfunctions in telecom, signaling, or track systems using the correct reporting protocols	-	-	-	-
<i>Overview of Traction, SCADA, and E&M Systems</i>	2	2	-	1
PC14. identify traction power and SCADA components and interpret sectioning diagrams	-	-	-	-
PC15. identify E&M systems (RSS, ASS, DG sets, UPS) and perform basic checks to understand their functionality	-	-	-	-
PC16. report unusual system performance and assist in routine inspections	-	-	-	-
<i>OCC and Rolling Stock Overview</i>	2	2	-	1
PC17. familiarize with OCC systems, tools, and the role of OCC controllers	-	-	-	-
PC18. identify rolling stock components and their maintenance procedures	-	-	-	-
PC19. report rolling stock irregularities observed during operations	-	-	-	-
<i>Operations and Customer Care</i>	2	2	-	1
PC20. familiarize with station operations, revenue management, and crew control functions	-	-	-	-
PC21. identify public complaint channels, possible causes, and resolve complaints using proper processes	-	-	-	-
PC22. assist in managing passenger inquiries and ensuring customer satisfaction	-	-	-	-
<i>Practical Visits</i>	1	1	-	0.5
PC23. conduct visits to OCC, stations, depots, and tunnels to observe layouts, facilities, and operations	-	-	-	-
PC24. document key observations during practical visits for knowledge reinforcement	-	-	-	-
PC25. identify operational challenges during visits and suggest improvement areas	-	-	-	-
<i>First Aid Training</i>	1	1	-	0.5
PC26. identify the role and scope of first aid, including key human body functions	-	-	-	-

	(e.g., circulatory, respiratory systems)				
PC27.	follow appropriate techniques for treating bleeding, fractures, burns, shock, and unconsciousness	-	-	-	-
PC28.	perform artificial respiration, CPR, and safe transportation of injured persons using stretchers	-	-	-	-
PC29.	participate in simulated first aid scenarios to enhance preparedness	-	-	-	-
	<i>Fire Fighting Systems</i>	1	1	-	0.5
PC30.	identify elements of combustion, classes of fire, and appropriate extinguishing methods	-	-	-	-
PC31.	operate active/passive fire protection systems, including alarms, fire extinguishers, and fire hydrants	-	-	-	-
PC32.	conduct practical drills and identify fire suppression equipment at metro stations	-	-	-	-
PC33.	respond to fire incidents promptly, ensuring passenger and system safety	-	-	-	-
	<i>Security in Metro Systems</i>	1	1	-	0.5
PC34.	identify security threats, red alert situations, and follow protocols for disaster management	-	-	-	-
PC35.	handle theft cases, manage abandoned persons, and lodge FIRs as per protocol	-	-	-	-
PC36.	coordinate with security personnel to mitigate security breaches effectively	-	-	-	-
	<i>Metro Rail General Rules 2020</i>	1	1	-	0.5
PC37.	interpret key provisions under Metro Rail General Rules 2020, including signals, train speed limits, and safety protocols	-	-	-	-
PC38.	follow operational procedures for maintenance, station control duties, and driverless train systems	-	-	-	-
PC39.	ensure compliance with rules for safe and efficient train operations	-	-	-	-
	<i>Safety Circulars and Contingency Plans</i>	1	1	-	0.5
PC40.	implement procedures for the imposition of TSR, axle counter reset, Train ID management, and Computer Aided Train Supervision (CATS) operation	-	-	-	-
PC41.	follow guidelines for engineering possession and maintenance activities during non-revenue hours, including hot work, solar system testing/repair, and role-play exercises	-	-	-	-
PC42.	ensure compliance with procedures for stopping trains at platforms and during operational disruptions, such as earthquakes, high winds, and floods	-	-	-	-
PC43.	manage degraded mode operations, including train movement during interlocking failures	-	-	-	-
PC44.	oversee the issue, revision, updating, and deletion of SOPs, SWO/DWO, and timetable trials for new sections	-	-	-	-
PC45.	facilitate the initiation of revenue train services, including pilot train movement, ATO/UTO/ATB mode operations, and AFTC functionality checks	-	-	-	-
PC46.	execute procedures for negotiating neutral sections, managing pantograph	-	-	-	-

	failures, and monitoring Panto-OHE interface cameras				
	PC47. oversee train stabling, depot entry/exit, train movement, and fitness checks	-	-	-	-
	PC48. conduct emergency evacuation using UG facilities, mid-tunnel shafts, and walkways for detrainment of passengers due to technical failure, explosion, or fire	-	-	-	-
	PC49. operate and manage non-ATP vehicles such as RGM and CMV/CTMC and address incidents like rail fractures, weld failures, rollback scenarios, radio communication issues and resetting of passenger alarms in train	-	-	-	-
	PC50. coordinate vehicle movement on link lines and rescue immobilized trains	-	-	-	-
	PC51. respond to fire/smoke incidents, including UG train fires, ensuring passenger and staff safety	-	-	-	-
	PC52. operate ETS/BLS plungers, remove foreign objects like kites from OHE, and follow OHE safety guidelines	-	-	-	-
	Total Marks	20	20	-	10
	<i>Rolling Stock System Training and Comparison with other rolling stock</i>	<i>2</i>	<i>2</i>	<i>-</i>	<i>0.5</i>
	PC1. perform a detailed overview of Rolling Stock and Other Rolling Stocks types of trains, configurations, safety features, salient features, and various systems	-	-	-	-
DMR/LSC/N0301: Understand and Compare Rolling Stock and Other Rolling Stock Systems, Safety, and M&P Fundamentals	PC2. carry out equipment layout checks, including saloon interior and exterior configurations, cab equipment, different panels, switches, push buttons, CBs, locations, and functions	-	-	-	-
	PC3. inspect bogie and wheels, gangway, and coupler setups by identifying and comparing different parts and equipment	-	-	-	-
	PC4. assess brakes and pneumatic systems, identifying brake types, their purpose and functions, various pneumatic valves, compressors, reservoirs, and piping colour codes for both stocks	-	-	-	-
	PC5. inspect door system in Rolling Stock and Other Rolling Stocks, covering different door types, their purposes and functions, and the location of various equipment associated with the doors	-	-	-	-
	PC6. check the saloon and cab air conditioning systems in Rolling Stock and Other Rolling Stocks, including major components, refrigeration cycle, different modes of operation, and temperature settings	-	-	-	-
	PC7. assess propulsion system, covering high-tension and propulsion systems like pantograph, air feed insulators, VCB, PT, CT, EGS, main transformer, CI, and traction motors with their locations and functions	-	-	-	-
	PC8. evaluate the auxiliary power supply system, examining SIV and battery modules, components, loads, and ratings, identifying key differences in location and function	-	-	-	-
	PC9. examine the PA/PIS system's major systems, subsystems, modules like AOP, MOP, PAMP, displays, and push buttons, ensuring their proper functioning across Rolling Stock and Other Rolling Stocks	-	-	-	-
	PC10. inspect TIMS in Rolling Stock and Other Rolling Stocks, verifying modules fitted	-	-	-	-

	in different cars with redundancy, and reviewing various modes/screens on Video Display Units				
	<i>Practical Training on Rolling Stock System</i>	<i>1</i>	<i>1</i>	<i>-</i>	<i>0.5</i>
	PC11. check the Rolling Stock equipment layout and functions, including saloon interior and exterior, under-frame, and roof equipment, ensuring all components are located and identified	-	-	-	-
	PC12. identify cab equipment including different panels, switches, push buttons, CBs, their locations, and functions, for thorough understanding to perform tasks independently	-	-	-	-
	PC13. inspect and assess bogie and wheels, gangway, and coupler systems by identifying different parts and equipment, along with their purpose and function	-	-	-	-
	PC14. identify different types of brakes and their respective purposes and functions, including various pneumatic valves, compressors, reservoirs, and colour-coded piping	-	-	-	-
	PC15. identify different doors types, their purposes and functions, and the location of equipment associated with doors	-	-	-	-
	PC16. train on the saloon and cab AC, identifying major components, explaining the refrigeration cycle, and applying different modes of operation and temperature settings	-	-	-	-
	PC17. operate the propulsion system, covering pantograph (Panto), vacuum circuit breaker (VCB), main transformer (MTR), control inverter (CI), and traction motors (TM)	-	-	-	-
	PC18. carry out operational and functional checks on the auxiliary power supply system, covering major components within the Static Inverter (SIV) and battery systems	-	-	-	-
	PC19. train on the TIMS and PA/PIS System, handling key operations, including modules like the AOP, MOP, PAMP, displays, and push buttons	-	-	-	-
	<i>Practical Training on other Rolling Stock System & Depot</i>	<i>1</i>	<i>1</i>	<i>-</i>	<i>0.5</i>
	PC20. train on saloon and cab equipment in other rolling stock stocks, covering different panels, switches, push buttons, and CBS, identifying their locations, functions and differences compared to rolling stock	-	-	-	-
	PC21. inspect other rolling stock bogie and wheels, gangway, coupler, brakes, and pneumatic systems, applying practical knowledge of different parts, equipment functions, and differences from rolling stock	-	-	-	-
	PC22. inspect other rolling stock door systems, identifying various door types, their purposes, functions, and associated equipment locations, while understanding operational differences from rolling stock	-	-	-	-
	PC23. train on other rolling stock saloon and cab ac units, applying knowledge of major components, the refrigeration cycle, and temperature setting modes with noted differences from rolling stock	-	-	-	-

PC24.	train on TIMS and PA/PIS in other rolling stock, handling key modules and operations such as displays, push buttons, and announcements, focusing on the differences from rolling stock systems	-	-	-	-
PC25.	operate the other rolling stock propulsion system, including Panto, VCB, MTR, CI, and traction motors, ensuring familiarity with each component's location, function, and any differences from rolling stock	-	-	-	-
PC26.	carry out operational checks on other rolling stock auxiliary power supply systems, including SIV and battery systems, identifying different loads, modules, and components, noting differences from rolling stock	-	-	-	-
<i>Tools and Test Equipment</i>		2	2	-	0.5
PC27.	identify and select appropriate tools and test equipment based on their type, function, parameters, and purpose, ensuring their accurate application for maintenance and testing tasks in line with specific requirements	-	-	-	-
PC28.	calibrate, and utilize tools and test equipment following manufacturer guidelines, technical standards, and established calibration procedures to ensure proper handling, reliability, and accuracy	-	-	-	-
<i>Machinery and Plant (M&P)</i>		2	2	-	0.5
PC29.	identify, inspect, and operate depot M&P equipment, ensuring readiness, efficiency, and safe usage for maintenance tasks	-	-	-	-
PC30.	perform routine checks on depot M&P and report issues promptly to ensure smooth operations and minimize downtime	-	-	-	-
<i>Stores</i>		1	1	-	0.5
PC31.	oversee custody stores, tool rooms, and DCOS, managing stock and non-stock items, consumables, and tools by maintaining organized records, overseeing issuance and returns, and ensuring operational readiness	-	-	-	-
PC32.	forecast and monitor inventory requirements, including EAC and PAC, by conducting stock verification, implementing rotation practices, auditing compliance, and tracking budgets to minimize wastage and ensure efficient resource utilization	-	-	-	-
<i>Safety Precautions</i>		1	1	-	0.5
PC33.	implement and enforce safety protocols in the Depot Yard, IBL, SBL, on roofs, near M&Ps, and OHE areas, including use of PPEs for various tasks	-	-	-	-
PC34.	apply specific safety measures when working on trains, welding, and electrical maintenance, ensuring proper isolation, grounding, and protective gear	-	-	-	-
PC35.	follow safe procedures for train coupling/uncoupling and shunting, adhering to alignment, signaling, and safe distance guidelines	-	-	-	-
PC36.	execute safety checks for lifting operations and movement of heavy items, including use of overhead cranes, lifting gears, and proper techniques	-	-	-	-
PC37.	ensure compliance with M&P safety protocols for equipment like Pit Jacks, Mobile Jacks, PWL, AWP, and RRV, covering secure setup and load limits	-	-	-	-
<i>Maintenance Philosophy</i>		1	1	-	0.5

PC38. distinguish between preventive, corrective, and breakdown maintenance, applying each as appropriate	-	-	-	-
PC39. document and report on maintenance activities, ensuring efficient resource use	-	-	-	-
<i>Budget Management</i>	1	1	-	0.5
PC40. prepare and manage budgets for rolling stock maintenance, including allocation for consumables and stock items	-	-	-	-
PC41. monitor budget utilization and optimize expenditures in rolling stock maintenance	-	-	-	-
<i>Organizational Chart</i>	1	1	-	0.5
PC42. familiarize staff with the organization chart and functional roles in the RS depot and CPTD Cell	-	-	-	-
PC43. facilitate collaboration among sections such as PPIO, INSP, TECH CELL, and FIT	-	-	-	-
<i>21-Hour Reports and T&Q Cell Reporting</i>	2	2	-	0.5
PC44. analyze 21-hour failure reports and other T&Q Cell documents to identify trends and recurring failures	-	-	-	-
PC45. report on findings and propose corrective actions to prevent recurring issues	-	-	-	-
<i>Section Responsibilities</i>	1	1	-	0.5
PC46. familiarize with roles and responsibilities of sections like PPIO, INSP, TECH CELL, FIT, MW, RSC, and DCC	-	-	-	-
PC47. coordinate efficient functioning within and between sections for seamless RS operations	-	-	-	-
<i>Rolling Stock Comparison</i>	1	1	-	1
PC48. distinguish between all rolling stock types, identifying unique features and maintenance requirements	-	-	-	-
PC49. train the relevant personnel on stock-specific maintenance practices and equipment handling protocols	-	-	-	-
<i>Depot & M&Ps</i>	1	1	-	1
PC50. train on rolling stock depot layout, covering the depot's design, functional zones, and workflow to ensure effective navigation and operational efficiency within the depot environment	-	-	-	-
PC51. train on important M&Ps in rolling stock depots, including operation, maintenance procedures, and safety protocols specific to critical M&P equipment	-	-	-	-
<i>Depot Control Center (DCC)</i>	1	1	-	1
PC52. analyze the DCC working to understand the full operational flow, including monitoring, coordination, and communication functions essential for depot operations	-	-	-	-
PC53. determine the role and tasks of the Points man within the DCC framework, e.g. managing track switches, ensuring safe movement of trains within the depot, etc.	-	-	-	-
<i>Rolling Stock Care (RSC)</i>	1	1	-	1

	PC54. conduct RSC visits to inspect and ensure proper rolling stock care	-	-	-	-
	PC55. report on RSC findings and coordinate with depot staff to address any identified issues	-	-	-	-
	Total Marks	20	20	-	10
DMR/LSC/N0302: Develop Proficiency in other Rolling Stock Systems	<i>Other Rolling Stocks System Training</i>	<i>4</i>	<i>4</i>	-	<i>2</i>
	PC1. identify equipment layout, saloon interior & exterior, cab equipment overview, different panels, switches, push buttons, CBs locations, and functions of other Rolling Stocks, and changes in other Rolling Stocks	-	-	-	-
	PC2. check equipment layout, saloon interior & exterior, cab equipment overview, different panels, switches, push buttons, CBs locations, and functions of other Rolling Stock	-	-	-	-
	PC3. identify different TCMS modules fitted in different cars with their redundancy, and different modes/screens on Video Display Units of other Rolling Stock	-	-	-	-
	PC4. identify different bogies & wheels parts, equipment, their purpose and function in other Rolling Stock, and changes in other Rolling Stock	-	-	-	-
	PC5. identify different gangway & coupler parts, the purpose and function of equipment in other Rolling Stock, and changes in other Rolling Stock	-	-	-	-
	PC6. identify different brakes & pneumatic system, including the brakes types, purpose and function, pneumatic valves, compressors, reservoirs, and piping with colour codes of other Rolling Stock	-	-	-	-
	PC7. identify different types of doors in the door system, their purpose and functions, and the location of various equipment associated with doors of other Rolling Stock, and changes in other Rolling Stock	-	-	-	-
	PC8. determine the purpose and functions of major Saloon & Cab AC components, refrigeration cycle, different operation modes of saloon & cab AC, temperature settings of other Rolling Stock, etc.	-	-	-	-
	PC9. identify the other Rolling Stock propulsion system (Panto, VCB, MTR, CI & TM), and differences in other Rolling Stock	-	-	-	-
	PC10. identify different Auxiliary Power Supply System in other Rolling Stock modules/components fitted in SIV & BATTERY with their location and function, and differences in other Rolling Stock	-	-	-	-
	PC11. identify major PA/PIS systems, subsystems, and modules like AOP, MOP, PAMP, displays, push buttons, etc., of other Rolling Stock, and changes in other Rolling Stock	-	-	-	-
	PC12. identify different TCMS modules fitted in different cars with their redundancy, and different modes/screens on Video Display Units of other Rolling Stock	-	-	-	-
	<i>Training on other Rolling Stock System & Depot</i>	<i>8</i>	<i>8</i>	-	<i>4</i>
	PC13. identify cab equipment, including different panels, switches, push buttons, CBs locations, and functions	-	-	-	-
	PC14. analyze the purpose and function of bogie & wheels, gangway & coupler, and brakes & pneumatic system	-	-	-	-

PC15. determine the purpose, location, and function of door system and Aircon (Saloon & Cab AC)	-	-	-	-
PC16. determine the role, functionality, and operation of TCMS & Papis within the other rolling stock system	-	-	-	-
PC17. analyze the functions, locations, and operations of Propulsion System (Panto, VCB, MTR, CI & TM), and Auxiliary Power Supply System (SIV & BATTERY)	-	-	-	-
PC18. identify the key areas, equipment, and overall layout of the other rolling stock depot	-	-	-	-
PC19. analyze the function and operational procedures for important M&Ps in other rolling stock Depots machines and piece of equipment	-	-	-	-
PC20. analyze the use, maintenance, and safety procedures associated with each M&P area and piece of equipment in the other rolling stock depot workshop	-	-	-	-
PC21. identify different cab equipment, panels, switches, push buttons, CBs locations, and functions specific to other rolling stock	-	-	-	-
PC22. determine the purpose and function of each bogie & wheels, gangway & coupler component on within the other rolling stock system	-	-	-	-
PC23. identify different types of brakes, pneumatic valves, compressors, reservoirs, and piping color codes in other rolling stock brake & pneumatic system	-	-	-	-
PC24. determine the purpose, location, and function of each component associated with the doors within other rolling stock door system	-	-	-	-
PC25. identify the major components, the refrigeration cycle, modes of operation, and temperature settings specific to other rolling stock saloon & cab AC	-	-	-	-
PC26. determine the role, functionality, and operations of TCMS & Papis within other rolling stock	-	-	-	-
PC27. determine the purpose, function, and operational process for the propulsion System (Panto, VCB, MTR, CI & TM) components within other rolling stock	-	-	-	-
PC28. determine the locations, purpose, and functions of each Auxiliary Power Supply System (SIV & BATTERY) component in other rolling stock	-	-	-	-
<i>Training on Rapid Metro Trains</i>	4	4	-	2
PC29. identify different Saloon & Cab Equipment panels, switches, push buttons, CBs locations, and functions specific to rapid metro trains	-	-	-	-
PC30. determine the purpose and function of each bogie & wheel, gangway & coupler component within the rapid metro system	-	-	-	-
PC31. identify different types of brakes, pneumatic valves, compressors, reservoirs, and piping colour codes in Rapid Metro brakes & pneumatic system	-	-	-	-
PC32. determine the purpose, location, and function of each component associated with doors in rapid metro door system	-	-	-	-
PC33. identify the major components, refrigeration cycle, modes of operation, and temperature settings specific to rapid metro trains saloon & cab AC	-	-	-	-
PC34. determine the roles, functionality, and operation of TMS & Papis within rapid metro	-	-	-	-

	PC35. identify the DC equipment and determine the DC power collection processes in rapid metro	-	-	-	-
	PC36. determine the purpose, function, and operational process of the propulsion system components in rapid metro	-	-	-	-
	PC37. determine the locations, purpose, and functions of auxiliary power supply system components in rapid metro	-	-	-	-
	<i>Training on Airport Line Trains</i>	4	4	-	2
	PC38. identify different saloon & cab equipment panels, switches, push buttons, CBs locations, and functions specific to airport line trains	-	-	-	-
	PC39. determine the purpose, components, and functions relevant to airport line trains bogie & wheels, gangway & coupler	-	-	-	-
	PC40. identify the types of brakes, pneumatic valves, compressors, reservoirs, and colour-coded piping specific to airport line train brakes & pneumatic system	-	-	-	-
	PC41. determine the purpose, location, and function of each component associated with doors in airport line train door system	-	-	-	-
	PC42. identify the major components, refrigeration cycle, modes of operation, and temperature settings of airport line train saloon & cab AC	-	-	-	-
	PC43. determine the roles, functionality, and operation of TIMS & PAPIS systems specific to other rolling stock used on airport line	-	-	-	-
	PC44. identify the function and location of Panto, VCB, MTR, CI, and TM in airport line train propulsion system	-	-	-	-
	PC45. determine the purpose, function, and location of Auxiliary Power Supply System components within the airport line trains, including the SIV and BATTERY	-	-	-	-
	Total Marks	20	20	-	10
	DMR/LSC/N0303: Implement Key Safety and Maintenance Procedures for Rolling Stock				
	<i>Safety precautions</i>	2	2	-	1
	PC1. follow the procedure for issuing a job card, ensuring all necessary details are documented and the job is assigned to the appropriate personnel	-	-	-	-
	PC2. execute the procedure to issue a train fitness certificate for revenue service, verifying all safety and operational checks are complete before approving for service	-	-	-	-
	PC3. adhere to the procedure for issuing a power block, ensuring proper authorization and documentation to safely de-energize and clear the track section for maintenance work	-	-	-	-
	PC4. follow the procedure for energization of a power block in the inspection bay, ensuring safe restoration of power once maintenance work is completed	-	-	-	-
	PC5. follow the procedure for issuing and canceling a power block for Retractable OHE, ensuring compliance with safety measures during both issuance and cancellation after work completion	-	-	-	-
	PC6. implement the appropriate procedure for safe working on the train, including isolation procedures and use of necessary safety equipment	-	-	-	-
	PC7. implement the procedure for working in the under gear of the train on the IBL,	-	-	-	-

	ensuring safe access to and handling of undercarriage components with appropriate safety protocols				
PC8.	adhere to the procedure for maintenance work in the depot yard, following specific yard safety protocols and guidelines for safe movement and operation in the area	-	-	-	-
PC9.	conduct Safety Integrity Check (SIC) after first-line PM/CM work, ensuring all preventive or corrective maintenance tasks are completed to safety standards before the train operations	-	-	-	-
PC10.	carry out preventive checks on the train, ensuring thorough inspection and identification of potential issues to prevent operational disruptions or safety hazards	-	-	-	-
	<i>Shunting procedure</i>	4	4	-	3
PC11.	oversee the shunting of non-powered or defective train in the depot, ensuring adherence to safety protocols and appropriate methods to safely maneuver the train without self-propulsion	-	-	-	-
PC12.	follow the procedure for shunting a self-powered train in the depot, including guidelines for operating the train's own propulsion system to safely move it within depot boundaries	-	-	-	-
PC13.	execute the procedure for stabling an uncoupled train, confirming the train is properly secured and positioned to prevent any unintended movement	-	-	-	-
PC14.	oversee the stabling of defective trains, ensuring all necessary safety measures are taken, e.g. applying handbrakes, securing the location, and alerting relevant personnel	-	-	-	-
PC15.	implement the procedure for changing brake blocks on the train, ensuring proper safety precautions, correct tool use, and accurate replacement to maintain optimal braking performance	-	-	-	-
PC16.	implement guidelines concerning mobile phones usage in the depot premises, ensuring it does not interfere with operational safety, especially during active shunting or maintenance tasks	-	-	-	-
PC17.	follow the procedure for testing the train on the test track, including necessary pre-test inspections, safe operation protocols, and post-test evaluations	-	-	-	-
PC18.	oversee shunting of trains on the test track, adhering to specific safety measures to safely conduct shunting maneuvers within the test environment	-	-	-	-
	<i>Coupling procedure</i>	4	4	-	2
PC19.	oversee the coupling and uncoupling of trains on a unit basis, ensuring each unit is securely connected or disconnected following applicable safety protocols and operational guidelines	-	-	-	-
PC20.	check coupling and uncoupling (M-M) and (DT-M) configurations, ensuring units are safely joined or separated according to the type of train formation and applicable standards	-	-	-	-
PC21.	carry out automatic coupling/ uncoupling of two units (M-M) of other rolling	-	-	-	-

	stock trains, operating the automatic system effectively for safe coupling and uncoupling of motor cars				
PC22.	perform uncoupling and coupling of M-M car gangway on other rolling stock, ensuring secure connection and disconnection of gangways to maintain continuity and safe car movement	-	-	-	-
PC23.	execute hostler operation for movement of units in other rolling stock, ensuring safe handling of the train's hostler system to maneuver units within the depot for positioning or maintenance	-	-	-	-
	<i>Rescue procedure</i>	4	4	-	2
PC24.	conduct the rescue of rolling stock disabled trains on the mainline using another rolling stock train, ensuring safe and effective coupling, movement, and transportation back to the depot	-	-	-	-
PC25.	execute the rescue of other rolling stock disabled trains on the mainline using another other rolling stock train, verifying correct alignment, secure coupling, and communication between trains for safe rescue	-	-	-	-
PC26.	follow the procedure for pulling a defective train with a locomotive, conducting necessary checks and maintaining appropriate speed limits for safe transport	-	-	-	-
PC27.	oversee pushing of defective trains with locomotive, ensuring adherence to safety protocols and coordination steps to prevent derailment and steady movement to the destination	-	-	-	-
PC28.	oversee the rescue of disabled trains on the mainline using another rolling stock train, ensuring compatibility, secure connections, and stability throughout the operation to prevent accidents	-	-	-	-
PC29.	handle pantograph entanglement with OHE on the mainline, safety isolating power, disentangling the pantograph, and ensuring minimal damage to the train and OHE system	-	-	-	-
	<i>Lifting appliance use and rerailing</i>	3	3	-	1
PC30.	ensure the safe operation of lifting appliances and lifting gears by conducting pre-use inspections, verifying certifications, adhering to safety guidelines for load limits, securing the load properly, and using the access platform as per safety standards	-	-	-	-
PC31.	execute heavy lifting operations using the overhead crane by following prescribed safety protocols, conducting a test lift to ensure load stability, using certified lifting slings, and ensuring precise and safe rerailing in the inspection bay	-	-	-	-
	<i>Axle lock</i>	3	3	-	1
PC32.	ensure the safe movement of trains with axle lock on the main line and Rail Cum Road Vehicles (RRVs), adhering to alignment and transition procedures, and maintaining controlled speeds to prevent accidents or derailments	-	-	-	-
PC33.	perform rerailing of DT or M car bogies by preparing the site, utilizing appropriate tools and equipment, realigning bogies onto the track with	-	-	-	-

	precision, and verifying operational stability for safe resumption of service				
	Total Marks	20	20	-	10
DMR/LSC/N0304: Conduct Preventive Maintenance Checks for Rolling Stock	<i>Conducting A check</i>	<i>4</i>	<i>4</i>	<i>-</i>	<i>2</i>
	PC1. perform maintenance activities required for A service checks, using appropriate tools and diagnostic equipment	-	-	-	-
	PC2. conduct practical inspection of components during A service checks, and document the findings and maintenance activities	-	-	-	-
	<i>Conducting B-1 check</i>	<i>4</i>	<i>4</i>	<i>-</i>	<i>2</i>
	PC3. perform maintenance activities required for B-1 service checks, using appropriate tools and diagnostic equipment	-	-	-	-
	PC4. conduct inspection of components during B-1 service checks, and document the findings and maintenance activities	-	-	-	-
	<i>Conducting B-4 check</i>	<i>4</i>	<i>4</i>	<i>-</i>	<i>2</i>
	PC5. inspect key components during B-4 service check to identify wear or damage and ensure system functionality, adhering to applicable safety protocols	-	-	-	-
	PC6. perform practical B-4 checks using appropriate tools, following the applicable procedures, and document the findings and maintenance activities	-	-	-	-
	<i>Conducting B-8 check</i>	<i>4</i>	<i>4</i>	<i>-</i>	<i>2</i>
	PC7. perform maintenance activities as per the B-8 service check requirements	-	-	-	-
	PC8. conduct practical inspections and testing as outlined for B-8 service checks, and document the findings and maintenance activities	-	-	-	-
	<i>Troubleshooting of RS faults</i>	<i>4</i>	<i>4</i>	<i>-</i>	<i>2</i>
	PC9. identify faults in RS systems by interpreting diagnostic indicators and fault codes, and apply standard troubleshooting procedures to isolate root causes effectively	-	-	-	-
	PC10. utilize appropriate tools and testing equipment to diagnose and repair faults, performing corrective actions safety, and confirm RS functionality through system checks	-	-	-	-
	PC11. document troubleshooting activities, including fault identification, corrective measures, and results, in maintenance logs as per established standards	-	-	-	-
	Total Marks	20	20	-	10
DMR/LSC/N0305: Undergo GMSM & MSM Maintenance Simulator Training	<i>General Maintenance Simulation Model (GMSM)</i>	<i>10</i>	<i>10</i>	<i>-</i>	<i>05</i>
	PC1. follow standard procedures for accessing and navigating the GMSM interface in other rolling stock	-	-	-	-
	PC2. use GMSM to monitor and manage other rolling stock operational data accurately	-	-	-	-
	PC3. identify and interpret critical system information displayed on the GMSM for other rolling stock	-	-	-	-
	PC4. apply GMSM data for efficient fault detection, diagnostics, and system health checks	-	-	-	-
	PC5. record and report findings from GMSM analysis as per standard protocols	-	-	-	-

	PC6. respond to GSM alerts and indicators in alignment with operational guidelines	-	-	-	-
	<i>Maintenance Simulation Model (MSM)</i>	10	10	-	05
	PC7. use the other rolling stock Maintenance Simulator to practice identifying and resolving common system faults, operating the simulator according to safety and training protocols	-	-	-	-
	PC8. navigate different modules and scenarios within the other rolling stock Maintenance Simulator effectively	-	-	-	-
	PC9. complete simulated maintenance tasks on other rolling stock components, and apply learnings from the simulator to enhance on-field other rolling stock maintenance skills	-	-	-	-
	PC10. document simulator-based training activities, including fault identification and resolution steps	-	-	-	-
	Total Marks	20	20	-	10
DMR/LSC/N0306: Undergo Training on Important VCC & Pneumatic Circuits of Rolling Stock and other Rolling Stocks	<i>Abbreviations</i>	1	1	-	0.5
	PC1. identify and explain key abbreviations and components within the VCC rolling stock system	-	-	-	-
	PC2. familiarize and record the functional roles of each component as per rolling stock standards	-	-	-	-
	<i>Activation of Train Lines</i>	1	1	-	0.5
	PC3. activate train lines and verify successful operation through circuits	-	-	-	-
	PC4. conduct safety checks for each activated train line to confirm operational status	-	-	-	-
	<i>Controlling Cab & Energization of Train</i>	1	1	-	0.5
	PC5. control and energize the cab and main train power through circuits	-	-	-	-
	PC6. test energization sequences to ensure train readiness	-	-	-	-
	<i>Pantograph Raising & Control Circuit, and Auxiliary Power System</i>	1	1	-	0.5
	PC7. operate pantograph raising functions and monitor control circuit for continuity	-	-	-	-
	PC8. manage auxiliary power systems (3251 and 55), ensuring consistent power flow	-	-	-	-
	<i>Door Loop & Circuits</i>	1	1	-	0.5
	PC9. test door loop functionality, verify operation across circuits	-	-	-	-
	PC10. conduct regular checks and troubleshoot any door loop issues in real time	-	-	-	-
	<i>Emergency Brake Loop & Parking Brake</i>	1	1	-	0.5
	PC11. operate emergency brake loop and ensure parking brake activation on circuits	-	-	-	-
	PC12. inspect brake loop functionality and perform emergency stop tests	-	-	-	-
	<i>Coupling & Uncoupling</i>	1	1	-	0.5
	PC13. perform coupling and uncoupling operations using circuit	-	-	-	-
	PC14. inspect mechanical and electrical interfaces for coupling/uncoupling integrity	-	-	-	-
	<i>VCB Control</i>	1	1	-	0.5
	PC15. control and test VCB (Vacuum Circuit Breaker) operations using circuits	-	-	-	-
	PC16. monitor VCB response and verify correct engagement/disengagement	-	-	-	-
	<i>CMSB & Brake Loop</i>	1	1	-	0.5

PC17. operate CMSB (Control Module Signal Block) and test brake loop functionality	-	-	-	-
PC18. inspect CMSB output and ensure reliable braking control	-	-	-	-
<i>Traction System & Speed Control</i>	1	1	-	0.5
PC19. operate traction systems and monitor speed control through circuits	-	-	-	-
PC20. test speed response and traction power under varying load conditions	-	-	-	-
<i>Brake Loop & Circuits</i>	1	1	-	0.5
PC21. operate brake loop across circuits, ensuring consistent braking power	-	-	-	-
PC22. inspect and verify each circuit in the brake loop for full functionality	-	-	-	-
<i>Air Conditioning</i>	1	1	-	0.5
PC23. operate and test air conditioning system through circuits	-	-	-	-
PC24. inspect airflow, temperature control, and overall cooling performance	-	-	-	-
<i>Communication System</i>	1	1	-	0.5
PC25. test and monitor communication systems, including circuits	-	-	-	-
PC26. conduct site tests for all communication channels and ensure signal clarity	-	-	-	-
<i>Pneumatic Circuit Part-1</i>	1	1	-	0.5
PC27. inspect pneumatic components, including pressure regulation devices, to ensure proper pressure, airflow, and optimal functionality in Part-1 circuits	-	-	-	-
PC28. conduct pressure tests, verify the responsiveness of valves and cylinders, and perform routine maintenance and basic troubleshooting to maintain consistent performance in Part-1 pneumatic lines	-	-	-	-
<i>Pneumatic Circuit Part-2</i>	1	1	-	0.5
PC29. inspect, test, and calibrate pneumatic controls, pressure regulators, sensors, and actuators in Part-2 circuits to ensure efficient operation of brake systems and other powered functions	-	-	-	-
PC30. diagnose and resolve malfunctions in Part-2 pneumatic circuits, perform emergency shutdown procedures, and ensure compliance with safety protocols	-	-	-	-
<i>Basic Concept of Other rolling stock VCC</i>	1	1	-	0.5
PC31. identify key components of the other rolling stock Vehicle Control Circuit (VCC), explain their roles, and perform system checks to monitor functionality and identify irregularities	-	-	-	-
PC32. conduct VCC diagnostics using standard tools to verify circuit integrity, response, and operational effectiveness	-	-	-	-
<i>Train Control and Management System (TCMS) / other rolling Stock</i>	1	1	-	0.5
PC33. operate the TCMS to monitor and manage vehicle diagnostics in other rolling stock, configuring and testing settings for various operational scenarios	-	-	-	-
PC34. conduct routine system checks on the TCMS, diagnose real-time system alerts and faults, and ensure all modules are fully functional	-	-	-	-
<i>Motoring & Braking Circuit of other rolling Stock</i>	1	1	-	0.5
PC35. inspect, test, and adjust motoring and braking circuits to ensure operational efficiency, including proper stopping distances under varying loads	-	-	-	-
PC36. diagnose and repair issues with motor drive components or braking systems,	-	-	-	-

	implementing safety measures during maintenance and checks				
	<i>Pneumatic Circuit of other rolling Stock</i>	2	2	-	1
	PC37. inspect and test pneumatic circuits, verifying the functionality of air compressors, reservoirs, valves, and pressure levels, identifying and rectifying faults such as leaks	-	-	-	-
	PC38. perform maintenance on pneumatic components like air dryers, brake cylinders, and pressure regulators, conducting safety checks before and after maintenance to ensure circuit readiness	-	-	-	-
	Total Marks	20	20	-	10
DGT/VSQ/N0101: Employability Skills (30 Hours)	<i>Introduction to Employability Skills</i>	1	1	-	-
	PC1. understand the significance of employability skills in meeting the job requirements	-	-	-	-
	<i>Constitutional values – Citizenship</i>	1	1	-	-
	PC2. identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices	-	-	-	-
	<i>Becoming a Professional in the 21st Century</i>	1	3	-	-
	PC3. explain 21st Century Skills such as Self- Awareness, Behavior Skills, Positive attitude, self-motivation, problem-solving, creative thinking, time management, social and cultural awareness, emotional awareness, continuous learning mindset etc.	-	-	-	-
	<i>Basic English Skills</i>	2	3	-	-
	PC4. speak with others using some basic English phrases or sentences	-	-	-	-
	<i>Communication Skills</i>	1	1	-	-
	PC5. follow good manners while communicating with others	-	-	-	-
	PC6. work with others in a team	-	-	-	-
	<i>Diversity & Inclusion</i>	1	1	-	-
	PC7. communicate and behave appropriately with all genders and PwD	-	-	-	-
	PC8. report any issues related to sexual harassment	-	-	-	-
	<i>Financial and Legal Literacy</i>	3	4	-	-
	PC9. use various financial products and services safely and securely	-	-	-	-
	PC10. calculate income, expenses, savings etc.	-	-	-	-
	PC11. approach the concerned authorities for any exploitation as per legal rights and laws	-	-	-	-
	<i>Essential Digital Skills</i>	4	6	-	-
	PC12. operate digital devices and use its features and applications securely and safely	-	-	-	-
	PC13. use internet and social media platforms securely and safely	-	-	-	-
	<i>Entrepreneurship</i>	3	5	-	-
	PC14. identify and assess opportunities for potential business	-	-	-	-
	PC15. identify sources for arranging money and associated financial and legal challenges	-	-	-	-
	<i>Customer Service</i>	2	2	-	-

PC16. identify different types of customers	-	-	-	-
PC17. identify customer needs and address them appropriately	-	-	-	-
PC18. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	1	3	-	-
PC19. create a basic biodata	-	-	-	-
PC20. search for suitable jobs and apply	-	-	-	-
PC21. identify and register apprenticeship opportunities as per requirement	-	-	-	-
Total Marks	20	30	-	-
Grand Total	160	170	-	70

Annexure 7: Assessment Strategy

This section includes the processes involved in identifying, gathering, and interpreting information to evaluate the Candidate on the required competencies of the program.

1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SIDH
- The batch allocation Matrix prepared for each month based on previous months' performance of AAs, which determines the quantum of Assessment which can be allocated to each AA for a month
- Post allocation of assessment, Assessment agencies send the assessment confirmation to AB
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- AB monitors the assessment process.

2. Testing Environment:

- A combination of Theory and practical/demonstration test is deployed to assess knowledge and Skill respectively of Learners.
- Assessment is conducted at Training center in in-person/offline mode
- For Skill assessment, environment is simulated to create a realistic Working Environment that should replicate the key features of the workplace. In job roles, where it is difficult to replicate the same, the OJT assessment is implemented.
- During the practical task, trainees are assessed on their workmanship, quality of finished product, time management, etc., based on the performance criteria (PC), knowledge and understanding and their professional and soft skills as specified in the qualification pack.
- Knowledge assessment is done through closed ended questions up to level 4 and from level 5 onwards, it is mixture of open ended and closed ended questions

3. Assessment Quality Assurance levels/Framework

- Assessment criteria is developed for each QP which acts as a guide for developing question set /banks
- Sample questions aligned with Assessment criteria for each QP are developed by AB and validated by industry
- Taking reference of Assessment criteria and Sample Questions, AAs create the question bank which is further validated by AB
- Questions are mapped to the specified assessment criteria
- It is mandatory that Assessor and Trainer must be ToA certified & ToT Certified respectively
- Continuous Monitoring through virtual and In-person mode are conducted to ensure the assessment is conducted as per stipulated process
- Process and Technical audit of assessment batches by quality team are conducted to avoid the errors in assessment process
- A well -defined comprehensive framework of NON-COMPLIANCE MATRIX is defined and implemented to identify the non-compliance made by assessor and AA and punitive actions are taken correspondingly.

- The capacity building sessions are conducted regularly for assessors and assessment agencies to update them about best practices in assessment

4. Types of evidence or evidence-gathering protocol:

- Post Assessment, the evidences are uploaded by Assessor to assessment agency and further assessment agency to AB as per stipulated TAT
- Evidences are broadly the photographic and video graphic in nature
- Assessment agencies upload the evidence on SIDH and detailed evidence on AB digital platform (ZoHO)
- Evidences are; NOS wise-Geotagged photographs and videos of Theory Test & Practical Tasks, Attendance sheet, result summary sheet, group photographs.

5. Method of verification or validation:

- The process and technical audit of assessment batches are done by AB
- Attendance of each candidate is verified and it is ensured that only those candidates are assessed by assessors who are meeting the stipulated minimum percentage of attendance
- The result of each candidate is verified, it is verified that that result on SIDH are matching with respect to summary sheet submitted by AAs
- Under detailed technical audit for sample of batches, the knowledge and skill assessment results for each candidate is checked in technical aspect.
- All the evidences of batches are preserved on server of AB digital platform

On the Job Training:

On job training (OJT), candidates undergo training and learning at actual workplace for a fixed period of time and a certain weightage of assessment is allocated out of total skill weightage of Qualification Pack for undergoing OJT as stipulated by DMRC Academy. This OJT score and assessors' end point score are combined to arrive at final Marking/grading of trainees' skill test. The OJT score is determined by Supervisor of company under which candidates undergo on job training.

Annexure 8: Acronym and Glossary

Acronym

Acronym	Description
AA	Assessment Agency
AB	Awarding Body
ISCO	International Standard Classification of Occupations
NCO	National Classification of Occupations
NCrF	National Credit Framework
NOS	National Occupational Standard(s)
NQR	National Qualification Register
NSQF	National Skills Qualifications Framework
OJT	On the Job Training
DMRA	Delhi Metro Rail Academy
MR	Metro Railway
PSI	Power Supply Installation
SCADA	Supervisory Control and Data Acquisition
OHE	Overhead Electrification
RS	Rolling Stock

CB	Circuit Breaker
PA	Public Address
PIS	Passenger Information System
AOP	Automatic Operational Panel
MOP	Manual Operating Panel
PAMP	Passenger Announcement and Monitoring Panel
VCB	Vacuum Circuit Breaker
MTR	Main Transformer
CI	Current Interrupter
TM	Traction Motor
PT	Potential Transformer
CT	Current Transformer
EGS	Earth Grounding System
M&P	Machinery and Plant
OHE	Overhead Equipment
GMSM	General Maintenance Simulation Model
MSM	Maintenance Simulation Model
TIMS	Train Information and Management System
PWL	Platform Wheel Lifts
AWP	Aerial Work Platforms
RRV	Rail-Road Vehicles
CMSB	Control Module Signal Block
VCC	Vehicle Control Center
VCB	Vacuum Circuit Breaker

Glossary

Term	Description
National Occupational Standards (NOS)	NOS define the measurable performance outcomes required from an individual engaged in a particular task. They list down what an individual performing that task should know and also do.
Qualification	A formal outcome of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards
Qualification File	A Qualification File is a template designed to capture necessary information of a Qualification from the perspective of NSQF compliance. The Qualification File will be normally submitted by the awarding body for the qualification.
Sector	A grouping of professional activities on the basis of their main economic function, product, service or technology.
Long Term Training	Long-term skilling means any vocational training program undertaken for a year and above. https://ncvet.gov.in/sites/default/files/NCVET.pdf