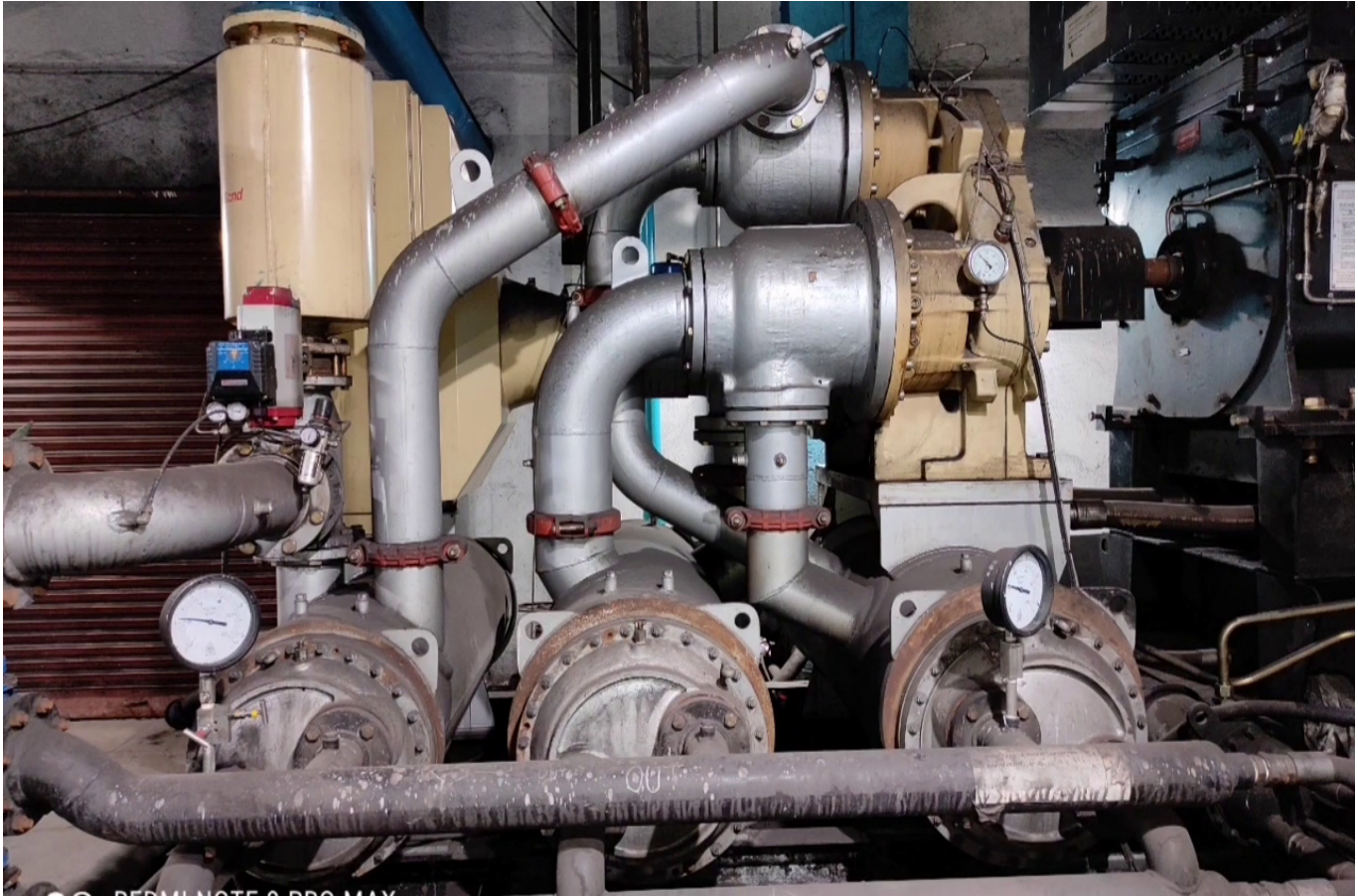


Qualification Pack



Compressor Operator

U/G Metal/ Open Cast/ U/G Coal/ Rare Earth

QP Code: MIN/Q3204

Version: 2.0

NSQF Level: 4

Skill Council for Mining Sector || FIMI House, B-311, Okhla Industrial Area, Phase-I
New Delhi-110020



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REIMAGINE FUTURE

Qualification Pack

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Qualification Pack

MIN/Q3204: Compressor Operator

Brief Job Description

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

Personal Attributes

This job requires the individual to concentrate on the job at hand and complete it efficiently and effectively. The individual should be physically agile, strong, have good eye-sight and not suffer from color-blindness.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. [MIN/N3213: Recognize processes and equipment requirement for Compressor Operations](#)
2. [MIN/N3214: Prepare the compressor and related apparatus](#)
3. [MIN/N3215: Operate the compression apparatus](#)
4. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

Electives(mandatory to select at least one):

Elective 1: U/G Metal

1. [MIN/N1702: Follow Health, Safety and Environmental guidelines for Underground Metalliferous Mines \(UMM\) \(Including Mine Vocational Training Rule and Mine Rescue Rule\)](#)

Elective 2: Open Cast

1. [MIN/N1703: Follow Health, Safety, and Environmental Guidelines for opencast mines \(Including Mine Vocational Training Rule\)](#)

Elective 3: U/G Coal

1. [MIN/N1704: Follow Health, Safety, and Environmental guidelines for underground coal mines \(Including Mine Vocational Training Rule and Mine Rescue Rule\)](#)

Qualification Pack

Elective 4: Rare Earth

1. [MIN/N1705: Follow Health, Safety and Environmental guidelines for Rare Earth \(RE\) Chemical plant](#)

Qualification Pack (QP) Parameters

Sector	Mining
Sub-Sector	Engineering Services
Occupation	Mechanical Services
Country	India
NSQF Level	4
Credits	27
Aligned to NCO/ISCO/ISIC Code	NCO-2015/3132.0300, NCO-2015/3132.0700,
Minimum Educational Qualification & Experience	8th grade pass plus 2-year NTC plus 1 Year NAC OR 8th pass plus 1-year NTC plus 1-Year NAC plus CITS OR 10th grade pass and pursuing continuous schooling OR 10th grade pass (with 2 years relevant experience) OR Previous relevant Qualification of NSQF Level (3.0 Jr. Compressor Operator with minimum education as 5th Grade pass with 2 years relevant experience)
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	20 Years
Last Reviewed On	NA
Next Review Date	17/11/2025
NSQC Approval Date	17/11/2022



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Version	2.0
Reference code on NQR	2022/MIN/SCMS/06989
NQR Version	1

Remarks:

Total Notional Duration: 540 Hours = Domain Theory Duration: 140 Hours+ Domain Practical Duration: 150 Hours + Domain OJT (Mandatory) Duration: 190 Hours + Employability Skills Duration: 60 Hours



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MIN/N3213: Recognize processes and equipment requirement for Compressor Operations

Description

This OS unit is about recognizing the job requirement, processes required to be executed, equipment requirement and what is the required output considering the standard specified.

Scope

The scope covers the following :

- Recognize processes and equipment required for Compressor Operations

Elements and Performance Criteria

Recognize processes and equipment required for Compressor Operations

To be competent, the user/individual on the job must be able to:

- PC1.** maintain and operate right compression methodology conversant with use as per defined Standard Operating Procedures specified by the equipment manufacturer and statutory requirements
- PC2.** check the material required and the equipment availability for executing the activity
- PC3.** map the amount of compressed air needed in mine operation to drive varied pneumatic tools, hoists and other machine equipment
- PC4.** set the parameters like temperature, pressure, process cycle time etc before starting the process, as mentioned in the work Instructions/ SOP manual
- PC5.** ensure proper use, operation and maintenance of the compressor/ machine provided for operation and required output
- PC6.** check the different components and safety features fitted in the machine
- PC7.** deal with safety hazards in the compression process and take precautionary measures
- PC8.** interact with supervisor / mine sirdar / foreman about the planned work

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of mines and detail of the mine the person is working in
- KU2.** mine organisation, time keeping, need for discipline and punctuality
- KU3.** galleries in underground mine, dressing of roof, stable and unstable strata etc
- KU4.** standing orders in force at the mine
- KU5.** duties of workmen
- KU6.** provision of wages, working hours and accident compensation as per Mines Act
- KU7.** mine organisation and reporting hierarchy
- KU8.** blasting and safety regulations



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- KU9.** mining safety procedures
- KU10.** impact of violation of safety procedures
- KU11.** standard operating procedures (SOP) followed in the company
- KU12.** processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution
- KU13.** different types of compression processes (reciprocating, rotary etc.) and associated equipment
- KU14.** application, quality and quantity of compressed air required for varied equipment in the industry
- KU15.** power sources (driving systems) electrical systems and mechanical driving systems
- KU16.** normal vibration and sound level of the machine
- KU17.** hazards and safety aspects involved in compression activities and usage of relevant PPEs (Personal Protective Equipments) and 5s around the work area
- KU18.** applications of compressed air in underground mines, including drilling short holes (especially for strata bolting), for pumping, for small tools (e.g. impact wrenches, power hacksaws, etc.) and occasionally for traction and for auxiliary ventilation (air fans or venturi's)
- KU19.** different types of valves and their functioning (stop valve, non-return valve etc.)
- KU20.** gauges, dials, monitoring apparatus and their purpose
- KU21.** power sources (driving systems) electrical systems & mechanical driving systems
- KU22.** impact of various physical parameters like temperature, pressure, etc on the properties of final output
- KU23.** safety measures to be taken

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** note down observations (if any) related to the compression process
- GS2.** write information documents to internal departments/ teams or enter the information in online ERP systems under guidance of supervisor
- GS3.** read equipment manuals and process documents to understand the equipment and processes better
- GS4.** read internal information documents sent by internal teams
- GS5.** discuss task lists, schedules and activities
- GS6.** communicate effectively with the team members
- GS7.** comprehend the information given by the speaker
- GS8.** support in scheduling tasks
- GS9.** use common sense and make judgments during day to day basis
- GS10.** use reasoning skills to identify and resolve basic problems
- GS11.** use intuition to detect any potential problems which could arise during operations
- GS12.** follow instructions and work on areas of improvement identified
- GS13.** complete the assigned tasks with minimum supervision
- GS14.** complete the job defined within timelines and quality norms



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- GS15.** detect problems in day to day tasks
- GS16.** support in using specific problem solving techniques and detailing out the problems
- GS17.** discuss possible solution for problem solving
- GS18.** make decisions in emergency conditions (as per the authority matrix defined by the organization)



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Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Recognize processes and equipment required for Compressor Operations</i>	30	50	-	20
PC1. maintain and operate right compression methodology conversant with use as per defined Standard Operating Procedures specified by the equipment manufacturer and statutory requirements	4	7	-	3
PC2. check the material required and the equipment availability for executing the activity	4	7	-	3
PC3. map the amount of compressed air needed in mine operation to drive varied pneumatic tools, hoists and other machine equipment	4	6	-	3
PC4. set the parameters like temperature, pressure, process cycle time etc before starting the process, as mentioned in the work Instructions/ SOP manual	4	6	-	3
PC5. ensure proper use, operation and maintenance of the compressor/ machine provided for operation and required output	4	6	-	2
PC6. check the different components and safety features fitted in the machine	4	6	-	2
PC7. deal with safety hazards in the compression process and take precautionary measures	3	6	-	2
PC8. interact with supervisor / mine sirdar / foreman about the planned work	3	6	-	2
NOS Total	30	50	-	20



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REIMAGINE FUTURE

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MIN/N3213
NOS Name	Recognize processes and equipment requirement for Compressor Operations
Sector	Mining
Sub-Sector	Engineering Services
Occupation	Mechanical Services
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	12/05/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022



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Qualification Pack

MIN/N3214: Prepare the compressor and related apparatus

Description

This OS unit is about preparing the machine and auxiliary apparatus like compressor engines, pumps, and auxiliary equipment

Scope

The scope covers the following :

- Conduct pre-operation check
- Set up the equipment

Elements and Performance Criteria

Conduct pre-operation check

To be competent, the user/individual on the job must be able to:

- PC1.** ensure correct oil level, status of the receiver with safety valve, air gauge, fuel level, radiator coolant, engine condition and condition of the drain cock/water trap, distribution system etc
- PC2.** check for cracks, defects and anomalies in the compression apparatus
- PC3.** perform condition monitoring of the equipment as specified by the equipment manufacturer
- PC4.** check for condition of piping on both suction and discharge sides
- PC5.** check the condition of couplings in the equipment
- PC6.** check electrical connections, and electrical system for proper functioning of the system
- PC7.** check condition of engine for diesel operated compressor for the smooth operation of the pump drive
- PC8.** check for cracks, leakage, seepage and oil spilling etc. in the compressor, receiver and distribution line
- PC9.** ensure periodic testing of compressed air line for rated pressure and of standard quality
- PC10.** ensure approximate compressed air demand by different air tools connected to the line, including number of drilling machine, air hoists, ventilation system etc
- PC11.** check for risk of any fire, bursting and collapse or production of any noxious gases
- PC12.** check the material required and the equipment availability for executing the activity
- PC13.** check the required material and tools before the start of the operations

Set-up the equipment

To be competent, the user/individual on the job must be able to:

- PC14.** ensure the cleaning of the machine and its auxiliaries (compressor engines, accessories and auxiliary equipment) , as mentioned in the Work Instructions/ Standard Operating Procedures(SOP)
- PC15.** conduct necessary housekeeping around the work area to minimize risk of any mishap –e.g. fire, slippage etc
- PC16.** set-up the apparatus as per the selected process and the internal SOPs/ Work Instructions and the setting standard for the machine



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Qualification Pack

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of mines and detail of the mine he is working in
- KU2.** mine organisation, time keeping, need for discipline and punctuality
- KU3.** galleries in underground mine, dressing of roof, stable and unstable strata etc
- KU4.** mine organisation and reporting hierarchy
- KU5.** blasting and safety regulations
- KU6.** provision of Mines Act with reference to work site, safe working practices and precautionary measures to be taken before, during and after work execution
- KU7.** standing orders in force at the mine.
- KU8.** duties of workmen
- KU9.** provision of wages, working hours and accident compensation as per Mines Act
- KU10.** mining safety procedures
- KU11.** impact of violation of safety procedures
- KU12.** standard operating procedures (SOP) followed in the company
- KU13.** processes like Procurement, Store management, inventory management, quality management and key contact points for query resolution
- KU14.** different types of compression processes (reciprocating, rotary etc.) and associated equipment such as single stage and multi stage air compressors; different types of intercoolers;
- KU15.** different types of suction and delivery valves, pressure relief valve, safety valve, drain valve
- KU16.** water separator, oil separator, mist lubricator
- KU17.** different types of inlet air filters, pressure gauge
- KU18.** periodical pressure test of air receiver as per statute
- KU19.** application, quality and quantity of compressed air required for varied equipment in the industry
- KU20.** power sources (driving systems) electrical systems and mechanical driving systems
- KU21.** normal vibration and sound level of the machine
- KU22.** application of compressed air in the surface and subsurface mines, for power drilling and piling machinery, pneumatic tools, material conveyors and ventilation systems
- KU23.** different types of valves and their functioning (stop valve, non-return valve etc.)
- KU24.** impact of various physical parameters like temperature, pressure, etc on the properties of final output
- KU25.** basic principles of safety and 5S around the work area
- KU26.** machine body temperature without thermometer
- KU27.** assessment of normal operating speed

Generic Skills (GS)

User/individual on the job needs to know how to:



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- GS1.** note down observations (if any) related to the process
- GS2.** write information documents to internal departments/ internal teams or
- GS3.** enter the information in online ERP systems
- GS4.** read equipment manuals and process documents to understand the equipment and processes better
- GS5.** read internal information documents sent by internal teams
- GS6.** discuss task lists, schedules and activities
- GS7.** communicate effectively with the team members
- GS8.** discuss the nature of the problem to clarify queries
- GS9.** comprehend the information given by the speaker
- GS10.** plan and organize the work order and jobs
- GS11.** organize all process/ equipment manuals so that sorting/ accessing information is easy
- GS12.** use common sense and make judgments during day to day basis
- GS13.** follow instructions and work on areas of improvement identified complete the assigned tasks with minimum supervision
- GS14.** complete the job defined within the timelines and quality norms

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Conduct pre-operation check</i>	25	40	-	16
PC1. ensure correct oil level, status of the receiver with safety valve, air gauge, fuel level, radiator coolant, engine condition and condition of the drain cock/water trap, distribution system etc	2	4	-	2
PC2. check for cracks, defects and anomalies in the compression apparatus	2	3	-	2
PC3. perform condition monitoring of the equipment as specified by the equipment manufacturer	2	3	-	1
PC4. check for condition of piping on both suction and discharge sides	2	3	-	1
PC5. check the condition of couplings in the equipment	2	3	-	1
PC6. check electrical connections, and electrical system for proper functioning of the system	2	3	-	1
PC7. check condition of engine for diesel operated compressor for the smooth operation of the pump drive	2	3	-	1
PC8. check for cracks, leakage, seepage and oil spilling etc. in the compressor, receiver and distribution line	2	3	-	1
PC9. ensure periodic testing of compressed air line for rated pressure and of standard quality	2	3	-	1
PC10. ensure approximate compressed air demand by different air tools connected to the line, including number of drilling machine, air hoists, ventilation system etc	2	3	-	1
PC11. check for risk of any fire, bursting and collapse or production of any noxious gases	2	3	-	2
PC12. check the material required and the equipment availability for executing the activity	2	3	-	1



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. check the required material and tools before the start of the operations	1	3	-	1
<i>Set-up the equipment</i>	5	10	-	4
PC14. ensure the cleaning of the machine and its auxiliaries (compressor engines, accessories and auxiliary equipment) , as mentioned in the Work Instructions/ Standard Operating Procedures(SOP)	1	3	-	1
PC15. conduct necessary housekeeping around the work area to minimize risk of any mishap -e.g. fire, slippage etc	2	3	-	1
PC16. set-up the apparatus as per the selected process and the internal SOPs/ Work Instructions and the setting standard for the machine	2	4	-	2
NOS Total	30	50	-	20



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Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MIN/N3214
NOS Name	Prepare the compressor and related apparatus
Sector	Mining
Sub-Sector	Engineering Services
Occupation	Mechanical Services
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	12/05/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022



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Qualification Pack

MIN/N3215: Operate the compression apparatus

Description

This QP is about conducting Compression Operation as per the methodology selected and the Standard Operating Procedures defined by the Organization and the requirement of the work order

Scope

The scope covers the following :

- Operate compressor
- Perform basic maintenance

Elements and Performance Criteria

Operate compressor

To be competent, the user/individual on the job must be able to:

- PC1.** clean any oil, grease and water seepage and leakage
- PC2.** carry out daily lubrication and greasing
- PC3.** clean inlet filter, water separator, oil separator etc
- PC4.** check level of coolant, lubricant oil and clean air filter for diesel compressor
- PC5.** check for operation of core equipment like compressor engines, accessories and auxiliary and safety equipment as per setup documentation and conduct preliminary operation when fully satisfied with the physical check
- PC6.** feed gas/air in the compressor as per the defined schedule or as per requirements raised by users of compressed gas/air
- PC7.** monitor meters and pressure gauges to determine consumption rate variations, temperatures, and pressures
- PC8.** adjust valves and equipment to obtain specified performance
- PC9.** check gas meters, and maintain records of the amounts of gas received and dispensed from holders
- PC10.** record instrument readings and operational changes in operating logs/records/report books
- PC11.** take necessary precautions and care in using compressed air because of the possibility of generating sparks with sufficient power to ignite Methane from static electricity
- PC12.** note any deviation in compressor vibration, noise and body temperature etc. and inform supervisor of any inconsistency in the operation, process, quality issues etc.
- PC13.** move controls and turn valves to start compressor engines, accessories, and auxiliary equipment
- PC14.** turn knobs or switches to regulate pressures
- PC15.** clean, lubricate, and adjust equipment, and replace filters and gaskets, using hand tools

Perform basic maintenance

To be competent, the user/individual on the job must be able to:



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- PC16.** ensure that proper ventilation around the equipment is maintained and no overheating occurs
- PC17.** monitor condition of equipment by noticing variations in sound, vibration and other parameters

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of mines and detail of the mine he is working in
- KU2.** mine organisation, time keeping, need for discipline and punctuality
- KU3.** galleries in underground mine, dressing of roof, stable and unstable strata etc
- KU4.** standing orders in force at the mine. Safety in the vicinity of machinery
- KU5.** duties of workmen
- KU6.** provision of wages, working hours and accident compensation as per Mines Act
- KU7.** mining safety procedures
- KU8.** impact of violation of safety procedures
- KU9.** relevant manufacturing standard and procedures followed in the company
- KU10.** • processes like Procurement, Store management, inventory management, quality management and key
• contact points for query resolution
- KU11.** quality norms and standard prescribed in the Quality Manual by the organization for welding
- KU12.** different types of compression processes and associated equipment
- KU13.** various National and International standard, and statutory provisions, laws and by laws related to compressed gases handling in Mining sector in India
- KU14.** physical/chemical properties of gases
- KU15.** power sources (driving systems) electrical systems & mechanical driving systems
- KU16.** different types of defects/malfunctioning and their impact on the operating processes
- KU17.** potential health and safety hazards and related Safety measures
- KU18.** precautions to be undertaken during the process
- KU19.** different types of fasteners, tools and tackles
- KU20.** about standard spare parts
- KU21.** reasons of bursting of air compressor cylinder and high pressure connectors
- KU22.** about compressor prime movers
- KU23.** internal combustion (IC) engines
- KU24.** how to remove air lock in fuel line
- KU25.** how to top up lubricant oil
- KU26.** how to clean air filter
- KU27.** about electrical drive, lock out switch
- KU28.** readings of three phase voltmeter, ampere meter
- KU29.** about overload and earth fault, relay setting

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Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** note measurements, equipment panel readings for various process parameters in the required reporting formats
- GS2.** read equipment manuals and process documents to understand the equipment and processes better
- GS3.** read internal information documents sent by internal departments
- GS4.** read parameter reading on various types of monitoring panels
- GS5.** discuss task lists, schedules and activities
- GS6.**
 - communicate with the team members and question
 - in order to understand the nature of the problem and to clarify queries
- GS7.** listen carefully to comprehend the information given by the speaker
- GS8.** plan and organize the work order and jobs received
- GS9.** organize all process/ equipment manuals so that sorting/ accessing information is easy
- GS10.** support in scheduling tasks
- GS11.** use common sense and make judgments during day to day basis
- GS12.** use reasoning skills to identify and resolve basic problems
- GS13.** use intuition to detect any potential problems which could arise during operations
- GS14.** follow instructions and work on areas of improvement identified
- GS15.** complete the assigned tasks with minimum supervision
- GS16.**
 - complete the job defined within the timelines
 - and quality norms
- GS17.** detect problems in day to day activities
- GS18.** support in using specific problem solving techniques and detailing out the problems
- GS19.** discuss possible solution for problem solving
- GS20.** make decisions in emergency conditions (as per the authority matrix defined by the organization)
- GS21.** support in problem solving using specific problem solving techniques
- GS22.** guide in maintaining the quality
- GS23.** quality Standard as described in the internal Quality Manual

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operate compressor</i>	26	44	-	18
PC1. clean any oil, grease and water seepage and leakage	2	3	-	2
PC2. carry out daily lubrication and greasing	2	3	-	2
PC3. clean inlet filter, water separator, oil separator etc	2	3	-	2
PC4. check level of coolant, lubricant oil and clean air filter for diesel compressor	2	3	-	1
PC5. check for operation of core equipment like compressor engines, accessories and auxiliary and safety equipment as per setup documentation and conduct preliminary operation when fully satisfied with the physical check	2	3	-	1
PC6. feed gas/air in the compressor as per the defined schedule or as per requirements raised by users of compressed gas/air	2	3	-	1
PC7. monitor meters and pressure gauges to determine consumption rate variations, temperatures, and pressures	2	3	-	1
PC8. adjust valves and equipment to obtain specified performance	1	3	-	1
PC9. check gas meters, and maintain records of the amounts of gas received and dispensed from holders	1	3	-	1
PC10. record instrument readings and operational changes in operating logs/records/report books	1	2	-	1
PC11. take necessary precautions and care in using compressed air because of the possibility of generating sparks with sufficient power to ignite Methane from static electricity	2	3	-	1



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. note any deviation in compressor vibration, noise and body temperature etc. and inform supervisor of any inconsistency in the operation, process, quality issues etc.	1	3	-	1
PC13. move controls and turn valves to start compressor engines, accessories, and auxiliary equipment	2	3	-	1
PC14. turn knobs or switches to regulate pressures	2	3	-	1
PC15. clean, lubricate, and adjust equipment, and replace filters and gaskets, using hand tools	2	3	-	1
<i>Perform basic maintenance</i>	4	6	-	2
PC16. ensure that proper ventilation around the equipment is maintained and no overheating occurs	2	3	-	1
PC17. monitor condition of equipment by noticing variations in sound, vibration and other parameters	2	3	-	1
NOS Total	30	50	-	20



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National Occupational Standards (NOS) Parameters

NOS Code	MIN/N3215
NOS Name	Operate the compression apparatus
Sector	Mining
Sub-Sector	Engineering Services
Occupation	Mechanical Services
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	12/05/2022
Next Review Date	17/11/2025
NSQF Clearance Date	17/11/2022



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DGT/VSQ/N0102: Employability Skills (60 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

- PC1.** identify employability skills required for jobs in various industries
- PC2.** identify and explore learning and employability portals

Constitutional values - Citizenship

To be competent, the user/individual on the job must be able to:

- PC3.** recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.
- PC4.** follow environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

- PC5.** recognize the significance of 21st Century Skills for employment
- PC6.** practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

Basic English Skills

To be competent, the user/individual on the job must be able to:



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- PC7.** use basic English for everyday conversation in different contexts, in person and over the telephone
- PC8.** read and understand routine information, notes, instructions, mails, letters etc. written in English
- PC9.** write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

To be competent, the user/individual on the job must be able to:

- PC10.** understand the difference between job and career
- PC11.** prepare a career development plan with short- and long-term goals, based on aptitude

Communication Skills

To be competent, the user/individual on the job must be able to:

- PC12.** follow verbal and non-verbal communication etiquette and active listening techniques in various settings
- PC13.** work collaboratively with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

- PC14.** communicate and behave appropriately with all genders and PwD
- PC15.** escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

- PC16.** select financial institutions, products and services as per requirement
- PC17.** carry out offline and online financial transactions, safely and securely
- PC18.** identify common components of salary and compute income, expenses, taxes, investments etc
- PC19.** identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

- PC20.** operate digital devices and carry out basic internet operations securely and safely
- PC21.** use e- mail and social media platforms and virtual collaboration tools to work effectively
- PC22.** use basic features of word processor, spreadsheets, and presentations

Entrepreneurship

To be competent, the user/individual on the job must be able to:

- PC23.** identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research
- PC24.** develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion
- PC25.** identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

To be competent, the user/individual on the job must be able to:

- PC26.** identify different types of customers
- PC27.** identify and respond to customer requests and needs in a professional manner.



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PC28. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC29. create a professional Curriculum vitae (Résumé)

PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC31. apply to identified job openings using offline /online methods as per requirement

PC32. answer questions politely, with clarity and confidence, during recruitment and selection

PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account and use applications such as word processors, spreadsheets etc.

KU16. how to identify business opportunities

KU17. types and needs of customers

KU18. how to apply for a job and prepare for an interview

KU19. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and write different types of documents/instructions/correspondence

GS2. communicate effectively using appropriate language in formal and informal settings



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- GS3.** behave politely and appropriately with all
- GS4.** how to work in a virtual mode
- GS5.** perform calculations efficiently
- GS6.** solve problems effectively
- GS7.** pay attention to details
- GS8.** manage time efficiently
- GS9.** maintain hygiene and sanitization to avoid infection

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	1	1	-	-
PC1. identify employability skills required for jobs in various industries	-	-	-	-
PC2. identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	1	1	-	-
PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC4. follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	2	4	-	-
PC5. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
<i>Basic English Skills</i>	2	3	-	-
PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development & Goal Setting</i>	1	2	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. understand the difference between job and career	-	-	-	-
PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	2	2	-	-
PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
PC13. work collaboratively with others in a team	-	-	-	-
<i>Diversity & Inclusion</i>	1	2	-	-
PC14. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	2	3	-	-
PC16. select financial institutions, products and services as per requirement	-	-	-	-
PC17. carry out offline and online financial transactions, safely and securely	-	-	-	-
PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	3	4	-	-
PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Entrepreneurship</i>	2	3	-	-
PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	1	2	-	-
PC26. identify different types of customers	-	-	-	-
PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-	-
PC28. follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship & Jobs</i>	2	3	-	-
PC29. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	20	30	-	-



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National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0102
NOS Name	Employability Skills (60 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	4
Credits	2
Version	1.0
Last Reviewed Date	NA
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022



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Qualification Pack

MIN/N1702: Follow Health, Safety and Environmental guidelines for Underground Metalliferous Mines (UMM) (Including Mine Vocational Training Rule and Mine Rescue Rule)

Description

This unit is about adhering to health, safety and environmental guidelines in Underground Metalliferous Mines (UMM) during the execution of various tasks and operations and maintenance.

Scope

The scope covers the following :

- Follow work-site health and safety measures
- Follow environmental guidelines

Elements and Performance Criteria

Follow work-site health and safety measures

To be competent, the user/individual on the job must be able to:

- PC1.** undertake "The Take-5 (Personal Risk Assessment)" before commencement of any work
- PC2.** comply with safety, health and security-related regulations/guidelines at the mine e.g. follow Standard Operating Procedure (SOP) for material handling in underground (U/G) mine
- PC3.** operate various types of fire extinguishers to control different types of fire at a worksite when required
- PC4.** check that roof supporting is as per Systematic Support Plan (SSP) and approved Systematic Support Rules (SSR) while undertaking work in an area
- PC5.** take precaution against occupational health hazards (like dust, water, mine gases etc.) due to U/G working environment
- PC6.** use self-rescue apparatus, appropriately when required
- PC7.** follow appropriate emergency response procedure during emergency such as fire, water inrush, fall of ground etc.
- PC8.** follow precautions against U/G electrical appliances
- PC9.** follow appropriate Standard Operating Procedure while working near any isolated and sealed off area of the mine
- PC10.** follow appropriate safety practices while traveling on U/G haul roads, incase of post blast fumes and misfire
- PC11.** follow the manufacturer's instructions for care and safe operation of mine machinery and equipment
- PC12.** identify the working ventilation district from line diagram of ventilation circuit to direct air to the working face
- PC13.** follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)
- PC14.** follow gas detecting alarm signal on leakage of inflammable gases and laid out procedure to ensure safety



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- PC15.** follow process for reporting any unsafe act/condition in work area to the concerned person
- PC16.** use underground mine communication system
- PC17.** ensure positive isolation near the work place if applicable
- PC18.** use appropriate PPE as per the requirement
- PC19.** maintain hand hygiene by washing hands with alcohol based sanitisers/soap
- PC20.** disinfect the machine/tools before and after work/task
- PC21.** maintain hygiene at the work site
- PC22.** report any symptoms of illness to the shift-incharge
- PC23.** identify six directional hazards at workplace and take decisions accordingly

Follow environmental guidelines

To be competent, the user/individual on the job must be able to:

- PC24.** identify the environmental impact of mining related operations and follow steps to reduce those impact
- PC25.** follow the mineral conservation practices in U/G mining operations to achieve optimum ore or mineral recovery
- PC26.** ensure that the stowing practices produce minimum disturbance to the surface
- PC27.** ensure that the subgrade ore is carried out to surface and stacked separately at the earmarked place
- PC28.** ensure the productivity of the machine for material/fuel conservation
- 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
- PC30.** follow the "5-S" practice at work site like cleaning oil from ground (to avoid soil from getting damaged), etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** safety guidelines specified by Directorate General of Mine Safety (DGMS)
- KU2.** duties and rights of workers
- KU3.** selection process of person for rescue training
- KU4.** about Systematic Support Plan (SSP) and approved Systematic Support Rules (SSR)
- KU5.** isolation and sealed off area of the mine
- KU6.** various types of gases found in the mine and their effect
- KU7.** self-rescue apparatus and their uses
- KU8.** provision of medical examination (IME & PME) of person employed as per Mines Rules 1955
- KU9.** importance of first aid and hygiene
- KU10.** about different types of machinery used in U/G mines
- KU11.** different types of supporting systems used in U/G mines as per SSP and SSR
- KU12.** about precautions to be taken when handling heavy equipment
- KU13.** various problems/incidents likely to occur
- KU14.** role of Internal Safety Organization, safety committee, workman's inspector and DGMS



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- KU15.** about mine safety standard including light illumination level, noise levels, dust level, pollutants, etc at the work-site
- KU16.** common sources of pollution in the mines and ways to minimize it
- KU17.** various types of fire extinguishers
- KU18.** safety equipment like safety shoes, safety belt, tight fit clothing, hand gloves, safety goggles, Gas Detector, Safety Lamp, Self-Contained Breathing Apparatus, gum boots, ear plugs, Face Mask, etc.
- KU19.** shot-firing / blasting related safety regulations including taking shelter during blasting
- KU20.** emergency response /disaster management plan prepared by the organization as per DGMS guideline
- KU21.** mining area-specific signs, and other safety and emergency signals
- KU22.** the outcome of violation of safety procedures
- KU23.** Take-5 (Personal Risk Assessment) training (DGMS Tech. circulars 2/2014)
- KU24.** rules and regulations for safety and security while handling hazardous materials
- KU25.** safety appliances and rescue equipment
- KU26.** importance and use of various communication system used in UG mines
- KU27.** importance of positive isolation at working site
- KU28.** safety and occupational health policy of organisation
- KU29.** six directional hazard identification process
- KU30.** basic personal and workplace hygiene
- KU31.** importance of FAB (Fresh Air Base)
- KU32.** basic provisions in Mines Creche Rules, 1966 (MCR) for females employed in the mines
- KU33.** the role and responsibilities of rescue room and rescue station and how to contact them in case of emergency
- KU34.** importance of taking shelter at the miner's station during blasting operation
- KU35.** importance of sensitization towards different genders and persons with disabilities (PWD)
- KU36.** importance of following infection control policies, '5-S' practices, and waste management
- KU37.** importance of water/material/energy conservation and management
- KU38.** importance of SMP and EMP, prepared by the organization, as per DGMS guideline

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** fill up documentation applicable to one's role
- GS2.** make decisions on the concerned area of work
- GS3.** read basic English language
- GS4.** read and interpret manuals, health, and safety instructions, memos, etc.
- GS5.** use the digital information from machine
- GS6.** use basic applications of a computer
- GS7.** plan and organize the work order and tasks
- GS8.** use reasoning skills to identify and resolve fundamental problems



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GS9. complete the assigned tasks timely

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<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 security-related 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, incase 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

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	-	-



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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
NOS Total	30	50	-	20



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National Occupational Standards (NOS) Parameters

NOS Code	MIN/N1702
NOS Name	Follow Health, Safety and Environmental guidelines for Underground Metalliferous Mines (UMM) (Including Mine Vocational Training Rule and Mine Rescue Rule)
Sector	Mining
Sub-Sector	Mining Operation
Occupation	HSE Functions, Mine Surveying, Drilling/Cutting, Shot firing/Blasting, Loading and Hauling - Underground, Specialized Operations, Electrical Services, Mechanical Services
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/06/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022



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MIN/N1703: Follow Health, Safety, and Environmental Guidelines for opencast mines (Including Mine Vocational Training Rule)

Description

This unit is about adhering to health, safety and environmental guidelines at the Open Cast Mines while executing various tasks, maintenance and operations.

Scope

The scope covers the following :

- Follow work-site health and safety measures
- Follow Environmental guidelines

Elements and Performance Criteria

Follow work-site health and safety measures

To be competent, the user/individual on the job must be able to:

- PC1.** comply with safety, health, and security-related regulations/guidelines at the opencast mine
- PC2.** follow the safety instructions given by the workman's inspector
- PC3.** follow adequate safety while working at haul roads, heights, overburden dumps, sump area, stockyard, near moving parts, etc.
- PC4.** take safety precautions while working on sites (sub-station, workshop etc.), with equipment, and conducting welding and cutting operations
- PC5.** follow appropriate Safe Operating Procedure (SOP) while dealing with explosives
- PC6.** respond promptly and appropriately to an accident/ incident or an emergency situation, within limits of the role and responsibility
- PC7.** provide first aid to an injured person
- PC8.** operate various types of fire extinguishers to control different types of fire at a worksite when required
- PC9.** use appropriate PPE as per the requirement
- PC10.** maintain hand hygiene by washing hands with alcohol based sanitisers/soap
- PC11.** disinfect the machine/tools before and after work/task
- PC12.** maintain hygiene at the work site
- PC13.** report any symptoms of illness to the shift-incharge

Follow Environmental guidelines

To be competent, the user/individual on the job must be able to:

- PC14.** identify the environmental impact of related opencast mining operations
- 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
- PC16.** ensure not to mix topsoil with waste in day to day tasks
- PC17.** ensure that HEMM is washed at the designated location



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- PC18.** ensure the productivity of the machine for material/fuel conservation
- PC19.** follow the mineral conservation practices specified by the organization in accordance with MCDR-2017 (Mineral Conservation and Development Rules)
- PC20.** assist supervisor for reducing environmental impact caused due to related mining operations

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** about various environmental awareness program related to mining, organized by the various government bodies/company
- KU2.** safety guidelines specified by Directorate General of Mine Safety (DGMS)
- KU3.** basic mining terminologies and definitions
- KU4.** means of access and egress from the mines, location of workshop, haul roads and working face including dump yards
- KU5.** duties of workers under The Mines act-1952
- KU6.** working hours and accident compensation as per The Mines act-1952
- KU7.** about precautions to be taken when handling heavy equipment
- KU8.** various problems/incidents likely to occur
- KU9.** hierarchy of the reporting
- KU10.** machine operation, condition of the machine and worksite
- KU11.** proper documents specific to the machine
- KU12.** role of workmen inspector, safety committee and internal safety organization
- KU13.** the process of top soil removal and management
- KU14.** mine sump and pumping system of the mines
- KU15.** about mine safety standard including light illumination level, noise levels, dust level, pollutants, etc at the work-site
- KU16.** common sources of pollution in the mines and ways to minimize it
- KU17.** safety equipment like safety shoes, safety belt, tight fit clothing, hand gloves, safety goggles, gas detector, safety lamp, self-contained breathing apparatus, gum boots, ear plugs, face mask, etc.
- KU18.** shot-firing / blasting related safety regulations including taking shelter during blasting
- KU19.** emergency response /disaster management plan prepared by the organization
- KU20.** signages, mining area-specific signs, and other safety and emergency signals
- KU21.** the outcome of violation of safety procedures
- KU22.** basic personal and workplace hygiene
- KU23.** importance of sensitization towards different genders and PWD (Persons with Disabilities)

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** fill up documentation applicable to one's role



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- GS2.** make decisions on the concerned area of work
- GS3.** read and interpret manuals, health, and safety instructions, memos, etc.
- GS4.** plan and organize the work order and jobs
- GS5.** use reasoning skills to identify and resolve fundamental problems
- GS6.** complete the assigned tasks timely



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REIMAGINE FUTURE

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow work-site health and safety measures</i>	20	34	-	15
PC1. comply with safety, health, and security-related regulations/guidelines at the opencast mine	2	2	-	1
PC2. follow the safety instructions given by the workman's inspector	1	3	-	1
PC3. follow adequate safety while working at haul roads, heights, overburden dumps, sump area, stockyard, near moving parts, etc.	3	3	-	1
PC4. take safety precautions while working on sites (sub-station, workshop etc.), with equipment, and conducting welding and cutting operations	1	3	-	1
PC5. follow appropriate Safe Operating Procedure (SOP) while dealing with explosives	2	3	-	2
PC6. respond promptly and appropriately to an accident/ incident or an emergency situation, within limits of the role and responsibility	2	3	-	1
PC7. provide first aid to an injured person	2	3	-	1
PC8. operate various types of fire extinguishers to control different types of fire at a worksite when required	1	3	-	1
PC9. use appropriate PPE as per the requirement	2	4	-	2
PC10. maintain hand hygiene by washing hands with alcohol based sanitisers/soap	1	2	-	1
PC11. disinfect the machine/tools before and after work/task	1	2	-	1
PC12. maintain hygiene at the work site	1	1	-	1
PC13. report any symptoms of illness to the shift-incharge	1	2	-	1
<i>Follow Environmental guidelines</i>	10	16	-	5



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC14. identify the environmental impact of related opencast mining operations	2	2	-	1
PC15. follow the process for collecting, storing and disposing of the hazardous material and waste (like used oil, lubricant, battery, etc.) in compliance with worksite guidelines	1	2	-	1
PC16. ensure not to mix topsoil with waste in day to day tasks	2	2	-	1
PC17. ensure that HEMM is washed at the designated location	2	2	-	1
PC18. ensure the productivity of the machine for material/fuel conservation	1	3	-	-
PC19. follow the mineral conservation practices specified by the organization in accordance with MCDR-2017 (Mineral Conservation and Development Rules)	1	3	-	1
PC20. assist supervisor for reducing environmental impact caused due to related mining operations	1	2	-	-
NOS Total	30	50	-	20



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REIMAGINE FUTURE

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MIN/N1703
NOS Name	Follow Health, Safety, and Environmental Guidelines for opencast mines (Including Mine Vocational Training Rule)
Sector	Mining
Sub-Sector	Mining Operation
Occupation	HSE Functions, , Exploration, Mineral Estimation, Planning, Mine Surveying, Drilling/Cutting, Shot firing/Blasting, Loading and Hauling - Opencast, Specialized Operations, Electrical Services, Mechanical Services, Instrumentation and Control Systems, Ore Processing
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/06/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022



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REIMAGINE FUTURE

Qualification Pack

MIN/N1704: Follow Health, Safety, and Environmental guidelines for underground coal mines (Including Mine Vocational Training Rule and Mine Rescue Rule)

Description

This unit is about adhering to health, safety and environmental guidelines in Underground Coal Mines (UCM) during execution of various tasks, operations and maintenance.

Scope

The scope covers the following :

- Follow work-site health and safety measures
- Follow environmental guidelines

Elements and Performance Criteria

Follow work-site health and safety measures

To be competent, the user/individual on the job must be able to:

- PC1.** follow preventive measures against firedamp, whitedamp, blackdamp etc.
- PC2.** use the flame safety lamp for detecting the methane gas as per Standard Operating Procedure (SOP)
- PC3.** undertake "The Take-5 (Personal Risk Assessment)" before commencement of any work
- PC4.** comply with safety, health and security-related regulations/guidelines at the mine e.g. SOP for material handling in underground (U/G) mine
- PC5.** ensure that oil, grease, canvas or other inflammable material are stored in fire-proof receptacle
- PC6.** ensure that every instrument, apparatus and equipment are DGMS approved before these are used
- 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
- PC8.** provide first aid to an injured person
- PC9.** follow safety precautions against spontaneous heating of the coal
- PC10.** operate various types of fire extinguishers to control different types of fire at worksite, if required
- PC11.** ensure that no person is traveling/working/staying under unsupported roof
- PC12.** check that roof supporting is as per Systematic Support Plan (SSP) and approved Systematic Support Rules (SSR) while undertaking work in an area
- PC13.** take precaution against occupational health hazards (like dust, water, mine gases etc.) due to U/G working environment
- PC14.** use self-rescue apparatus appropriately when required
- PC15.** follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)



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- PC16.** follow precautions against U/G electrical appliances
- PC17.** take proper care against damage and accidents while loading, transporting, dismantling and erecting of roof supports
- PC18.** follow appropriate SOP while working near any isolated and sealed off area of the mine
- PC19.** ensure that the roof and the sidewalls of the mine face (or newly exposed area of the mines) have been scaled/dressed properly
- PC20.** take relevant safety precautions during depillaring operation in UCM
- PC21.** follow appropriate safety practices while traveling on U/G haul roads, incase of post blast fumes and misfire
- PC22.** follow the manufacturer's instructions for care and safe operation of mine machinery and equipment
- PC23.** identify the working ventilation district from line diagram of ventilation circuit to direct air to the working face
- PC24.** follow laid out SOP in case of alarm signal for leakage of inflammable gases
- PC25.** follow the process of reporting any unsafe act/condition in the working area to the concerned person
- PC26.** use underground mine communication system
- PC27.** ensure positive isolation near the work place if applicable
- PC28.** use appropriate Personal Protective Equipment (PPE) as per the requirement
- PC29.** maintain hand hygiene by washing hands with alcohol based sanitisers/soap
- PC30.** disinfect the machine/tools before and after work/task
- PC31.** maintain hygiene at the work site
- PC32.** report any symptoms of illness to the shift-incharge
- PC33.** identify six directional hazards at workplace and take decisions accordingly

Follow environmental guidelines

To be competent, the user/individual on the job must be able to:

- PC34.** identify the environmental impact of mining related operations and follow steps to reduce those impact
- PC35.** follow the mineral conservation practices in U/G mining operations to achieve optimum ore or mineral recovery
- PC36.** ensure that the stowing practices produce minimum disturbance to the surface
- PC37.** ensure that the subgrade coal is carried out to surface and stacked separately at the earmarked place
- PC38.** ensure the productivity of the machine for material/fuel conservation
- 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
- PC40.** follow the "5-S" practice at work site like cleaning oil from ground (to avoid soil from getting damaged), etc.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:



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- KU1.** safety guidelines specified by Directorate General of Mine Safety (DGMS)
- KU2.** duties and rights of workers
- KU3.** selection process of person for rescue training
- KU4.** about Systematic Support Plan (SSP) and approved Systematic Support Rules (SSR)
- KU5.** isolation and sealed off area of the mine
- KU6.** various types of gases available in the mine and their effects; and their control measures
- KU7.** self-rescue apparatus and their uses
- KU8.** provision of medical examination (Initial Medical Examination (IME) & Periodical Medical Examination (PME)) of a person employed, as per Mines Rules 1955
- KU9.** importance of first aid and hygiene
- KU10.** about different types of machineries used in U/G mines
- KU11.** different types of supporting system used in U/G mines as per SSP and SSR
- KU12.** about precautions to be taken when handling heavy equipment
- KU13.** various problems/incidents likely to occur
- KU14.** role of Internal Safety Organization, safety committee, workman's inspector and DGMS
- KU15.** about mine safety standard including light illumination level, noise levels, dust level, pollutants, etc at the work-site
- KU16.** common sources of pollution in the mines and ways to minimize it
- KU17.** various types of fire extinguishers
- KU18.** safety equipment like safety shoes, safety belt, tight fit clothing, hand gloves, safety goggles, Gas Detector, Safety Lamp, Self-Contained Breathing Apparatus, gum boots, ear plugs, Face Mask, etc.
- KU19.** shot-firing / blasting related safety regulations including taking shelter during blasting
- KU20.** mining area-specific signs, and other safety and emergency signals
- KU21.** the outcome of violation of safety procedures
- KU22.** Take-5 (Personal Risk Assessment) training (DGMS Tech. circulars 2/2014)
- KU23.** hazardous material safety, security rules and regulations
- KU24.** safety appliances and rescue equipment
- KU25.** importance and use of various communication system used in UG mines
- KU26.** importance of positive isolation at working site
- KU27.** safety and occupational health policy of organisation
- KU28.** six directional hazard identification process
- KU29.** basic personal and workplace hygiene
- KU30.** importance of FAB (Fresh Air Base)
- KU31.** basic provisions in Mines Creche Rules, 1966 (MCR) for any females employed in the mines
- KU32.** about basic safety regulations of Coal Mines Regulation, 2017 (CMR)
- KU33.** types of stone dust barrier and its importance
- KU34.** coal dust explosion and its preventive measures
- KU35.** classification of coal mines as per the degree of gassiness of coal seams such as first degree, second degree, and third-degree mines
- KU36.** precautions as per the gassiness of the coal mines



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- KU37.** use of flame safety lamp and its parts
- KU38.** about coal mines occupational disease such as pneumoconiosis or 'black lung' and their preventive measures
- KU39.** Standard of Ventilation as per the section 153 of the CMR 2017
- KU40.** Standard of Lighting as per the section 178 of the CMR 2017
- KU41.** the roles, duties and responsibilities of rescue team members, rescue room and rescue station and how to contact them in case of emergency
- KU42.** the correct steps for conducting any rescue work as per Mine Rescue Rule (MRR)
- KU43.** importance of taking shelter at the miner's station during blasting operation
- KU44.** importance of sensitization towards different genders and persons with disabilities (PWD)
- KU45.** importance of following infection control policies, '5-S' practices, and waste management
- KU46.** importance of water/material/energy conservation and management
- KU47.** importance of SMP and EMP, prepared by the organization, as per DGMS guideline

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** fill up documentation applicable to one's role
- GS2.** make decisions on the concerned area of work
- GS3.** read basic English language
- GS4.** read and interpret manuals, health, and safety instructions, memos, etc.
- GS5.** use the digital information from a machine
- GS6.** plan and organize the work order and tasks
- GS7.** use basic applications of the computer
- GS8.** use reasoning skills to identify and resolve fundamental problems
- GS9.** complete the assigned tasks timely



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REIMAGINE FUTURE

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow work-site health and safety measures</i>	24	43	-	14
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

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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	-	-

Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
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



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	30	50	-	20



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Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MIN/N1704
NOS Name	Follow Health, Safety, and Environmental guidelines for underground coal mines (Including Mine Vocational Training Rule and Mine Rescue Rule)
Sector	Mining
Sub-Sector	Mining Operation
Occupation	HSE Functions, Mine Surveying, Drilling/Cutting, Shot firing/Blasting, Loading and Hauling - Underground, Specialized Operations, Electrical Services, Mechanical Services
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/06/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022



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Qualification Pack

MIN/N1705: Follow Health, Safety and Environmental guidelines for Rare Earth (RE) Chemical plant

Description

This unit is about adhering to health, safety and environmental guidelines critical in RE chemical plants

Scope

The scope covers the following :

- Follow work-site health and safety measures
- Follow environmental guidelines

Elements and Performance Criteria

Follow work-site health and safety measures

To be competent, the user/individual on the job must be able to:

- PC1.** comply with occupational health and safety regulations adopted by the employer
- PC2.** follow the correct safety steps in case of accident or major failure
- PC3.** operate various grades of fire extinguishers
- PC4.** follow general safety precautions while handling cables; working near electrical installations, overhead lines and while working with various electrical equipment in the plant
- PC5.** provide first-aid to an injured person
- PC6.** use appropriate PPE as per the requirement
- PC7.** identify the hazards and risks
- PC8.** follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)
- PC9.** maintain hand hygiene by washing hands with alcohol based sanitisers/soap
- PC10.** disinfect the site/panel/tools before and after work/task
- PC11.** maintain hygiene at the work site
- PC12.** report any symptoms of illness to the shift-incharge
- PC13.** identify six directional hazards at workplace and take decisions accordingly

Follow environmental guidelines

To be competent, the user/individual on the job must be able to:

- PC14.** identify the environmental impact of operations related to RE chemical plant and take steps to reduce the impact
- PC15.** ensure the productivity of the machine for material/fuel conservation
- PC16.** 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 and safety guidelines as prescribed by regulatory authorities like Atomic Energy Regulatory Board (AERB), United Nations Development Group (UNDG), etc.

Knowledge and Understanding (KU)



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The individual on the job needs to know and understand:

- KU1.** the outcome of violation of safety procedures
- KU2.** duties and rights of workers
- KU3.** process for reporting any unsafe act/condition in work area
- KU4.** different types of RE chemical factories and detail of the plant one is working in
- KU5.** fencing, guarding, spillage control, etc.
- KU6.** importance of first aid and hygiene
- KU7.** provision of wages, working hours and accident compensation as per Atomic Energy Factory Rules
- KU8.** various types of chemical processes carried out in the plant
- KU9.** RE chemical plant safety procedures
- KU10.** about installation and handling of safety devices
- KU11.** code of practice for safe handling and transport of dangerous material and heavy equipment
- KU12.** safety and occupational health policy of organisation
- KU13.** basic personal and workplace hygiene
- KU14.** six directional hazard identification process
- KU15.** Internal Safety Organisation and role of safety committee, workman's inspector and AERB etc.
- KU16.** importance of sensitization towards different genders and persons with disabilities (PWD)
- KU17.** importance of following infection control policies, '5-S' practices, and waste management as prescribed by regulatory authorities like Atomic Energy Regulatory Board (AERB), United Nations Development Group (UNDG), etc.
- KU18.** importance of water/material/energy conservation and management
- KU19.** importance of SMP and EMP, prepared by the organization, as per DGMS guideline

Generic Skills (GS)

User/individual on the job needs to know how to:

- GS1.** fill up documentation applicable to one's job role
- GS2.** make decisions on the concerned area of work
- GS3.** read and explain manuals, health, and safety instructions, memos, etc.
- GS4.** plan and organize the work order and jobs
- GS5.** use reasoning skills to identify and resolve fundamental problems
- GS6.** complete the assigned tasks timely

Qualification Pack

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Follow work-site health and safety measures</i>	26	44	-	17
PC1. comply with occupational health and safety regulations adopted by the employer	2	3	-	1
PC2. follow the correct safety steps in case of accident or major failure	2	4	-	1
PC3. operate various grades of fire extinguishers	2	4	-	1
PC4. follow general safety precautions while handling cables; working near electrical installations, overhead lines and while working with various electrical equipment in the plant	3	4	-	2
PC5. provide first-aid to an injured person	3	4	-	2
PC6. use appropriate PPE as per the requirement	2	5	-	2
PC7. identify the hazards and risks	3	6	-	1
PC8. follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)	3	5	-	2
PC9. maintain hand hygiene by washing hands with alcohol based sanitisers/soap	1	1	-	1
PC10. disinfect the site/panel/tools before and after work/task	2	2	-	1
PC11. maintain hygiene at the work site	1	2	-	1
PC12. report any symptoms of illness to the shift-incharge	1	2	-	1
PC13. identify six directional hazards at workplace and take decisions accordingly	1	2	-	1
<i>Follow environmental guidelines</i>	4	6	-	3
PC14. identify the environmental impact of operations related to RE chemical plant and take steps to reduce the impact	1	2	-	1
PC15. ensure the productivity of the machine for material/fuel conservation	2	2	-	1



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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC16. 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 and safety guidelines as prescribed by regulatory authorities like Atomic Energy Regulatory Board (AERB), United Nations Development Group (UNDG), etc.	1	2	-	1
NOS Total	30	50	-	20



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Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	MIN/N1705
NOS Name	Follow Health, Safety and Environmental guidelines for Rare Earth (RE) Chemical plant
Sector	Mining
Sub-Sector	Mining Operation
Occupation	HSE Functions
NSQF Level	4
Credits	TBD
Version	1.0
Last Reviewed Date	30/06/2022
Next Review Date	17/11/2025
NSQC Clearance Date	17/11/2022

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Element/ Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each Element/ PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.



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7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

(Please note: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MIN/N3213. Recognize processes and equipment requirement for Compressor Operations	30	50	-	20	100	15
MIN/N3214. Prepare the compressor and related apparatus	30	50	-	20	100	25
MIN/N3215. Operate the compression apparatus	30	50	-	20	100	25
DGT/VSQ/N0102. Employability Skills (60 Hours)	20	30	-	-	50	10
Total	110	180	-	60	350	75

Elective: 1 U/G Metal

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MIN/N1702. Follow Health, Safety and Environmental guidelines for Underground Metalliferous Mines (UMM) (Including Mine Vocational Training Rule and Mine Rescue Rule)	30	50	-	20	100	25
Total	30	50	-	20	100	25



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Elective: 2 Open Cast

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MIN/N1703.Follow Health, Safety, and Environmental Guidelines for opencast mines (Including Mine Vocational Training Rule)	30	50	-	20	100	25
Total	30	50	-	20	100	25

Elective: 3 U/G Coal

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MIN/N1704.Follow Health, Safety, and Environmental guidelines for underground coal mines (Including Mine Vocational Training Rule and Mine Rescue Rule)	30	50	-	20	100	25
Total	30	50	-	20	100	25

Elective: 4 Rare Earth

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
MIN/N1705.Follow Health, Safety and Environmental guidelines for Rare Earth (RE) Chemical plant	30	50	-	20	100	25
Total	30	50	-	20	100	25



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Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training



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Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.



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Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.