

QUALIFICATION FILE

Bulldozer Operator

☒ 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: 3

Submitted By:

Skill Council for Mining Sector (SCMS)

FIMI House, B-311,

Okhla Industrial, Phase-1

New Delhi-110020

Table of Contents

Section 1: Basic Details	3
Section 2: Module Summary	5
NOS/s of Qualifications.....	5
Mandatory NOS/s:	5
Elective NOS/s: Not Applicable	5
Optional NOS/s: Not Applicable: NA	6
Assessment - Minimum Qualifying Percentage.....	6
Section 3: Training Related.....	7
Section 4: Assessment Related.....	8
Section 5: Evidence of the need for the Qualification.....	8
Section 6: Annexure & Supporting Documents Check List.....	9
Annexure: Evidence of Level	9
Annexure: Tools and Equipment (Lab Set-Up)	10
Annexure: Industry Validations Summary.....	12
Annexure: Training & Employment Details	13
Annexure: Blended Learning	14
Annexure: Detailed Assessment Criteria	15
Annexure: Assessment Strategy	29
Annexure: Acronym and Glossary	30

Section 1: Basic Details

1.	Qualification Name	Bulldozer Operator																				
2.	Sector/s	Mining																				
3.	Type of Qualification: ☐ New ☒ Revised ☐ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: 2022/MIN/SCMS/06977 & Version 2.0	Qualification Name of existing/previous version: Bulldozer Operator																			
4.	a. OEM Name b. Qualification Name (Wherever applicable)	Not Applicable																				
5.	National Qualification Register (NQR) Code &Version (Will be issued after NSQC approval)	QG-03-MG-04054-2025-V2-SCMS & Version 3.0	6. NCrF/NSQF Level: 3																			
7.	Award (Certificate/Diploma/Advance Diploma/ Any Other (Wherever applicable specify multiple entry/exits also & provide details in annexure)	Not Applicable																				
8.	Brief Description of the Qualification	The bulldozer operator uses the bulldozer to scoop out soil, move rocks and ore to other site of the location and level the ground. They are also responsible for confirming that the safety systems are working correctly and performing essential maintenance on the bulldozer.																				
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>10th grade pass (or equivalent)</td> <td>-</td> </tr> <tr> <td>2.</td> <td>9th grade pass</td> <td>1.5 years relevant experience in Mining Industry</td> </tr> <tr> <td>3.</td> <td>8th grade pass</td> <td>3 years relevant experience in Mining Industry</td> </tr> <tr> <td>4.</td> <td>5th grade pass</td> <td>7.5 years relevant experience in Mining Industry</td> </tr> <tr> <td>5.</td> <td>Previous relevant Qualification of NSQF Level 2: Helper-Opencast Mines</td> <td>3 years relevant experience in Mining Industry</td> </tr> </tbody> </table> b. Age: 20 years			S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	10th grade pass (or equivalent)	-	2.	9th grade pass	1.5 years relevant experience in Mining Industry	3.	8th grade pass	3 years relevant experience in Mining Industry	4.	5th grade pass	7.5 years relevant experience in Mining Industry	5.	Previous relevant Qualification of NSQF Level 2: Helper-Opencast Mines	3 years relevant experience in Mining Industry
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5.	Previous relevant Qualification of NSQF Level 2: Helper-Opencast Mines	3 years relevant experience in Mining Industry																				
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrF))	13	11. Common Cost Norm Category (I/II/III) (wherever applicable): I																			

12.	Any Licensing requirements for Undertaking Training on This Qualification <i>(wherever applicable)</i>	Preferable Heavy Motor Vehicle Driving License																						
13.	Training Duration by Modes of Training Delivery <i>(Specify Total Duration as per selected training delivery modes and as per requirement of the qualification)</i>	☒ 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>130:00</td> <td>260:00</td> <td>-</td> <td>-</td> <td>390:00</td> </tr> <tr> <td>Online</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <i>(Refer Blended Learning Annexure for details)</i>					Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)	Classroom (offline)	130:00	260:00	-	-	390:00	Online	-	-	-	-	-
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																			
Classroom (offline)	130:00	260:00	-	-	390:00																			
Online	-	-	-	-	-																			
14.	Aligned to NCO/ISCO Code/s <i>(if no code is available mention the same)</i>	NCO-2015/8342.0101																						
15.	Progression path after attaining the qualification <i>(Please show Professional and Academic progression)</i>	Vertical Progression: NSQF Level 4.0-Shovel Operator (to be developed)																						
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:																						
19.	How Participation of Women will be Encouraged	By creating awareness in women and training them																						
20.	Are Greening/ Environment Sustainability Aspects Covered <i>(Specify the NOS/Module which covers it)</i>	☒ Yes ☐ No MIN/N1703																						
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 <i>(In case of CS or MS, provide details of both Lead AB & Supporting ABs)</i>	Name: Mr. Navneet Kumar Email : coo@skillcms.in, scms@skillcms.in Website : https://www.skillcms.in/ Contact No.: +91-11-26814593																						
23.	Final Approval Date by NSQC: 8 May 2025	24. Validity Duration: 3 Years			25. Next Review Date: 30 April 2028																			

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 Man.-Mandatory Training Rec.-Recommended Proj.-Project

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NSQF 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.	Prepare the Bulldozer for Operations	MIN/N1401 & V2.0	Core	3	3	30:00	60:00	-	-	90:00	30	50	0	20	100	20
2.	Perform bulldozer operations	MIN/N1402 & V2.0	Core	3	4	20:00	100:00	-	-	120:00	30	50	0	20	100	20
3.	Perform basic maintenance and troubleshooting of the bulldozer	MIN/N1403 & V2.0	Core	3	2	20:00	40:00	-	-	60:00	30	50	0	20	100	20
4.	Carry out reporting and documentation related to the bulldozer operation	MIN/N1404 & V2.0	Core	3	1	10:00	20:00	-	-	30:00	30	50	0	20	100	10
5.	Follow Health, Safety, and Environmental Guidelines for opencast	MIN/N1703 & V3.0	Core	1	2	20:00	40:00	-	-	60:00	30	50	-	20	100	20
6.	Employability Skills (30 Hours)	DGT/VSQ/N 0101 & V1.0	Non-Core	2	1	30:00	00:00	00:00	-	30:00	20	30	-	-	50	10
Duration (in Hours) / Total Marks					13	130:00	260:00	00:00	-	390:00	170	280	-	100	550	100

Elective NOS/s: Not Applicable

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NSQF 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.																
2.																
3.																

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NSQF 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)
Duration (in Hours) / Total Marks																

Optional NOS/s: Not Applicable

S. No	NOS/Module Name	NOS/Module Code & Version (if applicable)	Core/Non-Core	NCrF/NSQF 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.																
2.																
Duration (in Hours) / Total Marks																

Assessment - Minimum Qualifying Percentage

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

Minimum Pass Percentage – Aggregate at qualification level: 70% (Every Trainee should score specified minimum aggregate passing percentage at qualification level to successfully clear the assessment.)

Minimum Pass Percentage – NOS/Module-wise: Not Applicable% (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)	Class 10th pass with 6 years of relevant experience required in bulldozer operations. OR ITI (Relevant Trade) with 6 years of relevant experience required in bulldozer operations. OR Diploma (Mining/ Mechanical) with 5 years of relevant experience required in bulldozer operations. OR Graduation (Mining/ Mechanical) with 4 years of relevant experience required in bulldozer operations. OR CITS-NCIC (Machinist & Operator, Advance Machine Tool) with 1 year Relevant experience in bulldozer operations. AND
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		Certified for Job role “Bulldozer Operator” and Job Role “Trainer (VET and Skills)” with minimum accepted score of 80% in each.
2.	Master Trainer’s Qualification and experience in the relevant sector (in years) (as per NCVET guidelines)	Class 10th pass with 6 years of relevant experience required in bulldozer operations. OR ITI (Relevant Trade) with 6 years of relevant experience required in bulldozer operations. OR Diploma (Mining/ Mechanical) with 5 years of relevant experience required in bulldozer operations. OR Graduation (Mining/ Mechanical) with 4 years of relevant experience required in bulldozer operations. OR CITS-NCIC (Machinist & Operator, Advance Machine Tool) with 1 year Relevant experience in bulldozer operations. AND Certified for Job role “Bulldozer Operator” and Job Role “Master Trainer (VET and Skills)” with minimum accepted score of 90% in each.
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	To get trained on the NOS of Employability Skills of 30 Hours.

Section 4: Assessment Related

1.	Assessor’s Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Class 10th pass with 8 years of relevant experience required in bulldozer operations. OR ITI (Relevant Trade) with 8 years of relevant experience required in bulldozer operations. OR Diploma (Mining/ Mechanical) with 7 years of relevant experience required in bulldozer operations. OR Graduation (B-Tech in Mining/ Mechanical) with 6 years of relevant experience required in bulldozer operations. OR CITS-NCIC (Machinist & Operator, Advance Machine Tool) with 1 year Relevant experience in bulldozer operations. AND Certified for Job role “Bulldozer Operator” and Job Role “Assessor (VET and Skills)” with minimum accepted score of 80% in each.
2.	Proctor’s Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Class 10th pass with 6 years of relevant experience required in bulldozer operations. OR ITI (Relevant Trade) with 6 years of relevant experience required in bulldozer operations. OR Diploma (Mining/ Mechanical) with 5 years of relevant experience required in bulldozer operations.

		OR Graduation (Mining/ Mechanical) with 4 years of relevant experience required in bulldozer operations. OR CITS-NCIC (Machinist & Operator, Advance Machine Tool) with 1 year Relevant experience in bulldozer operations. AND Certified for Job role “Bulldozer Operator” and Job Role “Trainer (VET and Skills)” with minimum accepted score of 80% in each.
3.	Lead Assessor’s/Proctor’s Qualification and experience in relevant sector (in years) (as per NCVET guidelines)	Class 10th pass with 8 years of relevant experience required in bulldozer operations. OR ITI (Relevant Trade) with 8 years of relevant experience required in bulldozer operations. OR Diploma (Mining/ Mechanical) with 7 years of relevant experience required in bulldozer operations. OR Graduation (B-Tech in Mining/ Mechanical) with 6 years of relevant experience required in bulldozer operations. OR CITS-NCIC (Machinist & Operator, Advance Machine Tool) with 1 year Relevant experience in bulldozer operations. AND Certified for Job role “Bulldozer Operator” and Job Role “Lead Assessor (VET and Skills)” with minimum accepted score of 90% in each.
4.	Assessment Mode (Specify the assessment mode)	Tablet based/ 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): No
3.	Government /Industry initiatives/ requirement (Yes/No): Yes
4.	Number of Industry validation provided: 21
5.	Estimated nos. of persons to be trained and employed: 2400
6.	Evidence of Concurrence/Consultation with Line Ministry/State Departments: Yes 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 (Mandatory)	Attached
2.	Annexure: List of tools and equipment relevant for qualification (Mandatory, except in case of online course)	Attached
3.	Annexure: Detailed Assessment Criteria (Mandatory)	Attached
4.	Annexure: Assessment Strategy (Mandatory)	Attached
5.	Annexure: Blended Learning (Mandatory, in case selected Mode of delivery is "Blended Learning")	Not Applicable
6.	Annexure: Multiple Entry-Exit Details (Mandatory, in case qualification has multiple Entry-Exit)	Filled
7.	Annexure: Acronym and Glossary (Optional)	Filled
8.	Supporting Document: Model Curriculum (Mandatory – Public view)	Attached
9.	Supporting Document: Career Progression (Mandatory - Public view)	Attached
10.	Supporting Document: Occupational Map (Mandatory)	Attached
11.	Supporting Document: Assessment SOP (Mandatory)	Attached
12.	Any other document you wish to submit:	No

Annexure: 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	Transporting material using Bulldozer – The bulldozer operator uses the tractor and blade to scoop out soil, move rock and ore to other locations on the site, and to level the soil. Bulldozers are capable of pushing ore and rock. Bulldozer operators are also responsible for confirming that their safety systems are working properly and for performing basic maintenance on the Bulldozer.	The bulldozer operator uses the bulldozer to scoop out soil, move rocks and ore to other site of the location and level the ground considering all safety precaution.	3
Professional and Technical Skills/ Expertise/ Professional Knowledge	Code of practice in specific areas of mine. Significance of fences and Benching in quarries, Dressing of overhangs, undercuts, Fencing, First aid and Hygiene. Controls and switches needed to operate the Bulldozer properly. The	Check dairy fitness of the vehicle i.e. vehicle aggregates and assemblies, including steering mechanisms, service brakes and parking brakes, alarms and	3

	optimal levels of control indicators e.g. fuel gauge, engine oil pressure and temperature. Knowledge of damage in Bulldozer components e.g. engine components, tracks, hydraulic arms, Blade, parking break, main horn, etc.	signalling devices, instrument panel, controls, levers and switches, correct oil pressures and temperatures etc. in respect of Health and Safety.	
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Skills of Levers and switches in order to operate the Bulldozer properly, Signage, mining area signs and other safety and emergency signals. Check for damage in Bulldozer components e.g. engine components, tracks, hydraulic arms, Blade, parking break, main horn, etc. Guidelines for working in congested places e.g. stock piles, below overhangs. Identify possible ways to improve operational efficiency. Suggest methods to avoid accidents/errors while operating Bulldozer.	Provide full attention for production work in given time and make decisions pertaining to the concerned area of work. Detect problems in day by day tasks and able to resolve them. Also able to make decision in emergency condition.	3
Broad Learning Outcomes/Core Skill	Take responsibility for completing one's own work assignment, methods to avoid accidents/errors while operating Bulldozer. Use the blade appropriately for levelling the surface. Engage and maneuver the blade to push or move around ore stacks/waste rock /rejects as necessary. Use blade to push material, Use blade for levelling the surface.	Records and note down the routine work and observation and comply task list related to safety aspect such as fire-fighting process, handling Explosive safely, control dust on hual road etc. and notify the same to senior. Hence, Communication written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles are required.	3
Responsibility	This job requires the individual to concentrate on the job at hand and complete it efficiently and effectively without any accidents. The individual should be skilled in performing various driving and manoeuvring operations with the Bulldozer. The individual must be able to follow instructions provided by supervisor.	Works independently as per the instruction of supervisor/ Shift In- charge/Mines Manager.	3

Annexure: Tools and Equipment (Lab Set-Up)

(As per Industry requirement)

List of Tools and Equipment
Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Bulldozer	Standard	1
2.	Vehicle driver tool box	Standard	1
3.	Helmet	Standard	15
4.	Dust mask	Standard	15

5.	Goggles	Standard	15
6.	Ear plug	Standard	15
7.	Gloves	Standard	15
8.	Reflective jacket	Standard	15
9.	Safety belt	Standard	15
10.	Gum boots	Standard	5 Pairs
11.	Slide wrench	Standard	15
12.	Bulldozer simulator	Standard	15
13.	Spanner set	Standard	15
14.	Pre-check list format	Standard	15
15.	Engine oil	Standard	1 liter
16.	Transmission oil	Standard	1 liter
17.	Hydraulic oil	Standard	1 liter
18.	Grease can	Standard	15
19.	Grease gun	Standard	15
20.	Posters for describing different types of mines	Standard	1 for each type of mine
21.	Log books	Standard	15
22.	Posters of tools	Standard	15
23.	Poster of "5-S"	Standard	15
24.	Poster of Bulldozer (describing the components)	Standard	1
25.	Grinder	Standard	1
26.	Sanders	Standard	1
27.	Impact wrench	Standard	1
28.	Power drill	Standard	1
29.	Rotary tool	Standard	1
30.	Chain sling	Standard	1
31.	Rope sling	Standard	1
32.	Hook	Standard	1
33.	Shackle	Standard	1
34.	Swivel	Standard	1
35.	Coupling	Standard	1
36.	Socket	Standard	5
37.	Clamp	Standard	1
38.	Tray	Standard	1

39.	Chain pulley	Standard	1
40.	Sample of engine oil	Standard	1 liter
41.	Poster showing brake system	Standard	15
42.	Poster showing cooling system	Standard	15
43.	Poster showing hydraulic system	Standard	15
44.	Maintenance based log books	Standard	15
45.	Operation based log book	Standard	15
46.	Check list	Standard	15
47.	MCDR based logbooks	Standard	1
48.	Helmet	Standard	15
49.	Harness	Standard	15
50.	Earplugs	Standard	1
51.	Safety goggles	Standard	1
52.	Nose mask	Standard	1
53.	Safety shoes	Standard	1
54.	Fire extinguisher	Standard	1
55.	Types of log book	Standard	1
56.	First Aid box	Standard	1
57.	MCDR	Standard	1
58.	MCR	Standard	1
59.	Company's SOP; Diagrams showing quarries	Standard	1
60.	Overhangs	Standard	1
61.	Fencing	Standard	1
62.	Weekly Monthly Maintenance/Defect sheets; Systematic Support Plan (SSP); Systematic Support Rules (SSR); self-rescue apparatus; Line Diagram of Ventilation Circuit; Alcohol-based sanitizers; self-rescue apparatus; Gas Detector	Standard	1
63.	Company's Safety Management Plan (SMP) and Emergency Management Plan (EMP)	Standard	1

Classroom Aids

The aids required to conduct sessions in the classroom are:

1. Whiteboard
2. LCD Projector
3. Computer/Laptop with Internet
4. Whiteboard markers
5. Trainer Chair & Table
6. Demonstration Table
7. Pin Up Boards

Annexure: Industry Validations Summary

S. No	Organization Name	Representative Name	Designation	Contact Address	Contact Phone No	E-mail ID	LinkedIn Profile (if available)
1.	Alxa Chemical	Madan Singh Gujar	Proprietor	PLOT-26, JAYNARAYANPURI, NIWARU ROAD, JHOTWARA, JAIPUR, RAJASTHAN-302012	9829094130	alxachemical@gmail.com	
2.	Caltex Mining Pvt Ltd	Kartik Paul	Executive	8A, Rajmohan Street, 3rd Floor, Kolkata - 700 073	09874388894	caltexminingit@rediffmail.com	
3.	East India Minerals Limited	Pushpak Mishra	GM (Commercial)	6, Waterloo St, Esplanade, Chowringhee North, Bow Barracks, Kolkata, West Bengal 700069	9830059283	pushpak_mishra@hotmail.com	
4.	GS Atwal and Co	Vikram Dewan	Purchase Head	4B, Little Russel St, Kankaria Estates, Park Street area, Kolkata, West Bengal 700071	033 2282 4115	gsengineers@gmail.com	

5.	Integrated Coal and Mining Limited (ICML)	Niladri Topodar	Assistant Manager (HR/IR)	Hindustan Colas, 6, Church Ln, B.B.D. Bagh, Kolkata, West Bengal 700001	033 2210 9360	nilidri.topodar@rpgs.com	
6.	Maheshwari Mining Pvt. Ltd	Jayram Koushik	VP	21, C.L.M. Lane, P.O.-Raniganj-713347, Dist.-Paschim Bardhaman, W.B., India	9810706023	jayaram.koushik@maheshwaree.com	
7.	Amnex	Abhijit Anand	Group Head	Mondeal Heights, Wing-B, 1201/1202/1301, Sarkhej - Gandhinagar Hwy, Ahmedabad, Gujarat 380015	97277 47451	info@amnex.com	
8.	Jindal Steel & Power	Vivek Gupta	Corporate Head	Jindal Centre 12, Bhikaiji Cama Place, New Delhi - 110 066, INDIA	91 11 26188340-50	info@jindalsteel.com	
9.	Naaraayani	Khurshid Alam	Managing Partner	Khatore Bagan, Basti Road, Barbil, Dist - Kendujhar, Odisha - 758035	6767351080	info@naaraayani.com	
10.	Mine Magma	M Manjunath Reddy	Proprietor	430, 3rd Floor, 5th A Cross Rd, HRBR Layout 2nd Block, HRBR Layout, Kalyan Nagar, Bengaluru, Karnataka 560043	99867 07359	contact@minemagma.com	
11.	JSW Cement	Shweta Gaighani	Assistant Manager HR	Near MMRDA Grounds, Kolivery Village, MMRDA Area, Bandra Kurla Complex,	1800 266 266 1	info@jswcement.in	

				Bandra East, Mumbai, Maharashtra 400051			
12.	BGR Mining and Infra Ltd	Vivek Gupta	Corporate Head	BGR Mining & Infra Ltd. #8-2-596/R, Road No.10, Banjara Hills, Hyderabad, Telangana, India - 500034	91 40 23351932	ho.hyd@bgrmining.com	
13.	Saurashtra Cement Limited	M Trivadi	GM	Saurashtra Cement Limited Off Veraval Kodinar Highway Sidheegram - 362 276 Taluka Sutrapada Distr. Junagadh (Gujarat)	02876 - 268200	pralhad@mehtagroup.com	
14.	Dalmia Bharat Cement	Avnvs Murthy	Unit Head- Ariyalur unit	Dalmia Cement (Bharat) Limited Tamaraikulam, Ariyalur District - 621 705, Tamil Nadu	+91 11 23465100	corpcomm@dalmiabharat.com	
15.	ACC LIMITED	G. Srivastava	HR Head	Adani Corporate House Shantigram, S. G. Highway, Khodiyar, Ahmedabad - 382 421, Gujarat, India	+91 79-2555 5555	acchelp@adani.com	
16.	VPR	K Vijay Kumarj	DGM-HR	D.No.8-2- 293/82/A/1259, 3rd Floor, Plot No.1259, Lakshmi Towers, Road No.36, Jubilee Hills, Hyderabad - 500 033	040 - 23551862/63	info@vprmininginfra.com	

				Telangana			
17.	Rungta Mines Limited	G Vidhyanathan	Group Head Mining division	RUNGTA MINES LIMITED is 8A EXPRESS TOWER, 42A SHAKESPEARE SARANI, KOLKATA, West Bengal, India - 700017.	033 2281 3751	INFO@THERUNGTAGROUP.COM	
18.	Elixir Engineering	H P Rajesh Rao	HR General Manager	6, 1st Floor, SFHS Shopping Area, Nandini Layout, Bangalore - 560 096.	91-8023196645	info@elixirengineering.com/elixireng@gmail.com	
19.	Shyam Metalic	Birendra Kumar	Assistant General Manager	Tower 7th Floor, Trinity, 83, E Topsia Rd, Kolkata, West Bengal 700046	1800 202 2233	contact@shyamgroup.com	
20.	Sainik Mining and Allied Services Ltd.	Lokendra Sethi	Plant Head	7th Floor, Corporate Tower, Ambience Mall NH-8, Gurgaon - 122001, Haryana	+91 124-2719000	info@sainikmining.com	
21.	Thriveni Sainik	Swathi Sinha	Corporate Communication & HR Head	Barwadih Coal Mining Project, Langatu, Barkagaon, Hazaribag - 825311, Jharkhand, India	91 6546-223115	info@thrivenisainik.com	

Annexure: 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
2025-26	600	600	150	150	Not Applicable	Not Applicable

2026-27	800	800	200	200	Not Applicable	Not Applicable
2027-28	1200	1200	300	300	Not Applicable	Not Applicable

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
2.0	2022-23	20	20	23	Not available	Not available	Not available	Not available	Not available	Not applicable	Not Applicable	Not applicable	Not Applicable
2.0	2023-24	28	28	24	Not available	Not available	Not available	Not available	Not available	Not applicable	Not Applicable	Not applicable	Not Applicable
2.0	2024-25	41	41	39	Not available	Not available	Not available	Not available	Not available	Not applicable	Not Applicable	Not applicable	Not Applicable

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. Industry funded
- 2.

Content availability for previous versions of qualifications:

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

Languages in which Content is available: English and Hindi

Annexure: Blended Learning

Blended Learning Estimated Ratio & Recommended Tools:

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	• Books/ e-books • Presentations • Reference Material • Audio / Video Modules	Only Offline. Online only on exceptional cases.

2	☒ Imparting Soft Skills, Life Skills, and Employability Skills /Mentorship to Learners	- Self-Learning Videos - Broadcasts - Mobile Learning - Curated Digital content	Only Offline. Online only on exceptional cases.
3	☒ Showing Practical Demonstrations to the learners	- Video Content - E-Resource library - AR/ VR/ XR	Only Offline
4	☒ Imparting Practical Hands-on Skills/ Lab Work/ workshop/ shop floor training	- Training tools (tools list attached) - Video Play - Presentations	Only Offline
5	☒ Tutorials/ Assignments/ Drill/ Practice	- Online Question Bank - Mobile Quick test app - MCQ based tests	Only Offline. Online only on exceptional cases.
6	☒ Proctored Monitoring/ Assessment/ Evaluation/ Examinations	- Assessment engine for Essays - Up-loadable file examinations - Mock test sessions	Tablet based/Online
7	☒ On the Job Training (OJT)/ Project Work Internship/ Apprenticeship Training	- Online tests - Offline assessments	Only Offline

Annexure: 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
MIN/N1401: Prepare the Bulldozer for operations	<i>Conducting pre-operation checks and routine maintenance of the bulldozer</i>	26	44	-	18
	PC1. follow the work related instructions given by the supervisor before the shift starts	2	3	-	1
	PC2. check oil levels of engine, transmission, differential, hydraulic tank etc. and top up as required	1	3	-	1
	PC3. check water level in the radiator and top up as required	1	3	-	1
	PC4. check the condition of the parking brake, main horn, reverse horn, warning lamp and headlight	2	4	-	2
	PC5. confirm availability and functionality of safety features in the	2	4	-	2

	bulldozer like audiovisual alarm, reverse camera, mirrors, horn, seat belt, Roll-Over Protection Structure (ROPS) and Falling Object Protective Structure (FOPS)				
	PC6. check fan belt tension, electrolyte level, and batteries' terminal tightness	2	3	-	1
	PC7. clean the bulldozer and outer element of an air cleaner with compressed air	2	3	-	1
	PC8. apply grease to all the required parts	2	3	-	1
	PC9. drain accumulated water from the diesel tank	2	3	-	1
	PC10. examine track's tension and take action as required	2	3	-	1
	PC11. check and take action as per the entries done by the previous operator in the bulldozer logbook	2	3	-	1
	PC12. check for any spills/leakages in the engine, hydraulic systems, transmission etc.	2	3	-	2
	PC13. plug spill, leakage of oil and lubricants and escalate to appropriate authority if unable to rectify	2	3	-	2
	PC14. inspect the work site before the commencement of the work	2	3	-	1
	<i>Recording and reporting the details of bulldozer's pre-operation inspection and maintenance</i>	4	6	-	2
	PC15. maintain the operation and maintenance logbook to detail all activities conducted before starting the bulldozer	2	3	-	1
	PC16. inform the supervisor of those problems which are not under one's purview	2	3	-	1
	NOS Total	30	50	-	20
MIN/N1402: Perform bulldozer operations	<i>Starting and driving the bulldozer to the operation area</i>	15	27	-	10
	PC1. inspect the site to identify any loose soil, hidden deep trenches or marshy patches where the bulldozer could get stuck before starting the work	2	4	-	2
	PC2. follow the load targets, operating speed and time limits specified by the supervisor	3	4	-	2

	PC3. inform the supervisor of any problems, while operating the bulldozer	3	4	-	1
	PC4. use the correct slings and links	1	3	-	2
	PC5. take proper precautions for the safety of other workers and machine while using ripper attachment and blade	2	4	-	1
	PC6. follow the walkway rules e.g. operating the bulldozer within the permissible/allocated areas	2	4	-	1
	PC7. execute dozing operation safely on down slopes, near banks, bench edges and dump yard	2	4	-	1
	<i>Engage and maneuver the blade to level the ground</i>	15	23	-	10
	PC8. maintain the ground level during accumulation of waste/reject/stack/secondary material	2	3	-	2
	PC9. execute dozing operation near the mining working faces/site for proper maneuverability of excavator and dumper	3	4	-	1
	PC10. confirm that no other operators travel or stand near the bulldozer during the operation	2	3	-	2
	PC11. create space for rain water drainage on the side of the haul road while preparing it	2	4	-	1
	PC12. change blade position efficiently as per the requirement	2	3	-	1
	PC13. perform dozing operation in conjunction with tilting operation of the blade as per work requirement	2	3	-	2
	PC14. prepare the haul road by maintaining the required road quality and dimensions such as width and thickness	2	3	-	1
	NOS Total	30	50	-	20
MIN/N1403: Perform basic maintenance and troubleshooting of the Bulldozer	<i>Performing preventive maintenance</i>	14	23	-	8
	PC1. track machine operating hours to assess the right service schedule	2	4	-	1
	PC2. ensure that the Original Equipment Manufacturer (OEM) recommended procedure and checklist is followed for routine servicing	2	4	-	1
	PC3. carry out the maintenance with Heavy Earth Moving Machinery (HEMM) mechanic or superior in case of non-routine service or repair	4	5	-	2

	PC4. assist HEMM Mechanic and auto-electrician as and when required	3	5	-	2
	PC5. fill the daily, weekly and monthly maintenance/defect sheets as per the organization	3	5	-	2
	<i>Performing basic diagnostics and troubleshooting</i>	16	27	-	12
	PC6. ensure that no maintenance task on the machine is performed when it is running or is still hot	3	5	-	2
	PC7. check the instrument panel and control gauge to identify out of range readings to find the defect/cause of failure	2	5	-	2
	PC8. conduct scheduled, routine examination and assessments against equipment specifications to identify wear, damage, corrosion, inadequate fluid levels, leaks and general condition and serviceability	3	5	-	2
	PC9. check complaint sheet, logbook and history sheet of the equipment and identify repair requirements	3	4	-	2
	PC10. use diagnostic procedures as defined in the troubleshooting checklist prepared by the Original Equipment Manufacturer (OEM)	2	4	-	2
	PC11. assess when the problem is beyond one's competence and report the problem to concerned person	3	4	-	2
	NOS Total	30	50	-	20
MIN/N1404: Carry out reporting and documentation related to the bulldozer Operation	<i>Reporting and documentation</i>	30	50	-	20
	PC1. report problems/incidents as applicable in a timely manner	4	7	-	3
	PC2. record the details accurately using the appropriate format	4	7	-	3
	PC3. identify documentation to be completed	5	7	-	2
	PC4. prepare all documentation correctly on time	4	7	-	3
	PC5. ensure that all documents are available to appropriate authorities for inspection	4	7	-	3
	PC6. use Mineral Conservation and Development Rules (MCDR) based logbook and fill accurate data in the correct format along with the signature at the end	4	8	-	3

	PC7. handover all important information to the reliever in a proper manner	5	7	-	3
	NOS Total	30	50	-	20
MIN/N1703: Follow Health, Safety, and Environmental Guidelines for opencast mines	<i>Follow work-site health and safety measures</i>	20	34	-	15
	PC1. comply with safety, health, and security- related regulations/guidelines at the opencast mine	2	2	-	1
	PC2. follow the safety instructions given by the workman's inspector	1	3	-	1
	PC3. follow adequate safety while working at haul roads, heights, overburden dumps, sump area, stockyard, near moving parts, etc.	3	3	-	1
	PC4. take safety precautions while working on sites (sub-station, workshop etc.), with equipment, and conducting welding and cutting operations	1	3	-	1
	PC5. follow appropriate Safe Operating Procedure (SOP) while dealing with explosives	2	3	-	2
	PC6. respond promptly and appropriately to an accident/ incident or an emergency situation, within limits of the role and responsibility	2	3	-	1
	PC7. provide first aid to an injured person	2	3	-	1
	PC8. operate various types of fire extinguishers to control different types of fire at a worksite when required	1	3	-	1
	PC9. use appropriate PPE as per the requirement	2	4	-	2
	PC10. maintain hand hygiene by washing hands with alcohol based sanitisers/soap	1	2	-	1
	PC11. disinfect the machine/tools before and after work/task	1	2	-	1
	PC12. maintain hygiene at the work site	1	1	-	1
	PC13. report any symptoms of illness to the shift- incharge	1	2	-	1
	<i>Follow Environmental guidelines</i>	10	16	-	5
	PC14. identify the environmental impact of related opencast mining operations	2	2	-	1
	PC15. follow the process for collecting, storing and disposing of the hazardous material and waste (like used oil, lubricant, battery, etc.) in compliance with worksite guidelines	1	2	-	1

	PC16. ensure not to mix topsoil with waste in day to day tasks	2	2	-	1
	PC17. ensure that HEMM is washed at the designated location	2	2	-	1
	PC18. ensure the productivity of the machine for material/fuel conservation	1	3	-	-
	PC19. follow the mineral conservation practices specified by the organization in accordance with MCDR-2017 (Mineral Conservation and Development Rules)	1	3	-	1
	PC20. assist supervisor for reducing environmental impact caused due to related mining operations	1	2	-	-
	NOS Total	30	50	-	20
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	-	-	-	-
	NOS Total	20	30	-	-
	Grand Total	170	280	-	100

Annexure: Assessment Strategy

Assessment will be carried out by SCMS affiliated assessment partners. Based on the results of assessment, SCMS certifies the learners. Candidates have to pass online theoretical assessment which is approved by SCMS.

The assessment will have both theory and practical components in 30:70 ratio.

While theory assessment is summative and an online written exam; practical will involve demonstrations of applications and presentations of procedures and other components. Practical assessment will also be summative in nature.

Testing Environment: -

Training partner has to share the batch start date and end date, number of trainees and the job role.

Assessment is fixed for a day after the end date of training. It could be next day or later. Assessment will be conducted at the training venue.

Question bank of theory and practical will be prepared by assessment agency and approved by SCMS. From this set of questions, assessment agency will prepare the question paper. Theory testing will include multiple choice questions, pictorial question, etc. which will test the trainee on theoretical knowledge of the subject.

The theory and practical assessments will be carried out on same day. If numbers of candidates are many, more assessors and venue will be organized on same day of the assessment.

Assessment				
Assessment Type	Formative or Summative	Strategies	Examples	
Theory	Summative	Written Examination	Knowledge of facts related to the job role and functions. Understanding of principles and concepts related to the job role and functions	
Practical	Summative	Structured tasks	Presentation	
Viva	Summative	Questioning and Probing	Mock interview on topics	

Assessment Quality Assurance framework

Only certified assessor can be assigned for conducting assessment. Provision of 100 % video recording with clear audio to be maintained and the same is to be submitted to SCMS.

The training partner will intimate the time of arrival of the assessor and time of leaving the venue.

Methods of Validation: -

Unless the trainee is registered, the person cannot undergo assessment. To further ensure that the person registered is the person appearing for assessment, id verification will be carried out. Aadhar card number is required of registering the candidate for training. This will form the basis of further verification during the assessment. Assessor conducts the assessment in accordance with the assessment guidelines and question bank as per the job role. The assessor carries tablet with the loaded questions. This tablet is geo tagged and so it is monitored to check their arrival and completion of assessment. Video of the practical session is prepared and submitted to SCMS. Random spot checks/audit is conducted by SCMS assigned persons to check the quality of assessment. Assessment agency will be responsible to put details in SIP.

SCMS will also validate the data and result received from the assessment agency.

Method of assessment documentation and access

The assessment agency will upload the result of assessment in the portal. The data will not be accessible for change by the assessment agency after the upload. The assessment data will be validated by SCMS assessment team. After upload, only SCMS can access this data. SCMS approves the results within a week and uploads on SIP.

Annexure: 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

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.

NSQC Approved