

QUALIFICATION FILE

Mine Electrician

☒ 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

Submitted By:

Skill Council for Mining Sector (SCMS)

FIMI House, B-311,

Okhla Industrial, Phase-1

New Delhi-110020

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Section 1: Basic Details

1.	Qualification Name	Mine Electrician																
2.	Sector/s	Mining																
3.	Type of Qualification: ☐ New ☒ Revised ☒ Has Electives/Options ☐ OEM	NQR Code & version of existing/previous qualification: 2022/MIN/SCMS/06981 & Version 2.0	Qualification Name of existing/previous version: Mine Electrician															
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-04-MG-04060-2025-V2-SCMS & Version 3.0	6. NCrf/NSQF Level: 4.0															
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	Mine Electrician ensures installation, operation and maintenance (O&M) of the electrical substations, equipment and electrical supply system. The role holder also ensures that all the electrical systems and machinery work is in accordance with relevant specifications for opencast and underground mines (including gassy mines).																
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>12th grade Pass (or equivalent)</td> <td>-</td> </tr> <tr> <td>2.</td> <td>11th grade pass</td> <td>1.5 year relevant experience in Mining Industry</td> </tr> <tr> <td>3.</td> <td>10th grade pass</td> <td>3 years relevant experience in Mining Industry</td> </tr> <tr> <td>4.</td> <td>Previous relevant Qualification of NSQF Level (3.0)</td> <td>3 years relevant experience</td> </tr> </tbody> </table> b. Age: 20 Years		S. No.	Academic/Skill Qualification (with Specialization - if applicable)	Required Experience (with Specialization - if applicable)	1.	12 th grade Pass (or equivalent)	-	2.	11 th grade pass	1.5 year relevant experience in Mining Industry	3.	10 th grade pass	3 years relevant experience in Mining Industry	4.	Previous relevant Qualification of NSQF Level (3.0)	3 years relevant experience
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1.	12 th grade Pass (or equivalent)	-																
2.	11 th grade pass	1.5 year relevant experience in Mining Industry																
3.	10 th grade pass	3 years relevant experience in Mining Industry																
4.	Previous relevant Qualification of NSQF Level (3.0)	3 years relevant experience																
10.	Credits Assigned to this Qualification, Subject to Assessment (as per National Credit Framework (NCrf))	14 Credits (Compulsory Modules + One Elective Module) ; Additional 2 Credit for each Optional NOS	11. Common Cost Norm Category (I/II/III) (wherever applicable): I															

12.	Any Licensing requirements for Undertaking Training on This Qualification (wherever applicable)	Valid gas testing certificate (only for underground mines)																						
13.	Training Duration by Modes of Training Delivery (Specify Total Duration 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>100:00</td> <td>260:00</td> <td>-</td> <td>-</td> <td>360:00</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)	100:00	260:00	-	-	360:00	Online	-	-	-	-	-
Training Delivery Modes	Theory (Hours)	Practical (Hours)	OJT Mandatory (Hours)	OJT Recommended (Hours)	Total (Hours)																			
Classroom (offline)	100:00	260:00	-	-	360:00																			
Online	-	-	-	-	-																			
14.	Aligned to NCO/ISCO Code/s (if no code is available mention the same)	NCO-2015/7411.0200																						
15.	Progression path after attaining the qualification (Please show Professional and Academic progression)	NSQF Level 5 (Vertical)- Electrical Supervisor (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: https://www.nqr.gov.in/qualifications/12228 The Qualifications in the above link does not cater to the Mining sector requirement.																						
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 (Specify the NOS/Module which covers it)	☒ Yes ☐ No MIN/N1702, MIN/N1703, MIN/N1704																						
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: Mr. Navneet Kumar Email : coo@skillcms.in, scms@skillcms.in Contact No.: +91-11-26814593 Website : https://www.skillcms.in/																						
23.	Final Approval Date by NSQC: 6 May 2025	24. Validity Duration: 3 years			25. Next Review Date: 6 May 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.	Identify work requirements, related processes and arrange equipment for electrical system	MIN/N3101 & V2.0	Core	4	3	20:00	70:00	-	-	90:00	30	50	-	20	100	20
2.	Install the electrical systems/sub-stations and equipment	MIN/N3102 & V2.0	Core	4	4	20:00	100:00	-	-	120:00	30	50	-	20	100	30
3.	Operate and maintain electrical systems / substation and equipment	MIN/N3103 & V2.0	Core	4	4	30:00	90:00	-	-	120:00	30	50	-	20	100	20
4.	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					12	100:00	260:00	-	-	360:00	110	180	-	60	350	80

Elective NOS/s:

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.	Follow Health, Safety and Environmental guidelines for	MIN/N1702 & V2.0	Core	3.5	2	20:00	40:00	-	-	60:00	30	50	-	20	100	20

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)
	Underground Metalliferous Mines															
2.	Follow Health, Safety, and Environmental Guidelines for opencast mines	MIN/N1703 & V2.0	Core	3.5	2	20:00	40:00	-	-	60:00	30	50	-	20	100	20
3.	Follow Health, Safety, and Environmental guidelines for underground coal mines	MIN/N1704 & V2.0	Core	3.5	2	20:00	40:00	-	-	60:00	30	50	-	20	100	20
Duration (in Hours) / Total Marks						60:00	120:00	-	-	180:00	90	150	-	60	300	60

Optional NOS/s:

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.	Comply with unique requirements for installation and operations and maintenance (O&M) of electrical system in U/G Mines	MIN/N3104 & V2.0	Core	4	2	20:00	40:00	-	-	60:00	30	50	-	20	100	30
Duration (in Hours) / Total Marks						20:00	40:00	-	-	60:00	30	50	-	20	100	30

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) <i>(as per NCVET guidelines)</i>	Class 10 th pass with 6 years of relevant experience required in Electrical operations. OR ITI (Electrical Engineering) with 6 years of relevant experience required in Electrical operations. OR Diploma (Electrical Engineering) with 5 years of relevant experience required in Electrical operations. OR B-Tech (Electrical Engineering) with 4 years of relevant experience required in Electrical operations. OR CITS-NCIC (Electrician) with 1 years of relevant experience in mining. AND Certified for Job role "Mine Electrician" 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) <i>(as per NCVET guidelines)</i>	Class 10 th pass with 6 years of relevant experience required in Electrical operations. OR ITI (Electrical Engineering) with 6 years of relevant experience required in Electrical operations. OR Diploma (Electrical Engineering) with 5 years of relevant experience required in Electrical operations. OR B-Tech (Electrical Engineering) with 4 years of relevant experience required in Electrical operations. OR CITS-NCIC (Electrician) with 1 years of relevant experience in mining. AND Certified for Job role "Mine Electrician" 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 <i>(If "Yes", details to be provided in Annexure)</i>
4.	In Case of Revised Qualification, Details of Any Upskilling Required for Trainer	None

Section 4: Assessment Related

1.	Assessor's Qualification and experience in relevant sector (in years) <i>(as per NCVET guidelines)</i>	Class 10 th pass with 8 years of relevant experience required in Electrical operations. OR ITI (Electrical Engineering) with 8 years of relevant experience required in Electrical operations. OR Diploma (Electrical Engineering) with 7 years of relevant experience required in Electrical operations. OR B-Tech (Electrical Engineering) with 6 years of relevant experience required in Electrical operations.
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		OR CITS-NCIC (Electrician) with 1 years of relevant experience in mining. AND Certified for Job role “Mine Electrician” 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) <i>(as per NCVET guidelines)</i>	Class 10 th pass with 6 years of relevant experience required in Electrical operations. OR ITI (Electrical Engineering) with 6 years of relevant experience required in Electrical operations. OR Diploma (Electrical Engineering) with 5 years of relevant experience required in Electrical operations. OR B-Tech (Electrical Engineering) with 4 years of relevant experience required in Electrical operations. OR CITS-NCIC (Electrician) with 1 years of relevant experience in mining. AND Certified for Job role “Mine Electrician” 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) <i>(as per NCVET guidelines)</i>	Class 10 th pass with 8 years of relevant experience required in Electrical operations. OR ITI (Electrical Engineering) with 8 years of relevant experience required in Electrical operations. OR Diploma (Electrical Engineering) with 7 years of relevant experience required in Electrical operations. OR B-Tech (Electrical Engineering) with 6 years of relevant experience required in Electrical operations. OR CITS-NCIC (Electrician) with 1 years of relevant experience in mining. AND Certified for Job role “Mine Electrician” and Job Role “Lead Assessor (VET and Skills)” with minimum accepted score of 90% in each.
4.	Assessment Mode <i>(Specify the assessment mode)</i>	Tablet based/ Online
5.	Tools and Equipment Required for Assessment	☒ Same as for training ☐ Yes ☐ No <i>(details to be provided in Annexure-if it is different for Assessment)</i>

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
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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: 4000
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 <i>(Mandatory)</i>	<i>Attached</i>
2.	Annexure: List of tools and equipment relevant for qualification <i>(Mandatory, except in case of online course)</i>	<i>Attached</i>
3.	Annexure: Detailed Assessment Criteria <i>(Mandatory)</i>	<i>Attached</i>
4.	Annexure: Assessment Strategy <i>(Mandatory)</i>	<i>Attached</i>
5.	Annexure: Blended Learning <i>(Mandatory, in case selected Mode of delivery is "Blended Learning")</i>	<i>Not Applicable</i>
6.	Annexure: Multiple Entry-Exit Details <i>(Mandatory, in case qualification has multiple Entry-Exit)</i>	<i>Filled</i>
7.	Annexure: Acronym and Glossary <i>(Optional)</i>	<i>Filled</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: 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	Installation and maintenance of electrical supply and equipment – Mine Electrician ensures installation, use, operations and maintenance of the electrical substations and electrical equipment and electrical supply. The role holder also ensures that all the electrical systems and machinery work is in accordance with relevant specifications. They are also responsible for confirming that their safety systems are working properly and for performing basic maintenance of electrical system in underground mines and rare earth chemical plant.	The Mine Electrician uses the required equipment for installing and maintenance of electrical system in the in underground mines and rare earth chemical plant adhering to the health, safety and environmental guidelines.	4
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. Impact of damaged equipment on the company. Provisions of Indian Electricity Act, Mines Act, and other regulations. Knowledge of different units of measurement related to electricity and working principle of equipment like transformers, switchgears, relays, Diesel Generator (DG), etc. Electrical defects and how they are generated and can be prevented. Installation and handling procedures of safety devices. Importance of sensitization towards different genders and persons with disabilities (PWD)	Check the electrical installations in the underground mines and rare earth chemical plants as per the Directorate General of Mines Safety (DGMS) guidelines. Run the installed electrical equipment in the substation to generate and distribute the electricity to the entire mine area with back-ups and redundancies. Inspect electrical equipment to identify electrical risks, hazards, defects or the need for adjustment /repair. Carry out preventive and break down maintenance for generators, transformers, circuit breakers, isolators, bus bars, control panels, switchboards, wiring, protective relays etc.	4
Employment Readiness & Entrepreneurship Skills & Mind-set/Professional Skill	Skills to install and operate the electrical supply systems like, sub stations and equipment in underground mines and rare earth chemical plant. E.g.- Transformers, generators, circuit breakers, isolators, bus bars, Diesel Generators, etc. Arrange electrical equipment, machinery and materials to conduct the processes. Skills to carry out preventive and break down maintenance for generators, transformers, circuit breakers, isolators, bus bars, control panels, switchboards, wiring, protective relays etc. Apply appropriate techniques to inspect electrical equipment to identify electrical risks, hazards, defects or the need for adjustment /repair.	Provide full attention for production work in given time and make decisions pertaining to the concerned area of work. Detect problems in the electrical supply system and able to resolve them. Also able to make decision in emergency condition.	4

Broad Learning Outcomes/Core Skill	Take responsibility for completing one's own work assignment, methods to avoid accidents/errors while working with electrical systems. Use appropriate equipment to install, repair and perform preventive maintenance of electrical equipment and electrical supply system.	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 haul 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.	4
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 installations of electric equipment and detecting various faults in electrical supply system. The individual must be able to follow instructions provided by supervisor.	Works independently as per the instruction of supervisor/ Shift In- charge/Mines Manager	4

Annexure: Tools and Equipment (Lab Set-Up)

(It may vary as per Industry needs)

List of Tools and Equipment

Batch Size: 30

S. No.	Tool / Equipment Name	Specification	Quantity for specified Batch size
1.	Posters for describing different types of Mines and associated operations.	Standard	1
2.	Safety Helmet	Standard	15
3.	Dust Mask	Standard	15

4.	Goggles	Standard	15
5.	Ear Plug	Standard	15
6.	Gloves	Standard	15
7.	Reflective Jacket	Standard	15
8.	Safety Belt	Standard	15
9.	Safety Shoes/ Gum Boots	Standard	15
10.	Fire Extinguisher Cylinders	Standard	1
11.	First Aid Box	Standard	1
12.	Fire Fighting Charts	Standard	1
13.	First Aid Charts	Standard	1
14.	Electrical Layouts	Standard	1
15.	Schematic line diagram of substation and associated installations	Standard	1
16.	Connection Bushing Terminal	Standard	1
17.	Bus Bar	Standard	1
18.	MCCB	Standard	1
19.	China Clay Oil Filled Insulator	Standard	1
20.	Board Switch	Standard	1
21.	Power Supply Monitor Panel Board	Standard	1
22.	Megger	Standard	1
23.	Soldering Iron and Consumables	Standard	1
24.	Clamp Meter	Standard	1
25.	Digital Multi Meter	Standard	1

26.	Switch gear	Standard	1
27.	Screw Driver Set	Standard	1
28.	Neo Tester	Standard	1
29.	Combination Pliers	Standard	1
30.	Nose Pliers	Standard	1
31.	Spanner Set	Standard	1
32.	Adjustable Wrench	Standard	1
33.	Pipe Wrench	Standard	1
34.	Measuring Tape	Standard	1
35.	Hack Saw	Standard	1
36.	Hammer	Standard	1
37.	Chisel	Standard	1
38.	Files Set	Standard	1
39.	Wood Saw	Standard	1
40.	Portable Drill Machine	Standard	1
41.	Modal of sub-station for illustration purpose	Standard	1
42.	Single phase transformer 2 KVA	Standard	1
43.	3 phase transformer oil filled 10 KVA	Standard	1
44.	3 phase squirrel cage Induction motors 5HP	Standard	1
45.	Generators	Standard	1
46.	Diesel Generator	Standard	1

47.	Circuit breakers	Standard	1
48.	Isolators	Standard	1
49.	Motors	Standard	1
50.	Fans	Standard	1
51.	Lighting fixtures	Standard	1
52.	ACs	Standard	1
53.	Heaters	Standard	1
54.	Compressors	Standard	1
55.	Pumps	Standard	1
56.	Modal of continuity of circuits	Standard	1
57.	Heavy duty cutter	Standard	1
58.	Electric knife	Standard	1
59.	Connector	Standard	1
60.	Lug	Standard	1
61.	Wire gauge	Standard	1
62.	Battery charger	Standard	1
63.	Blow lamp	Standard	1
64.	Hydrometer	Standard	1
65.	Cable	Standard	1
66.	Cable tray	Standard	1
67.	Line tester	Standard	1
68.	Lead acid Batteries	Standard	1

69.	Single door and stand mounted with bottom cable entry system	Standard	1
70.	No/Nc push buttons	Standard	1
71.	Electric Grinder	Standard	1
72.	Insulating and shielding materials	Standard	1
73.	Logic controls such as PLC	Standard	1
74.	RLC	Standard	1
75.	Company's Safety Management Plan (SMP)	Standard	1
76.	Emergency Management Plan(EMP)	Standard	1
77.	Harness	Standard	1
78.	MCDR	Standard	1
79.	MCR	Standard	1
80.	Company's SOP	Standard	1
81.	Diagrams showing quarries, Overhangs, Fencing	Standard	1
82.	Samples/Charts showing different types of rocks to be encountered	Standard	1
83.	Monthly Maintenance/Defect sheets	Standard	1
84.	Systematic Support Plan (SSP)	Standard	1
85.	Systematic Support Rules (SSR)	Standard	1
86.	Self-rescue apparatus	Standard	1
87.	Line Diagram of Ventilation Circuit	Standard	1
88.	Alcohol based sanitisers	Standard	1
89.	Gas Detector	Standard	1

90.	Safety Lamp	Standard	1
91.	Self-Contained Breathing Apparatus	Standard	1
92.	Diagrams of Armoured face conveyor	Standard	1
93.	Charts of coal mines occupational diseases	Standard	1
94.	CMR	Standard	1
95.	MRR	Standard	1
96.	Posters for describing different types of RE Chemical plants	Standard	1
97.	Neutral Grounding Resistors (NGR)	Standard	1
98.	Different types of cables used in mines CER2010	Standard	1
99.	Bench-Vice & Line-Vice	Standard	1
100.	Relays	Standard	1

Classroom Aids

The aids required to conduct sessions in the classroom are:

- | | |
|---|----------------------------|
| 1. Whiteboard, Pin Up boards, Demonstration Table | 4. Trainer Chair and Table |
| 2. LCD Projector | 5. Tables |
| 3. Computer/Laptop with Internet | 6. Whiteboard markers |

Annexure: 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.	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	9830595259	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	9830987657	nilidri.topodar@rpgs.com	
6.	Maheshwari Mining Pvt. Ltd	Jayram Koushik	VP	Shilpangan, Block - LB, Plot-1, Sector-III, Module - 1, 4th Floor, CF Building, Salt Lake, Kolkata - 700098	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,	91 11 26188340- 50	info@jindalsteel.com	

				New Delhi - 110 066, INDIA			
9.	Naaraayani	Khurshid Alam	Managing Partner	A1/3 Umesh Enclave, Main Road, Adityapur, Dist- Saraikela- Kharswan, Jharkhand- 831013	6767351080	info@naaraayani.com	
10.	Mine Magma	M Manjunath Reddy	Proprietor	131, 2nd Floor, 1st Main, 2nd Stage, Kengeri Satellite Town, (Beside Corporation Bank), Bangalore - 560 060	99867 07359	contact@minemagma.com	
11.	JSW Cement	Tinu Sule	Group Head - HR	JSW Centre Bandra Kurla Complex, Near MMRDA Grounds, Bandra East, Mumbai 400 051	1800 266 266 1	info@jswcement.in	
12.	BGR Mining and Infra Ltd	Veepasha Kulkarni	Head BU HR	BGR Mining & Infra Ltd. #8-2-596/R, Road No.10, Banjara Hills, Hyderabad, Telangana, India - 500034	+91 40 23351932	careers@bgrmining.com	
13.	Saurashtra Cement Limited	G.M Trivadi	Gen. Manager (P & HRD)	Saurashtra Cement Limited Off Veraval Kodinar Highway Sidheeegram - 362 276 Taluka Sutrapada Distr. Junagadh (Gujarat)	02876 - 268200 / 02876 - 308200 / 286530 - 34	pralhad@mehtagroup.com	

14.	Dalmia Bharat Cement	Avnvs Murthy	Unit Head- Ariyalur unit	Dalmia Bharat Group, 11th & 12th Floor, Hansalaya Building, 15 Barakhamba Road, New Delhi 110001	+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 Telangana	040 - 23551862/63	info@vprmininginfra.com	
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.	+91 (06553) 226846	INFO@THERUNGTAGROUP.CO M	
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 /elix ireng@gmail.com	
19.	Shyam Metallic	Birendra Kumar	Assistant General Manager	Tower 7th Floor, Trinity, 83, E Topsia	1800 202 2233	contact@shyamgroup.com	

				Rd, Kolkata, West Bengal 700046			
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	1000	1000	250	250	Not applicable	Not applicable

2026-27	1000	1000	250	250	Not applicable	Not applicable
2027-28	2000	2000	500	500	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	736	595	555	Not available	Not available	Not available	Not available	Not available	Not applicable	Not applicable	Not applicable	Not applicable
2.0	2023-24	198	189	169	Not available	Not available	Not available	Not available	Not available	Not applicable	Not applicable	Not applicable	Not applicable
2.0	2024-25	955	921	879	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 (NON-PMKVY), NULM
2. PMKVY 4.0, SANKALP, SKILL-HUB & UPSDM

Content availability for previous versions of qualifications:

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

Languages in which Content is available: English, Hindi & Tamil

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/N3101: Identify work requirements, related processes and arrange equipment for electrical system	<i>Identify the work and process requirements</i>	19	29	-	14
	PC1. interpret all the work instructions/ work orders/ work related documents given by the supervisor to understand the requirements for electrical substations/ electrical equipment/ electrical wiring or fixtures	2	4	-	3
	PC2. interpret the required work output	3	2	-	2
	PC3. identify the safety requirement for mines as per CEA regulation 2010	2	4	-	1
	PC4. interpret various electrical layout and discuss with supervisor, in case of any doubt	3	3	-	1
	PC5. identify various type of fire protection system and its uses	2	2	-	1
	PC6. interpret schematic line diagram of substation and associated installations	2	4	-	2
	PC7. interpret the specifications of various systems within electrical substations/ transmission of electricity/operation of electrical equipment/ electrical wiring or fixtures as mentioned in the work instructions/ SOP/ Control Diagrams	3	4	-	2
	PC8. prepare/follow sketches/blueprints to determine the location of wiring or equipment ensuring conformance to safety codes	2	6	-	2
	<i>Arrange the electrical equipment/machinery/materials to conduct the processes</i>	11	21	-	6
	PC9. arrange the resources as per the specifications in the work instructions for installation of electrical substations/equipment/ wiring or fixtures	2	5	-	1
	PC10. arrange various tools, equipment, measuring apparatus required to perform the job	3	5	-	2
	PC11. ensure that the required electrical equipment are in proper working condition	3	5	-	1
	PC12. check test equipment (Volt-Ohm Meter) on a known live source of same rating to ensure it works correctly	3	6	-	2
	Total Marks	30	50	-	20
MIN/N3102: Install the electrical systems/sub-stations and equipment	<i>Installation of the electrical supply system and equipment</i>	30	50	-	20
	PC1. use various types of electrical tools and measuring instruments for installation of various electrical system and equipment	3	5	-	1
	PC2. install the required electrical supply systems including transformers, generators, circuit breakers, isolators, bus bars, etc., as per required specified voltage, current, power, energy, frequency, RPM, etc. by using measuring instruments	4	6	-	2

	PC3. install required electrical equipment like motors, fans, lighting fixtures, ACs, heaters, compressors, pumps etc.	2	4	-	2
	PC4. follow the procedure of obtaining work permit from competent person	2	2	-	1
	PC5. conduct a test to ensure the performance of installed electrical equipment as per the defined specifications	2	6	-	1
	PC6. make modifications in the parameters (by selecting the right program from the machine control system), if required, and ensure alignment with the prescribed standards	3	6	-	2
	PC7. examine all conductors for adequate current carrying capacity and ensure that joints in conductors are properly soldered	2	4	-	1
	PC8. check electrical insulation and protection of all live parts (parts carrying current)	2	6	-	2
	PC9. ensure all equipment are flameproof	3	3	-	2
	PC10. use special precautionary techniques, personal protective equipment (PPE), insulating and shielding materials and tools while working with energized parts	3	4	-	2
	PC11. ensure that hand cords and receptacles are dry when plugging and unplugging power cables	3	2	-	2
	PC12. identify the criticality of installation operation	1	2	-	2
	Total Marks	30	50	-	20
MIN/N3103: Operate and maintain electrical systems/substation and equipment	<i>Perform electrical operations</i>	15	24	-	8
	PC1. ensure that the electrical circuit is locked and tagged properly to make it safe to work, before starting the work	4	6	-	1
	PC2. operate various electrical equipment such as motor, pump, fan etc.	4	6	-	2
	PC3. maintain the records of electrical job related documents as per the statutory requirements	3	6	-	2
	PC4. run the installed electrical equipment in the substation to generate and distribute the electricity to the entire mine area with back-ups and redundancies	4	6	-	3
	<i>Maintenance procedures</i>	15	26	-	12
	PC5. follow the procedure to discharge electrical circuit before repair and maintenance	3	4	-	1
	PC6. follow the maintenance schedule given by electrical supervisors/engineers	3	4	-	3
	PC7. repair and maintain the different electrical equipment as per manufacturer's guidelines/SOPs and statutory requirements (if any)	3	6	-	3
	PC8. carry out preventive and break down maintenance for generators, transformers, circuit breakers, isolators, bus bars, control panels, switchboards, wiring, protective relays etc.	3	6	-	2

	PC9. inspect electrical equipment to identify electrical risks, hazards, defects or the need for adjustment /repair	3	6	-	3
	Total Marks	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	-	-	-	-
	Total Marks	20	30	-	-
MIN/N1702: Follow Health, Safety and Environmental guidelines for Underground Metalliferous Mines	<i>Follow work-site health and safety measures</i>	24	42	-	17
	PC1. undertake "The Take-5 (Personal Risk Assessment)" before commencement of any work	-	2	-	2
	PC2. comply with safety, health and securityrelated regulations/guidelines at the mine e.g. follow Standard Operating Procedure (SOP) for material handling in underground (U/G) mine	1	3	-	-
	PC3. operate various types of fire extinguishers to control different types of fire at a worksite when required	1	4	-	1
	PC4. check that roof supporting is as per Systematic Support Plan (SSP) and approved Systematic Support Rules (SSR) while undertaking work in an area	1	1	-	-
	PC5. take precaution against occupational health hazards (like dust, water, mine gases etc.) due to U/G working environment	1	2	-	1
	PC6. use self-rescue apparatus, appropriately when required	-	4	-	1
	PC7. follow appropriate emergency response procedure during emergency such as fire, water inrush, fall of ground etc.	1	2	-	1
	PC8. follow precautions against U/G electrical appliances	2	2	-	2
	PC9. follow appropriate Standard Operating Procedure while working near any isolated and sealed off area of the mine	2	2	-	1
	PC10. follow appropriate safety practices while traveling on U/G haul roads, in case of post blast fumes and misfire	2	4	-	-
	PC11. follow the manufacturer's instructions for care and safe operation of mine machinery and equipment	1	2	-	1
	PC12. identify the working ventilation district from line diagram of ventilation circuit to direct air to the working face	1	1	-	-
	PC13. follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)	1	-	-	-
	PC14. follow gas detecting alarm signal on leakage of inflammable gases and laid out procedure to ensure safety	1	2	-	1
	PC15. follow process for reporting any unsafe act/condition in work area to the concerned person	-	2	-	1
	PC16. use underground mine communication system	-	1	-	-
	PC17. ensure positive isolation near the work place if applicable	1	1	-	1
	PC18. use appropriate PPE as per the requirement	2	4	-	2
	PC19. maintain hand hygiene by washing hands with alcohol based sanitisers/soap	1	1	-	1

	PC20. disinfect the machine/tools before and after work/task	1	1	-	-
	PC21. maintain hygiene at the work site	1	1	-	1
	PC22. report any symptoms of illness to the shift-incharge	1	-	-	-
	PC23. identify six directional hazards at workplace and take decisions accordingly	2	-	-	-
	<i>Follow environmental guidelines</i>	6	8	-	3
	PC24. identify the environmental impact of mining related operations and follow steps to reduce those impact	1	2	-	-
	PC25. follow the mineral conservation practices in U/G mining operations to achieve optimum ore or mineral recovery	-	1	-	-
	PC26. ensure that the stowing practices produce minimum disturbance to the surface	1	1	-	-
	PC27. ensure that the subgrade ore is carried out to surface and stacked separately at the earmarked place	1	-	-	1
	PC28. ensure the productivity of the machine for material/fuel conservation	1	1	-	-
	PC29. 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	1	-	1
	PC30. follow the "5-S" practice at work site like cleaning oil from ground (to avoid soil from getting damaged), etc.	1	2	-	1
	Total Marks	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 securityrelated 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	-	-
	Total Marks	30	50	-	20
	<i>Follow work-site health and safety measures</i>	24	43	-	14
MIN/N1704: Follow Health, Safety, and Environmental guidelines for underground coal mines	PC1. follow preventive measures against firedamp, whitedamp, blackdamp etc.	1	1	-	-
	PC2. use the flame safety lamp for detecting the methane gas as per Standard Operating Procedure (SOP)	-	1	-	-
	PC3. undertake "The Take-5 (Personal Risk Assessment)" before commencement of any work	1	1	-	1
	PC4. comply with safety, health and security-related regulations/guidelines at the mine e.g. SOP for material handling in underground (U/G) mine	1	1	-	1
	PC5. ensure that oil, grease, canvas or other inflammable material are stored in fire-proof receptacle	-	1	-	-
	PC6. ensure that every instrument, apparatus and equipment are DGMS approved before these are used	1	1	-	-
	PC7. ensure that Armoured face conveyor (AFC) and chocks must be kept in a straight line for every cycle of operations and tightened up to the setting pressure while keeping it in full contact with the roof, applicable for longwall mining	3	3	-	-
	PC8. provide first aid to an injured person	1	2	-	1
	PC9. follow safety precautions against spontaneous heating of the coal	1	1	-	-
	PC10. operate various types of fire extinguishers to control different types of fire at worksite, if required	-	2	-	-
	PC11. ensure that no person is traveling/working/staying under unsupported roof	1	-	-	-
	PC12. check that roof supporting is as per Systematic Support Plan (SSP) and approved Systematic Support Rules (SSR) while undertaking work in an area	-	2	-	1

PC13. take precaution against occupational health hazards (like dust, water, mine gases etc.) due to U/G working environment	-	1	-	1
PC14. use self-rescue apparatus appropriately when required	-	2	-	-
PC15. follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)	1	2	-	1
PC16. follow precautions against U/G electrical appliances	2	2	-	1
PC17. take proper care against damage and accidents while loading, transporting, dismantling and erecting of roof supports	1	2	-	-
PC18. follow appropriate SOP while working near any isolated and sealed off area of the mine	1	1	-	1
PC19. ensure that the roof and the sidewalls of the mine face (or newly exposed area of the mines) have been scaled/dressed properly	1	1	-	-
PC20. take relevant safety precautions during depillaring operation in UCM	-	2	-	1
PC21. follow appropriate safety practices while traveling on U/G haul roads, incase of post blast fumes and misfire	1	1	-	-
PC22. follow the manufacturer's instructions for care and safe operation of mine machinery and equipment	-	1	-	1
PC23. identify the working ventilation district from line diagram of ventilation circuit to direct air to the working face	-	1	-	1
PC24. follow laid out SOP in case of alarm signal for leakage of inflammable gases	1	1	-	-
PC25. follow the process of reporting any unsafe act/condition in the working area to the concerned person	-	1	-	1
PC26. use underground mine communication system	-	1	-	-
PC27. ensure positive isolation near the work place if applicable	1	1	-	-
PC28. use appropriate Personal Protective Equipment (PPE) as per the requirement	2	2	-	1
PC29. maintain hand hygiene by washing hands with alcohol based sanitisers/soap	-	1	-	-
PC30. disinfect the machine/tools before and after work/task	1	1	-	-
PC31. maintain hygiene at the work site	1	1	-	-
PC32. report any symptoms of illness to the shift-incharge	1	1	-	-
PC33. identify six directional hazards at workplace and take decisions accordingly	-	1	-	1
<i>Follow environmental guidelines</i>	6	7	-	6
PC34. identify the environmental impact of mining related operations and follow steps to reduce those impact	1	1	-	1
PC35. follow the mineral conservation practices in U/G mining operations to achieve optimum ore or mineral recovery	1	1	-	1

	PC36. ensure that the stowing practices produce minimum disturbance to the surface	1	1	-	-
	PC37. ensure that the subgrade coal is carried out to surface and stacked separately at the earmarked place	1	1	-	1
	PC38. ensure the productivity of the machine for material/fuel conservation	1	1	-	1
	PC39. 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	-	1
	PC40. follow the "5-S" practice at work site like cleaning oil from ground (to avoid soil from getting damaged), etc.	1	1	-	1
	Total Marks	30	50	-	20
MIN/N3104: Comply with unique requirements for installation and operations and maintenance (O&M) of electrical system in U/G Mines	<i>Comply with unique requirements for U/G Mine working</i>	30	50	-	20
	PC1. conduct earthing for U/G mines considering all safety precautions	2	4	-	1
	PC2. repair and set earth leakage current and time in earth leakage relay	2	4	-	1
	PC3. locate the right area for installation of sub- station, equipment in U/G mines ensuring safety and ease of maintenance at the selected area	2	4	-	2
	PC4. conduct installation, O&M of signalling and telecom equipment as per intrinsically safe requirements	2	2	-	2
	PC5. prepare the underground electrical plan/layout	2	4	-	1
	PC6. maintain electrical lamp room and ensure that all lamps are cleaned, refitted and refilled in a separate room	3	3	-	1
	PC7. install various safety equipment used in U/G mines	2	2	-	1
	PC8. install electric lighting in gassy mines as per CMR (Coal Mines Regulations)	2	3	-	1
	PC9. follow all safety standards relevant to electrical layout, earthing system, voltage limit, armored cables and flexible cables as per electricity rules and DGMS guidelines	2	4	-	1
	PC10. use portable hand-lamps in U/G mines	-	-	-	-
	PC11. extend the relevant electrical cables as per the face development while considering all relevant safety precautions	2	3	-	2
	PC12. isolate transformer and switch gears and other electrical equipment	1	3	-	1
	PC13. ensure proper lighting is available before commencement of any electrical work	1	3	-	1
	PC14. use circuit for the remote control or electric interlocking of apparatus in U/G mines	-	-	-	-
	PC15. ensure the electrical circuit is locked and tagged before any installation and O&M	1	3	-	1
	PC16. ensure that all power circuits and electrical equipment is deenergized before work is performed, except for troubleshooting or testing	2	2	-	1
	PC17. remove electrical equipment from service in case any potentially dangerous condition is identified	2	2	-	1

	PC18. check safety circuits of mining equipment like drilling machines, locomotives, etc.	1	2	-	1
	PC19. ensure equipment are flameproof while working in gassy mines	1	2	-	1
	Total	30	50	-	20
	Grand Total	230	380	-	140

Annexure: 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.

Mention the detailed assessment strategy in the provided template.

Assessment system Overview: -

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.