



**SKILL COUNCIL for  
MINING SECTOR**  
Honing India's Mining Skill

# SCMS HANDBOOK

NCVET RECOGNIZED AWARDING BODY



**Skill India**  
कौशल भारत - कुशल भारत



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Shri Narendra Modi  
Hon'ble Prime Minister of India

“ Learning from experience and learning from education, both are important. Your education & values decide how you learn from your experiences ”



[Skill Council for Mining Sector - Website](#)





**Shri Dharmendra Pradhan**

*Minister of Education; and Minister of  
Skill Development and Entrepreneurship, GoI*



**Shri Rajeev Chandrasekhar**

*Minister of State in the Ministry of Skill Development &  
Entrepreneurship; and Minister of State in the Ministry of  
Electronics & Information Technology, GoI*



# CEO MESSAGE

Greetings from Skill Council for Mining Sector.

I am pleased to welcome all the professionals in Mining Sector, Mining Institutes, academicians, and many other stake holders connected to Mining industries directly or indirectly. This first handbook released from SCMS will give an overview of the setting up of Mining Skill Council, profiling of mining industries, present and future prospects.

Mining has been an important component of human existence and development. In present times, mining continues to be potentially powerful engine of development. You may be aware that in India the mining industries contribute 1.69% (Major minerals: 0.43%, Minor minerals: 0.39%, Coal and lignite: 0.87%) in the overall GDP and for 1% increase in sector GDP generates 13 times more jobs than Agriculture and 6 times more jobs than Manufacturing. Major mining industries are located in the states of Odisha, Chhattisgarh, Jharkhand, Rajasthan, Telangana, Maharashtra, Andhra Pradesh and Karnataka. India is rich in Coal, Barites, Chromite, Graphite, Zinc, Iron Ore. Manganese, Lead, Bauxite and Magnesite.

SCMS has been recently empaneled /recognized as Awarding Body by NATIONAL COUNCIL FOR VOCATIONAL EDUCATION AND TRAINING (NCVT).

The key deliveries of SCMS are:

- To develop Qualification Files (QFs) and National Occupational Standards (NOSs) aligned to the needs of the mining industry based on the Skill Gap Analysis/ reports and industry demands.
- To lay emphasis on Safety, Productivity, Quality Assurance, Mechanization & Waste management.
- To work closely with industry, stake holders and Government/statutory bodies to maintain robust Labor Market Information System (LMIS).

Since inception and till FY-22, SCMS has imparted trainings of 187662 candidates. SCMS has majorly served Hindustan Zinc Ltd., Northern Coalfields Ltd., MOIL, Hindustan Copper Ltd., Neyveli Lignite Corp., GMDC, IREL, Ambuja Cement Foundation, etc.

Currently SCMS is executing skilling projects in association with District Mineral Foundation Trusts (DMFTs) of Angul (Odisha) and Latehar (Jharkhand) covering 150 and 300 local & project affected persons respectively in the trades of Mine Electrician, Mine Welder and Dumper/Tipper Operator job roles.

Hope this handbook will be beneficial for all the industries and mining fraternity. We are open for any further feedback and inputs for further enriching the chapters/ contents. Please feel free to share your thoughts at [ceo@skillcms.in](mailto:ceo@skillcms.in)

With all the best wishes,

Sanjay Sharma

Chief Executive Officer

25th May 2022



# ABOUT SCMS

Skill Council for Mining Sector (SCMS) promoted by FIMI and supported by Ministry of Mines was established in December 2013 as the apex body to train and meet the requirement of skilled workforce for the mining industry in PPP mode, setup by National Skill Development Corporation (NSDC) under the Ministry of Skill Development & Entrepreneurship (MSDE).



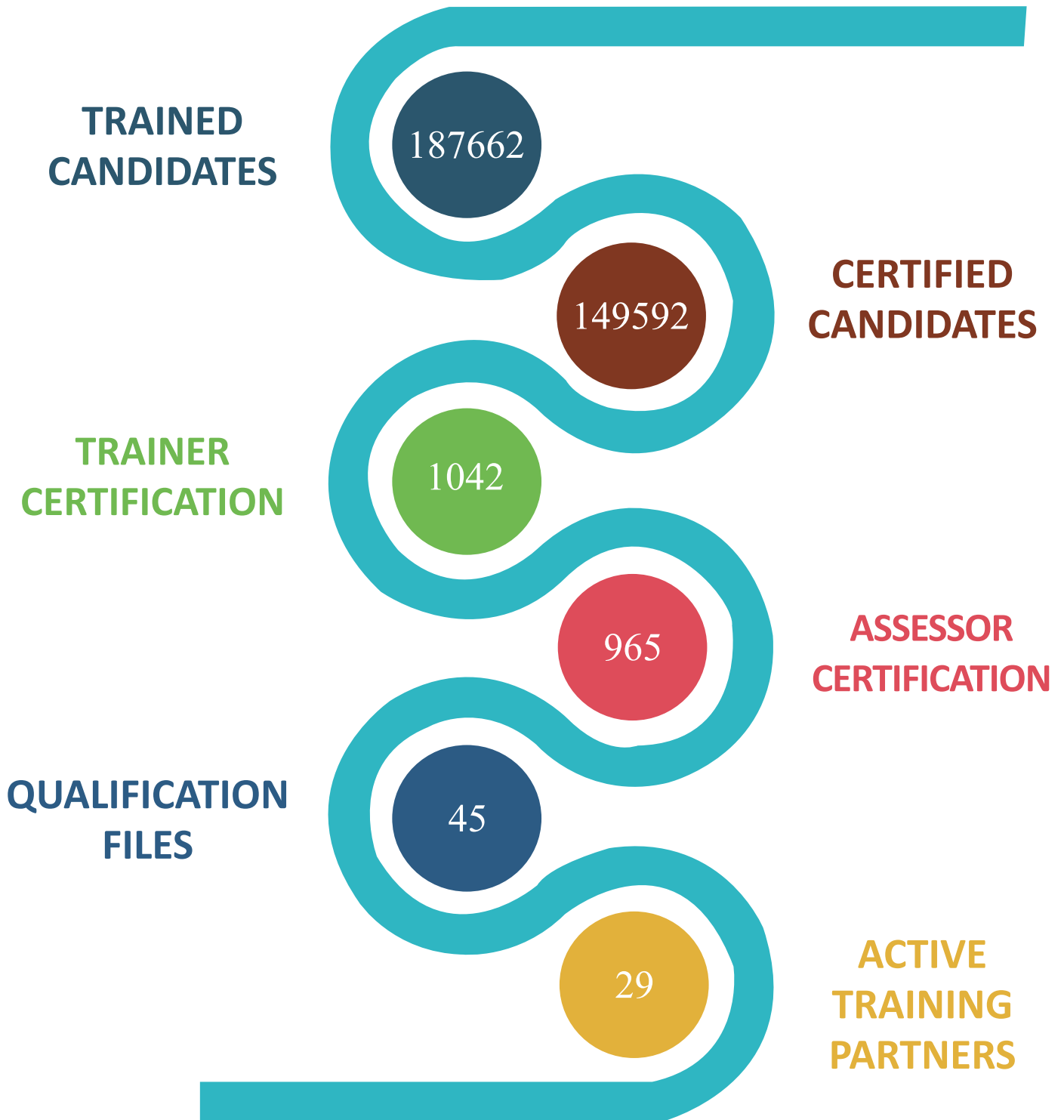
Ministry of Skill Development and Entrepreneurship (MSDE) in its notification dated 17th March 2015 has authorized SCMS as a non-statutory agency for certifying the mining workforce in India.

The core activity of SCMS is to formulate the National Occupational Standard (NOS) for different job roles aligned to National Skills Qualifications Framework (NSQF) notified by Government of India, in December 2013. SCMS has carried out Occupational Mapping and Skills Gap studies for sector. It has developed skills competency standards and qualification packs, benchmarking it with national & international standards for operator level job roles both for opencast and underground mines and created competency standards and curriculum aligned to NSQF levels. In this context SCMS has developed 41 qualification packs for all four sub-sectors of Mining. SCMS has developed courseware (Participant Handbook, Curriculum, facilitator book, e-book etc.) for in-demand job roles. It has developed curriculum for 20 job roles, participant handbook for 10 job roles and e-book for 10 job roles, which are listed in Kaushal Mart of NSDC.

SCMS has a key mandate to create a pool of Trainers and Assessors for successfully and effectively executing the skill development programs. SCMS regularly organizes Training of Trainers (TOT) and Training of Assessors (TOA) programs to meet these requirements. As of now we have pool of +750 certified trainers and +600 certified assessors from our industry partners.

SCMS Goal is to train 3.87 Lakhs people to cater the demand of mining industry during 2021 - 2026.

SCMS has been actively working with Industry Partners to bridge the skilled workforce demand gap by arranging different training programs (Government Funded, Industry Funded, etc.). The sector highlights & achievement (as on FY2021-2022) are as under





# VISION AND MISSION

## Vision

To promote market-relevant skill development & vocational education at global standards in the mining sphere in line with the vision of Skill India so as to bridge gap between demand & supply with inclusive growth and to support the mantra of “Aatmanirbhar Bharat” and contribute towards making India the Skill Capital of the world

## Mission

- To establish a robust mechanism to facilitate and strengthen skilling ecosystem across mining sector.
- To provide skilled workforce in alignment to technological advancements and fulfil the demand-supply gaps.
- To create & promote “Centre of Excellence” (CoE) through Public - Private Partnership (PPP) models.
- To collaborate with global expertise for cross national learning and placement.

## Training Target 2021-2026

Sl. No.	Type of program	Scheme/ Funding Source	Type of Training	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	2021-2026
				Target Numbers	Target Numbers	Target Numbers	Target Numbers	Target Numbers	Training Numbers
1	PMKVY/DDUGKY/ NULM	Govt./ NSDC/ State	STT	1,750	2,200	3,000	4,000	4,500	STT
			RPL	10,754	40,000	38,000	37,000	36,000	58,533
2	Industry	For Employees	STT	-	-	-	-	-	
			RPL	1,013	2,000	5,000	6,000	7,000	
3	Industry	CSR	STT	2,283	2,500	3,000	5,000	6,500	328,467
			RPL	500	3,000	4,000	5,000	7,000	
4	Industry	DMFT	STT	2,500	3,300	5,000	6,000	7,000	328,467
			RPL	6,200	25,000	28,000	32,000	35,000	
5	<b>Total</b>			<b>25,000</b>	<b>78,000</b>	<b>86,000</b>	<b>95,000</b>	<b>103,000</b>	<b>387,000</b>

## About Mining Sector

- Concentrated in **13 key states** – Jharkhand, Rajasthan, Odisha, Chhattisgarh, Madhya Pradesh, Gujarat, Goa, Andhra Pradesh, Telangana, Maharashtra, West Bengal, Tamil Nadu and Karnataka
- Accounts for 0.5% of workforce of **23.44 lakh workers** (in 2018-19) in **organised & 50.24 lakh workers in un-organised** sectors (**70% of organized workforce is in Coal & Lignite**). Skill requirements estimated for **2.7 Lakhs in organised & 5.8 Lakhs in unorganized** sector.(Source: PwC Report)
- Major players in the sector are Coal India & its subsidiaries, SAIL, NALCO, NMDC, MOIL, HCL, IREL, NLC, Tata Steel, Vedanta (HZL), Reliance (Sasan Power), Adani, Hindalco, BALCO, OMC, ACC Cement, Prism, Ultratech, JSW etc.

## About MSDE

Ministry of Skill Development & Entrepreneurship (MSDE) is responsible for co-ordination of all Skill Development efforts across the country, removal of disconnect between demand and supply of skilled manpower, building the vocational and technical training framework, skill up-gradation, building of new skills and innovative thinking not only for existing jobs but also jobs that are to be created.



The Ministry aims to skill on a large scale with speed and high standards in order to achieve its vision of a 'Skilled India'.

## About NCVET

The National Council of Vocational Education and Training (NCVET), notified on December 5, 2018 has been set up as an overarching regulator establishing regulations and standards to ensure quality in the TVET space, subsuming the responsibilities of National Skill Development Agency (NSDA) and the erstwhile National Council of Vocational Training (NCVT).



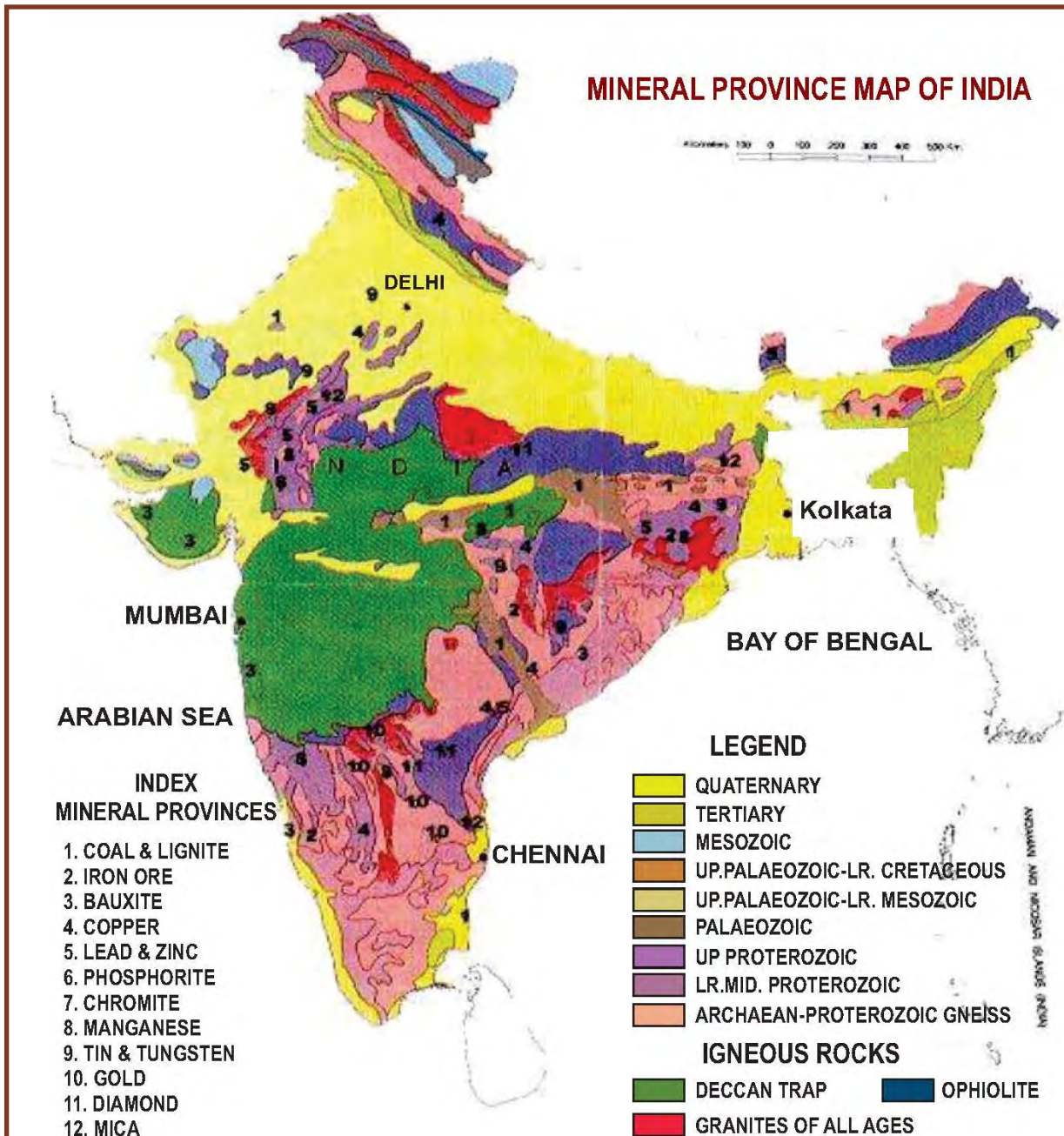
NCVET regulated ecosystem will ensure strong industry interfacing, layered effective regulations for the varied stakeholders for improving outcomes, set standards for Awarding Bodies and Assessment Agencies.

Regulation of Awarding body ecosystem and Assessment Agencies are the focus areas of NCVET considering the existence of multiple regulators and non-standardized norms leading to quality issues and poor outcomes of the training. The NCVET will strive to integrate fragmented regulatory system and infuse quality assurance across the entire vocational training value chain, leading to strengthened outcomes.

# KEY CLUSTERS IN MINING SECTOR

Metalliferous & Non-Metalliferous - Jamshedpur, Sundargarh, Bellary, Raichur, Bhandara, Raigarh, Jajpur, Keonjhar, Surguja, Balaghat, Bundi, Dungarpur, Koraput, Udaipur, Balangir, Salem, Bhavnagar, Satna, Kurnool

Coal: Neyveli, West Bokaro, Paschim Burdhaman, Bharuch, Khammam, Sundargarh, Singrauli, Chandrapur, Korba



Source : Geological Survey of India (GSI)

*India's Richness in Mineral Resources*



# SCHEMES COVERED

Some of the schemes under which SCMS has conducted training, assessment & certification since inception are as follows:

Central & State Government Scheme:-

- STAR & Non-STAR
- Pradhan Mantri Kaushal Vikas Yojana (PMKVY 1.0)
- Pradhan Mantri Kaushal Vikas Yojana (PMKVY 2.0)
- Pradhan Mantri Kaushal Vikas Yojana (PMKVY 3.0)
- National Urban Livelihoods Mission (NULM)
- Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)
- PMKVY Garib Kalyan Rojgar Abhiyaan (GKRA)
- PMKVY All India Council for Technical Education (AICTE)

Non Scheme:-

- Paid Courses
- Industry Funded Courses
- CSR Funded Courses
- DMFT

# TRAINING COVERED

**SCMS offers the following types of training:**

## **SHORT TERM TRAINING (STT):-**

STT component imparted at PMKVY Training Centres (TC) is expected to benefit candidates of Indian nationality who are either school/college dropouts or unemployed. Apart from providing training according to the National Skills Qualification Framework (NSQF), TCs also impart training in soft skills, entrepreneurship, financial and digital literacy. Upon successful completion of assessment, candidates are provided placement assistance by training providers.

## **RECOGNITION OF PRIOR LEARNING (RPL):-**

Recognition of Prior Learning (RPL) is a platform to provide recognition to the informal learning or learning through work to get equal acceptance as the formal levels of education. It aims to align the competencies of the un-regulated workforce of the country to the standardized National Skills Qualification Framework (NSQF). Project Implementing Agencies (PIAs), such as Sector Skill Councils (SSCs) or any other agencies designated by MSDE / NSDC, shall be incentivised to implement RPL projects in any of the four Project Types (RPL Camps, RPL at Employer's Premises, RPL centres and Best in Class Employer). To address knowledge gaps, PIAs may offer Bridge Courses to RPL candidates.

## **SPECIAL PROJECTS:-**

The Special Projects component of PMKVY envisages creation of a platform that will facilitate trainings in special areas and/or premises of Government bodies, corporate or industry bodies, and training in special job roles not defined under the available Qualification Packs (QPs)/National Occupational Standards (NOS)

## **UPSKILLING:-**

To elevating existing skills to the next level and acquiring new or relevant competencies needed today or shortly, Upskilling is required.

## **RESKILLING:-**

To make the candidates revise/re-practice the skills and knowledge part on their existing skills, Reskilling is required.

## **Dvoc:-**

Diploma of Vocation (D. Voc) in Mining- is a vocational training program. On completion of this program, successful candidates are given a Diploma certificate. D. Voc. in Mining courses are mining industry-specific programs. These courses are crafted around the mining industry. The course is designed in such a way that the student cultivates and develops mining industry-specific skills.

# APPRENTICESHIP

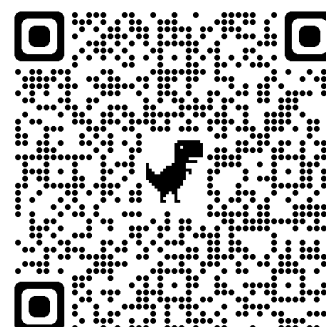
## Apprenticeship Act 1961

As envisaged under the Apprenticeship Act 1961 all establishments having a workforce (regular and contract employees) of 30 or more are mandated to undertake Apprenticeship Programs in a range from 2.5% -15% of their workforce (including direct contractual employees) every year. This specified range of apprentices i.e. 2.5% - 15% is for all the below five categories of apprentices combined: -

- Trade apprentices
- Graduate Apprentices
- Technician Apprentices,
- Technical (Vocational) Apprentices
- Optional Trade Apprentices (Organised by SCMS)

## Advantages of choosing Optional Trades under NAPS

- Optional Trades (OT) can be opted by the persons who have got just the basic educational qualification i.e. Basic counting skills and numeracy, 5th, 8th,10th & 12th.
- With the huge availability of the persons with basic education as compared to the availability of ITI/Diploma holders the apprenticeship numbers, as well as compliance with provisions of the Apprenticeship Act, can be achieved.
- All-Pass Outs from the NSQF aligned courses ran through SCMS are exempted from Basic Training Requirement.
- Employers are entitled to get reimbursement @ 25% of stipend subject to a maximum of INR 1,500 per month/ apprentice from the govt.
- Employers are also entitled to reimbursement for the cost of basic training, up to INR 7,500 per apprentice for a maximum period of 3 months/500 hours.
- Employers registered under the Apprentices Act, 1961 are exempted from the contribution of EPF and ESI for apprentices engaged by them.
- In addition, companies engaging apprentices can also undertake 'skill training' from their CSR funds over and above the requirement under the Apprentices Act. (For more details, please refer to the CSR notification)





# THE POPULAR COURSES/ QUALIFICATION OFFERED

## HEMM Mechanic (QP CODE: MIN/Q3202, NSQF Level 4)

The HEMM mechanic is responsible for diagnoses, repairs, overhauls and services of Heavy Earth Moving Machinery (HEMM) to keep them in good running order. In addition, carries out repairs and maintenance of internal combustion engines and the various components of a Heavy Earth Moving Machine.



## Mine Electrician (QP CODE: MIN/Q3101, NSQF Level 4)

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).

## Mine Welder (QP CODE: MIN/Q3201, NSQF Level 4)

A mine welder is responsible for joining various types of metallic frames, structures, jigs, plates, sheets etc. using heating and melting process created through electrical power and gaseous discharge, maintaining process parameters, conducting quality checks on output product and maintaining a safe and Healthy working environment.



## Jumbo Drill Operator (QP CODE: MIN/Q1203, NSQF Level 4)

A Jumbo Drill operator is responsible for the operation of a single/double/multi boom jumbo drilling rig for underground mine development and installation of roof and side support. Jumbo drill operator requires the knowledge of layout of mine workings, cross-sectional dimensions of working face, drilling and blasting pattern and design, roof and side support plan as per approved SSR (Systematic Support Rule)

### Mine Mechanic/Fitter (QP CODE: MIN/Q3203, NSQF Level 4)

A Mine Mechanic or Fitter in a mine is responsible for repair and maintenance of plant and machinery, medium / light vehicles, drilling machines, pumps, compressors, pneumatic machines, overhaul of crushers and other mechanical equipment and assemblies. A mechanic/fitter most often works with / assists senior technicians.



### Mineral Processing Operator (QP CODE: MIN/Q4101, NSQF Level 4)

Mineral Processing Operator is engaged in mineral beneficiation in setting up crushing, screening, straining, washing, precipitating and other processes like leaching, floating and tailing management according to section in which posted and duties assigned and ensures proper working condition

### Assistant-Open Cast Mines (QP CODE: MIN/Q1101, NSQF Level 2)

The Assistant in an Open Cast Mine assists the Operator/ Fitter/ Technician in handling material, preoperational checks, servicing Heavy Earth Moving Machinery (HEMM), shifting and operation of open cast machines, and installation and maintenance of electrical systems and equipment.



### Assistant-Underground Mines (QP CODE: MIN/Q1102, NSQF Level 2)

The Assistant in an Underground Mine assists the Operator/ Fitter/ Technician in handling material, preoperational checks, servicing Heavy Earth Moving Machinery (HEMM), shifting and operation of underground machines, and installation and maintenance of electrical systems and equipment.



### Jack Hammer Operator (QP CODE:MIN/Q1202, NSQF Level 4)

The Jack Hammer Operator drives and controls a Jack Hammer machine in mines (both opencast and underground) or construction site to drilling a hole in the rock and break up rocks, concretes or mines surfaces. Directs and facilities scaling of loose rocks and mucking of broken ore or waste rock from the worksite.



### Loader Operator (QP CODE: MIN/Q1403, NSQF Level 4)

The Loader operator uses the Loader (a heavy vehicle) for moving aside or loading ROM (Run-Of-Mine), product etc. , into or onto different types of machinery (such as dumper/tipper, conveyor belt, feed-hopper etc.).They also ensure that the safety systems are working correctly and perform essential maintenance on the Loader.

### Bulldozer Operator (QP CODE: MIN/Q1401, NSQF Level 4)

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.



### Dumper/Tipper Operator (QP CODE: MIN/Q1402, NSQF Level 4)

The Dumper/Tipper operator uses the Dumper/Tipper (a heavy specialized truck) for transporting large volume of loose material such as sand, gravel, crushed rock, coal, over burden, ore etc. to designated place such as crusher hopper, site, dump yard, washing/handling plant etc. The operator is also responsible for discharging its load to rear, bottom or on one side efficiently.

### Wire Saw Operator (QP CODE: MIN/Q1201, NSQF Level 4)

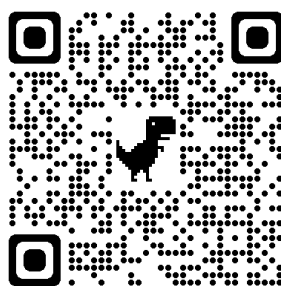
Wire Saw operator drives and operates a Wire Saw machine to cut large dimension stone blocks of granite, marble, limestone, slate, sandstone etc. into smaller blocks. They also ensure that the safety systems are working correctly and perform essential maintenance on the Wire Saw.



### Compressor Operator (QP CODE: MIN/Q3204, NSQF Level 4)

A Compressor Operator recognizes processes and equipment requirements, prepares the compressor, and operates the compression apparatus.

## Qualification Files available with SCMS



## Details of Participant Handbook and Facilitator Guide



Click on above button

# SUMMARY OF QUALIFICATIONS

S. No	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
1	Dumper/Tipper Operator	4	512*	8th class with 2 years of relevant experience OR 10th Class and LMV License  Min. Age: 20 years	NSQF Level 5 (Vertical)- Dragline Operator/ Bucket Weel Excavator Operator/ Mining Sirdar/Mining Mate	NSQC Approved
2	Bulldozer Operator	4	510	8th class with 2 years of relevant experience OR 10th Class and LMV License  Min. Age: 20 years	NSQF Level 5 (Vertical)- Dragline Operator, Bucket Weel Excavator Operator, Mining Sirdar/Mate	NSQC Approved
3	Loader Operator	4	512*	8th class with 2 years of relevant experience OR 10th Class and LMV License  Min. Age: 20 years	NSQF Level 5 (Vertical)- Dragline Operator, Bucket Weel Excavator Operator, Mining Sirdar/Mate	NSQC Approved
4	Wire Saw Operator	4	376*	8th class with 2 years of relevant experience OR 10th Class and LMV License  Min. Age: 20 years	NSQF Level 5 (Vertical)- Dragline Operator, Bucket Weel Excavator Operator, Mining Sirdar/Mate	NSQC Approved
5	HEMM Mechanic	4	502*	8th class with 2 years of relevant experience OR 10th Class and LMV License  Min. Age: 20 years	NSQF Level 5 (Vertical)- Mechanical Supervisor- Workshop	NSQC Approved
6	Mine Electrician	4	642*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)- Electrical Supervisor	NSQC Approved
7	Mine Welder	4	512*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)- Mechanical Supervisor- Workshop	NSQC Approved



S. No	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
8	Assistant-Open Cast Mines	2	188*	5th class with 2 years of relevant experience OR 8th Class  Min. Age: 20 years	NSQF Level 3 (Vertical) - Mine Sampler/Explosives Handler/Drilling Assistant(Operation)	NSQC Approved
9	Jack Hammer Operator	4	512*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)- Mining Mate/Sirdar	NSQC Approved
10	Jumbo Drill Operator	4	532*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)- Mining Mate/Sirdar	NSQC Approved
11	Mine Mechanic/Fitter	4	492*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)- Mechanical Supervisor-Workshop	NSQC Approved
12	Mineral Processing Operator	4	592*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)- Supervisor-Plant Operations	NSQC Approved

S. No	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
13	Assistant-Mine Surveyor	4	542*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)-GIS Expert	NSQC Approved
14	Assistant-Underground Mines	2	208*	5th class with 2 years of relevant experience OR 8th Class  Min. Age: 20 years	NSQF Level 3 (Vertical) - Mine Sampler/Explosives Handler/Drilling Assistant(Operation)	NSQC Approved
15	Mining Mate/Sirdar	5	702*	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-4 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 6 (Vertical) - Mine Foreman/Mine Overman/Asst. Manager (Mines)	NSQC Approved
16	Compressor Operator	4	480	10th Class pass + ITI in related trade (1 year after class 10th) with 1 year experience in relevant field or 10th Class Pass + ITI in related trade (2 years after class 10th) or 12th Class Pass with 6 months experience in relevant field  Min. Age: 20 years age	NSQF Level 5 (Vertical) – Mining Mate/Sirdar	NSQC Approved
17	Bellman cum Banksman	4	273	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)-Long Wall face machine operator, Mining Mate/Sirdar	Under revision
18	Rescue Personnel	4	480	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector)  Min. Age: 20 years	NSQF Level 5 (Vertical)-Rescue Supervisor/Reclamation Supervisor	Under revision

S. No	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
19	SDL/LHD Operator	4	480	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector) Min. Age: 20 years	NSQF Level 5 (Vertical)- Mining Mate/ Mining Sirdar	Under revision
20	Mine Shotfirer/Blaster	4	480	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector) Min. Age: 20 years	NSQF Level 5 (Vertical)- Mining Mate/Sirdar	Under revision
21	Track Layer Personnel	4	462	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector) Min. Age: 20 years	NSQF Level 5 (Vertical)- Mining Mate/Sirdar	Under revision
22	Winding Engine Driver	4	480	8th class with 2 years of relevant experience OR 10th Class OR Certificate-NSQF (Level-3 from Skill Council for Mining Sector) Min. Age: 20 years	NSQF Level 5 (Vertical)- Mining Mate/Sirdar	Under revision
23	Rig-Mounted Drill Operator	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Mining mate/ Sirdar	Under revision

S. No.	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
24	Surface Miner Operator	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Mining mate/ Sirdar	Under revision
25	Dewatering Pump Operator	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical)- Mechanical Supervisor- Workshop	Under revision
26	Gas Detector	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical)- Rescue Supervisor	Under revision
27	Haulage Operator	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical)- Mining mate/ Sirdar	Under revision
28	Mazdoor/ Helper	1	210	No education and Nil experience Min. Age: As per prevailing Labor Laws	NSQF Level 2 (Vertical) - Assistant-Opencast mines, Assistant-Underground mines	Under revision

S. No	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
29	Explosives Handler	3	360	5th Class Pass with 3 years of relevant experience OR 8th Class Pass with 1 year of relevant experience OR 8th Class Pass + ITI in relevant domain OR 10th Class Pass Min. Age: 20 years	NSQF Level 4 (Vertical) – Mine Shotfire/Blaster	Under revision
30	Mine Sampler	3	360	5th Class Pass with 3 years of relevant experience OR 8th Class Pass with 1 year of relevant experience OR 8th Class Pass + ITI in relevant trade OR 10th Class Pass Min. Age: 20 years	NSQF Level 4 (Vertical) - Geophysics Surveyor	Under revision
31	Roof Bolter	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Long Wall face Machine Operator, Mining Mate/Sirdar	Under revision
32	Mine Driller (Exploration)	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Asst. Geophysicist, Asst. Drilling Engineer	Under revision
33	Roof Support Personnel	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Mining Mate/Sirdar	Under revision



S. No	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
34	Ventilation Adequacy Checker/Fan Operator	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Mining Mate/Sirdar	Under revision
35	Mine Machinist	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) – Mechanical Supervisor- Workshop	Under revision
36	Grader Operator	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Mining Mate/Sirdar	Under revision
37	Strata Monitoring Personnel	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) - Reclamation Supervisor	Under revision
38	Reclamation Supervisor	5	540	Graduation in the relevant field OR 3-year Diploma (after 12th Class) in the relevant field OR 3-year Diploma (after 12th Class) in any field with 1 year of relevant experience OR 2-year Diploma (after 12th Class) in relevant field with 1 year of relevant experience OR	NSQF Level 6 (Vertical) - Mine Forman/overman	Under revision

S. No	Qualification Name	Proposed NSQF Level	Notional Hours *-under revision w.r.t. multiple of 30 with NCVET	Entry Qualification	Progression	Remarks
				10th + ITI in relevant (after 10th Class)in the relevant trade with 2 years of experience in relevant field OR 3 Year Diploma (After 10th) in the relevant trade with 2 years of experience in relevant field OR 1 year Diploma (after 12th Class) in relevant trade with 2 years of Min. Age: 20 years		
39	Mechatronics Incharge	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field Min. Age: 20 years	NSQF Level 5 (Vertical) – Mechatronics Supervisor	Under revision
40	Longwall Operator	5	540	Graduation in the relevant field OR 3-year Diploma (after 12th Class) in the relevant field OR 3-year Diploma (after 12th Class) in any field with 1 year of relevant experience OR 2-year Diploma (after 12th Class) in relevant field with 1 year of relevant experience OR 10th + ITI in relevant (after 10th Class)in the relevant trade with 2 years of experience in relevant field OR 3 Year Diploma (After 10th) in the relevant trade with 2 years of experience in relevant field OR 1 year Diploma (after 12th Class) in relevant trade with 2 years of experience in relevant field Min. Age: 20 years age	NSQF Level 6 (Vertical) - Mine Forman/overman	Under revision
41	Driver Special Vehicle	4	450	10th Class pass + ITI in related trade ( 1 year after class 10th) with 1 year experience in relevant field OR 10th class pass + ITI in related trade (2 years after class 10th) OR 12th Class Pass with 6 months experience in relevant field	NSQF Level 5 (Vertical) - Mining Mate/Sirdar	Under revision

# GOVERNING BOARD MEMBERS

<b>Chairman</b>		
1	Mr. Arvind Singhal	MD, Wolkem India Ltd.
<b>Industry Representation</b>		
2	Mr. H M Nerurkar	Former MD, Tata Steel
3	Mr. Pankaj Kumar Satija	MD, Tata Steel Mining Ltd.
4	Mr. Siddharth Rungta	Director, Rungta Mines Ltd.
5	Mr. Abhijit Chattopadhyay	Vice President, ACC Ltd.
6	Mr. Sunil Duggal	CEO, Vedanta Ltd.
7	Mr. Radhey Shyam Mahapatro	Director (HR), NALCO
8	Mr. Sanjay Shivnani	Corp. HR - Tech. Trg & HTU, Hindalco
9	Mr. S Vijay Kumar	GM (L&D), NLC India Ltd.
10	Mr. B. K Bhatia	Additional Secretary General, FIMI
11	Dr. Rajani Kanta Dash	HoD, HRD, Coal India Ltd
12	Mr. T. Ravi Kumar	Agent & Dy. GM, Hutti Gold Mines
<b>Line Ministry / Government Representation</b>		
13	Dr. Dipayan Guha	Deputy Director General, DGCO -GSI
14	Mr. Animesh Bharti	Economic Advisor, Ministry of Coal
15	Ex-Officio Member	I/C Contr. Gen, IBM and Jt. Sec. - MoM
16	Mr. Shakil Alam	Economic Advisor, Ministry of Mines
<b>Academia Representation</b>		
17	Dr. P.K. Singh	Director, CIMFR
18	Prof. Dheeraj Kumar	Professor, IIT -ISM, Dhanbad
<b>NSDC Representation</b>		
19	Mr. Anand Mohan Jha	<b>Senior Head – SSC Collaboration, NSDC</b>
<b>Promoting Organization</b>		
20	Mr. Pramod Tyagi	Additional Secretary General, FIMI

# OUR OUTREACH



# OUR KNOWLEDGE PARTNERS

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(QSEC) Australia



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Skills & Education  
Consortium AUSTRALIA



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## LIST OF ACTIVE TRAINING PARTNERS

- AISECT (All India Society for Edu. & Comp. Technology)
- Ambuja Cement Foundation (ACF)
- Anand Mine Tools Private Limited
- Bombay Minerals Ltd. (Ashapura)
- E2E Mining Solutions Pvt. Ltd.
- Government Polytechnic, Koderma (Mining Institute)
- Gram Tarang Employability Training Services Pvt. Ltd.
- Horizon Skills Development Pvt. Ltd, Jharkhand
- Indian Institute of Skill Development Pvt. Ltd (IISD)
- Indian Rare Earths Limited
- International Center of Excellence in Mining Safety & Automation (iCEM)
- Isotect Innovation Pvt. Ltd
- Jan Kalyan Samiti Bikramganj
- Maa Samleswari Education & Welfare Trust
- Mines Group Vocational Training Society
- Mosaic Workskills Pvt. Ltd.
- Multi Skill Development Centre Barkakana, CCL , Ramgarh Jharkhand
- Nettur Technical Training Foundation (NTTF)
- Rastriya Kaushali Sansthan
- Rural Institute for Skill Empowerment Pvt. Ltd.
- Sangam University
- Sekh Allauddin Memorial Trust (SAMT)
- Skill Development Institute Bhuvneshwar (SDI)
- Skill Development Institute Kochi (SDI)
- Skill Development Institute Visakhapatnam (SDI)
- SLMDS Skill Development (P) Ltd.
- Sri Ram Skills Development
- Thriveni Earthmovers Pvt. Ltd.
- Valeur Fabtex Private Limited

# SKILL GAP ANALYSIS AND STUDIES CONDUCTED WITH SUMMARY FINDINGS

## Incremental Human Resource Demand by Mining Sub-Sectors (in '000), 2019-25

S. No.	Sub-sector	Total Employment (2018-19)	Incremental human resource demand			%share incremental demand (2019-25)
			2019-21	2022-25	2019-25	
1.	Prospecting, Exploration & Mine Planning	58.6	2.0	4.8	6.8	2.5%
2.	Mining Operations	2038.2	70.2	165.2	235.4	86.9%
3.	Engineering Services	231.2	8.0	18.7	26.7	9.9%
4.	Mineral Beneficiation	16.7	0.6	1.4	1.9	0.7%
<b>Total (Core Mining)</b>		<b>2344.8</b>	<b>80.7</b>	<b>190.0</b>	<b>270.8</b>	<b>100%</b>
Ancillary Activities		5023.7	172.9	407.2	580.1	
<b>Total</b>		<b>7368.5</b>	<b>253.6</b>	<b>597.2</b>	<b>850.9</b>	

## Incremental Human Resource Demand by NSQF Levels (in '000), 2019-25

NSQF level	Description as per SCMS's Occupational matrix	Total Employment 2018-19	Incremental human resource demand			%share incremental demand (2020-25)
			2019-21	2022-25	2019-25	
NSQF level 6 & above	Doctorate/ Postgraduate or equivalent degree holders	87.0	3.0	7.0	10.0	3.7%
NSQF level 5	Bachelor's/ Advanced Diploma (Polytechnic) equivalent degree holders	364.6	12.6	29.6	42.1	15.5%
NSQF level 4	Diploma/ ITI equivalent certificate holders	1,023.5	35.2	83.0	118.2	43.7%
NSQF level 3	Skill certification of medium-term duration – 6 months to 1 year and short term – less than 6 months	157.2	5.4	12.7	18.2	6.7%
NSQF level 1 & 2	School dropouts and pass outs who are not enrolled in higher/ technical education	712.5	24.5	57.7	82.3	30.4%
<b>Total (Core Mining)</b>		<b>2,344.8</b>	<b>80.7</b>	<b>190.0</b>	<b>270.8</b>	<b>100.0%</b>

# FUTURISTIC JOB ROLES



## Slurry Pump Operator

The individual in this role is responsible for transferring material or slurry from one place to another in the mines or from one location to another location for processing, by operating and maintaining the slurry pump unit.



## Coal Bed Methane Extractor

The individual in this role is responsible for operating and maintaining methane extraction unit to extract methane from the coal bed.



## Mine Foreman/Overman

The individual in this role is responsible for supervising and monitoring the various mine activities and ensures organizing and monitoring of work flow for various processes. The person is also responsible of managing team and ensure they are following all compliances and regulations as specified by organization.



### HEMM Electrician

The individual in this role is responsible for the service, maintenance, repair and overhaul of electrical and electronic aggregates of HEMM available in mine.



### DTH/LH Drill Operator

The DTH/LH (Down the Hole/Long Hole) Drill Operator is responsible for drilling long holes and down holes in the mines by operating DTH/LH drill rig. They also ensure that the safety systems are working correctly and performing essential maintenance on the DTH/LH drill rig available in underground/opencast mines.



### LPDT Operator

The individual in this role uses the LPDT for transporting large volume of loose material such as sand, gravel, crushed rock, coal, ore etc. to designated place site, dump yard, washing/handling plant etc. The operator is also responsible for discharging its load to rear, bottom or on one side efficiently. They also ensure that the safety systems are







# TESTIMONIALS



Mr. Veerbhadra came to know about the Skill Development Program towards uplifting the socio-economic status of Indian youth under the scheme of Pradhan Mantri Kaushal Kendra. He joined Mine Electrician course at Excelus Learning Solution, Yadgir and completed his training successfully. Now he got placed in Gabriel India Limited, and earning Rs. 15000/- per month, and satisfied with his job. Veerbhadra gives credit his success to PMKK Yadgir Centre Now he is independent and supporting his family financially and have a confidence to achieve his dreams.

**Veerbhadra B.**

EXCELUS LEARNING SOLUTION



Mr. Manish Kumar Sen got a chance to glance at a newspaper ad for the 'Jumbo Drill Operator program' run by Hindustan Zinc & Indian Institute of Skill Development proved to be a turning point in his life. 'The academic rigor at the training centre provided me with the theoretical knowledge and the practical exposure needed to have a successful career in mining' says Manish Kumar. On completion of the training program, he was selected by Mining Associates Pvt. Ltd during the Campus Placement Drive organized by the HZL Academy. He is currently working with Transnational Drilling and Mining Associates Pvt. Ltd as Mining For man and earning Rs. 55,000/- per month.

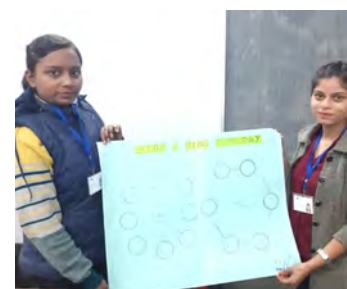
**Manish Kumar Sen**

HZMA (HINDUSTAN ZINC MINING ACADEMY)

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**SKILL COUNCIL** for  
**MINING SECTOR**  
Honing India's Mining Skill

# SKILL COUNCIL FOR MINING SECTOR

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FIMI HOUSE, B-311, Okhla Industrial Area, Phase-1, New Delhi - 110020

Tel: +91-11-26814596 ; Fax: +97-11-26814593