

## Qualification Pack



# Pump Operator-Mining

U/G Metal/ Opencast/ U/G Coal/ Rare Earth

QP Code: MIN/Q3205

Version: 2.0

NSQF Level: 4

Skill Council for Mining Sector || FIMI House, B-311, Okhla Industrial Area, Phase-I  
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## Qualification Pack

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### MIN/Q3205: Pump Operator-Mining

#### Brief Job Description

A Pump Operator-Mining conducts the pre-operation checks, and operates the pump, taking care of health, safety, and environment.

#### 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/N3216: Prepare Dewatering pump](#)
2. [MIN/N3217: Operate pumping systems](#)
3. [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: Opencast

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 \(Including Mine Vocational Training Rule and Mine Rescue Rule\)](#)

###### Elective 4: Rare Earth

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

### Qualification Pack (QP) Parameters

<b>Sector</b>	Mining
<b>Sub-Sector</b>	Engineering Services
<b>Occupation</b>	Mechanical Services
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Credits</b>	32
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/3132.1000
<b>Minimum Educational Qualification &amp; Experience</b>	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. Pump Operator-Mining with minimum education as 5th Grade pass with 2 years relevant experience)
<b>Minimum Level of Education for Training in School</b>	
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	20 Years
<b>Last Reviewed On</b>	NA
<b>Next Review Date</b>	17/11/2025
<b>NSQC Approval Date</b>	17/11/2022
<b>Version</b>	2.0



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Reference code on NQR	2022/MIN/SCMS/06993
NQR Version	1

### Remarks:

Total Notional Duration: 510 Hours = Domain Theory Duration: 90 Hours Hours+ Domain Practical Duration: 180 Hours + Domain OJT (Mandatory) Duration: 180 Hours + Employability Skills Duration: 60 Hours



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### MIN/N3216: Prepare Dewatering pump

#### Description

This OS unit is about pre-operation check and condition monitoring of pumping equipment

#### Scope

The scope covers the following :

- Pre-Operation Check

#### Elements and Performance Criteria

##### *Pre-Operation Check*

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

- PC1.** check for cracks, defects and anomalies in the pumping apparatus
- PC2.** condition monitoring of the equipment
- PC3.** check for condition of pumping on both suction and discharge sides
- PC4.** check the condition of couplings in the equipment
- PC5.** check Electrical connections, and electrical system for proper functioning of the system
- PC6.** if the pump is diesel operated, then check condition of engine and ensure that the pump drive is operating smoothly and as per required parameters. Also check, oil level, fuel level, radiator coolant and engine condition
- PC7.** check air release valve, and prime the pump if required
- PC8.** clear any accumulated debris from around the pump and operational area

#### 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.** classification of gassy seam into degree of gassiness according to the percentage of inflammable gas in general body of air
- KU3.** adequate precautions to prevent danger from noxious, asphyxiating or inflammable gasses
- KU4.** mine organisation, time keeping, need for discipline and punctuality
- KU5.** galleries in underground mine, dressing of roof, stable and unstable strata etc
- KU6.** code of traffic in specific areas of mine. Significance offences
- KU7.** standing orders in force at the mine and safety in the vicinity of machinery
- KU8.** shot-firing and safety regulations. How and where to take shelter
- KU9.** tramways and siding, haulage rooms, winding rooms, boilers, electrical gears
- KU10.** duties of workmen
- KU11.** provision of wages, working hours and accident compensation as per Mines Act





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- KU12.** mining safety procedures
- KU13.** impact of violation of safely procedures
- KU14.** precautions to be taken when handling heavy equipment
- KU15.** company's policies on quality and delivery standard, safety and hazards, integrity, dresscode,etc
- KU16.** risk and impact of not following defined procedures/work instructions
- KU17.** how to assist in handover/take over of the equipment/work area as per the instructions
- KU18.** early detection to prevent detect and combatoperational danger
- KU19.** basic fittings (valves, clamps, elbows, etc) in the pumping apparatus
- KU20.** different types of pumping apparatus (reciprocating, rotary etc.) and associated equipment and purposes
- KU21.** gauges, dials, monitoring apparatus and their purpose
- KU22.** dos and don'ts of various pumping systems as per their Standard Operating Procedures (SOPs) specified by the equipment manufacturer
- KU23.** different types of operation schedules
- KU24.** basic pumping/operation terminology
- KU25.** different types of valves and their functioning (stop valve, non-return valve etc.)
- KU26.** basics of power sources (driving systems) electrical systems & mechanical driving systems
- KU27.** basic understanding of electrical systems and operation
- KU28.** the impact of various physical parameters like temperature, pressure, etc onthe properties of final output
- KU29.** basic units of measurement
- KU30.** material disposal procedure

## Generic Skills (GS)

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

- GS1.** note down observations (if any)
- GS2.** write information documents or enter the information in log book/online ERP Systems under guidance of the supervisor
- GS3.** read and interpret symbols and measurements
- GS4.** read information documents
- GS5.** understand and analyse the available data about the site
- GS6.** understanding of surface plan showing dams, quarried out crop zones
- GS7.** discuss task lists, schedules and activities
- GS8.** communicate effectively
- GS9.** listen with full attention and comprehend the information given by various sources about the site
- GS10.** identify tools, equipment and procedures required for installing piping fixtures and fittings
- GS11.** operating and maintaining tools and equipment
- GS12.** plan and organize the work order and jobs



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- GS13.** organize all process manuals so that sorting/accessing information is easy
- GS14.** use common sense and make judgments during day to day basis
- GS15.** use reasoning skills to identify and resolve basic problems
- GS16.** use intuition to detect any potential problems which could arise
- GS17.** follow instructions and work on areas of improvement identified
- GS18.** complete the assigned tasks with minimum supervision
- GS19.** complete the job within timelines and quality norms
- GS20.** detect problems in day to day tasks
- GS21.** discuss possible solution with the supervisor for problem solving
- GS22.** make decisions in emergency conditions





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### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Pre-Operation Check</i>	<b>30</b>	<b>50</b>	-	<b>20</b>
<b>PC1.</b> check for cracks, defects and anomalies in the pumping apparatus	4	6	-	3
<b>PC2.</b> condition monitoring of the equipment	3	6	-	2
<b>PC3.</b> check for condition of pumping on both suction and discharge sides	4	6	-	3
<b>PC4.</b> check the condition of couplings in the equipment	4	6	-	2
<b>PC5.</b> check Electrical connections, and electrical system for proper functioning of the system	4	6	-	2
<b>PC6.</b> if the pump is diesel operated, then check condition of engine and ensure that the pump drive is operating smoothly and as per required parameters. Also check, oil level, fuel level, radiator coolant and engine condition	3	6	-	2
<b>PC7.</b> check air release valve, and prime the pump if required	4	7	-	3
<b>PC8.</b> clear any accumulated debris from around the pump and operational area	4	7	-	3
<b>NOS Total</b>	<b>30</b>	<b>50</b>	-	<b>20</b>



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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	MIN/N3216
<b>NOS Name</b>	Prepare Dewatering pump
<b>Sector</b>	Mining
<b>Sub-Sector</b>	Engineering Services
<b>Occupation</b>	Mechanical Services
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	30/06/2022
<b>Next Review Date</b>	17/11/2025
<b>NSQC Clearance Date</b>	17/11/2022



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## Qualification Pack

### MIN/N3217: Operate pumping systems

#### Description

This OS unit is about the operation of pumping systems in commercial and institutional set ups

#### Scope

The scope covers the following :

- Operate the pump

#### Elements and Performance Criteria

##### *Operate the pump*

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

- PC1.** operate pump systems properly
- PC2.** ensure operation of the pump with full efficiency to improve out put gain
- PC3.** monitor sound, vibration, temperature and other related parameters to ensure that the pump is operating smoothly
- PC4.** maintain input/ output parameters as required
- PC5.** record parameters (electrical, mechanical) in prescribed log books as required and maintain a watch on consumption of power in the pump to detect cases of overload, under load etc.
- PC6.** take defined action incase of overload/ underload when the load parameters are above/ below the specified limits
- PC7.** check four areas incorporated in pump maintenance program; Pump performance monitoring and system analysis ; Vibration monitoring; Bearing temperature ; Visual inspections
- PC8.** ensure regular fuel filling in diesel pumps
- PC9.** ensure that there is no condition present which leads to overheating, and provide adequate ventilation to the system
- PC10.** take necessary steps to prevent water entry in the electrical parts of pumping apparatus
- PC11.** checking and removal if any accumulation of debris, materials
- PC12.** ensure sound check of pumps and motors
- PC13.** conduct regular oiling of couplings and other moving components of the equipment
- PC14.** check and get detailed understanding of liquid handled, percentage concentration, temperature and impurities ,amount of abrasive present , box dimensions stuffings(box depth, diameter, shaft/ sleeve diameter) stuffing box pressure and temperature ,shaft speeds , sealing cage ,shaft / seal material and hardness
- PC15.** ensure safely returning tools carried for maintenance in underground working

#### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of mines and detail of the mine one is working in



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- KU2.** classification of gassy seam and permitted apparatus related to perform work below ground
- KU3.** mine organisation, time keeping, need for discipline and punctuality
- KU4.** galleries in underground mine, dressing of roof, stable and unstable strata etc
- KU5.** code of traffic inspecific areas of mine. Significance offences
- KU6.** standing orders in force at the mine, safety in the vicinity of machinery
- KU7.** tramways and siding, haulage rooms, winding rooms, boilers, electrical gears
- 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 safely procedures
- KU12.** precaution while Inundation development / abandoned working use of flame safety lamp. Good ventilation system, slowly deatering to prevent water balst dye to pressure mine working
- KU13.** precautions to be taken when handling heavy equipment
- KU14.** evacuation to safe location threatening the safety and health of workers
- KU15.** problem solving /dealing with environment hazards (heavy rainfall) for mining operations
- KU16.** refresher training as per fourth schedule MVTR (1966) within one month of joining duties following absence from duties for a period exceeding one year.
- KU17.** company's policies on: quality and delivery standard, safety and hazards, integrity, dress code,etc.
- KU18.** risk and impact of not following defined procedures/ work instructions
- KU19.** how to handover/takeover of the operation duties as per the instructions
- KU20.** dewatering to be done under constant supervision of competent persons and approved apparatus to be used for monitoring by approved persons for smoothoperations
- KU21.** basics of pumping systems and pumping systems monitoring devices
- KU22.** dos and donts of various pumping systems as per their Standard Operating Procedures (SOPs) specified by the equipment manufacturer
- KU23.** different types of operation schedules
- KU24.** special types of mine water pumps used in the under ground coal mines pumping systems
- KU25.** basic pumping / operation terminology
- KU26.** units of measurement
- KU27.** material disposal procedure, importance of appropriate disposal of material
- KU28.** depillaring and sand stowing method, adequate pumping capacity to deal with inflow of rain water
- KU29.** precautions against underground gas at time of dewatering from flooding conditions and reopening
- KU30.** precaution against inundation in opencast working
- KU31.** operating underground and open pit coal mine dewatering systems
- KU32.** environmental awareness

## Generic Skills (GS)



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

- GS1.** note down observations (if any)
- GS2.** write information documents or enter the information in a log book/online ERP Systems under guidance of the supervisor
- GS3.** repairing should be done by posting a tag on or over the control panel, giving notice that the equipment is under repair and should not be restarted
- GS4.** read and interpret symbols and measurements
- GS5.** read information documents/manufactures manuals if necessary
- GS6.** understand and analyse the available data about the site
- GS7.** understanding of different plans water danger plan, surface plan
- GS8.** discuss task lists,schedules and activities
- GS9.** communicate effectively
- GS10.** listen with full attention and comprehend the information given by various sources about the site
- GS11.** identify tools, equipment and procedures required for installing piping fixtures and fittings
- GS12.** operating and maintaining tools and equipment
- GS13.** select, identify and use of right tools at right job
- GS14.** plan and organize the work order and jobs
- GS15.** organize all process manuals so that sorting/accessing information is easy
- GS16.** use common sense and make judgments during day to day basis
- GS17.** use reasoning skills to identify and resolve basic problems
- GS18.** use intuition to detect any potential problems which could arise
- GS19.** follow instructions and work on areas of improvement identified
- GS20.** complete the assigned tasks with minimum supervision
- GS21.** complete the job within timelines and quality norms
- GS22.** detect problems in day to day tasks
- GS23.** discuss possible solution with the supervisor for problem solving
- GS24.** make decisions in emergency conditions

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operate the pump</i>	<b>30</b>	<b>50</b>	-	<b>20</b>
<b>PC1.</b> operate pump systems properly	2	4	-	2
<b>PC2.</b> ensure operation of the pump with full efficiency to improve out put gain	2	4	-	2
<b>PC3.</b> monitor sound, vibration, temperature and other related parameters to ensure that the pump is operating smoothly	2	3	-	1
<b>PC4.</b> maintain input/ output parameters as required	2	3	-	1
<b>PC5.</b> record parameters (electrical, mechanical) in prescribed log books as required and maintain a watch on consumption of power in the pump to detect cases of overload, under load etc.	2	3	-	1
<b>PC6.</b> take defined action incase of overload/ underload when the load parameters are above/ below the specified limits	2	3	-	1
<b>PC7.</b> check four areas incorporated in pump maintenance program; Pump performance monitoring and system analysis ; Vibration monitoring; Bearing temperature ; Visual inspections	2	3	-	1
<b>PC8.</b> ensure regular fuel filling in diesel pumps	2	3	-	2
<b>PC9.</b> ensure that there is no condition present which leads to overheating, and provide adequate ventilation to the system	2	3	-	2
<b>PC10.</b> take necessary steps to prevent water entry in the electrical parts of pumping apparatus	2	3	-	2
<b>PC11.</b> checking and removal if any accumulation of debris, materials	2	3	-	1
<b>PC12.</b> ensure sound check of pumps and motors	2	3	-	1
<b>PC13.</b> conduct regular oiling of couplings and other moving components of the equipment	2	4	-	1





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Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC14.</b> check and get detailed understanding of liquid handled, percentage concentration, temperature and impurities ,amount of abrasive present , box dimensions stuffings(box depth, diameter, shaft/ sleeve diameter) stuffing box pressure and temperature ,shaft speeds , sealing cage ,shaft / seal material and hardness	2	4	-	1
<b>PC15.</b> ensure safely returning tools carried for maintenance in underground working	2	4	-	1
<b>NOS Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>



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### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	MIN/N3217
<b>NOS Name</b>	Operate pumping systems
<b>Sector</b>	Mining
<b>Sub-Sector</b>	Engineering Services
<b>Occupation</b>	Mechanical Services
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
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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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## Qualification Pack

- 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





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## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Introduction to Employability Skills</i>	<b>1</b>	<b>1</b>	-	-
<b>PC1.</b> identify employability skills required for jobs in various industries	-	-	-	-
<b>PC2.</b> identify and explore learning and employability portals	-	-	-	-
<i>Constitutional values - Citizenship</i>	<b>1</b>	<b>1</b>	-	-
<b>PC3.</b> 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.	-	-	-	-
<b>PC4.</b> follow environmentally sustainable practices	-	-	-	-
<i>Becoming a Professional in the 21st Century</i>	<b>2</b>	<b>4</b>	-	-
<b>PC5.</b> recognize the significance of 21st Century Skills for employment	-	-	-	-
<b>PC6.</b> 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>	<b>2</b>	<b>3</b>	-	-
<b>PC7.</b> use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-
<b>PC8.</b> read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
<b>PC9.</b> write short messages, notes, letters, e-mails etc. in English	-	-	-	-
<i>Career Development &amp; Goal Setting</i>	<b>1</b>	<b>2</b>	-	-

## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC10.</b> understand the difference between job and career	-	-	-	-
<b>PC11.</b> prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-	-
<i>Communication Skills</i>	<b>2</b>	<b>2</b>	-	-
<b>PC12.</b> follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-	-
<b>PC13.</b> work collaboratively with others in a team	-	-	-	-
<i>Diversity &amp; Inclusion</i>	<b>1</b>	<b>2</b>	-	-
<b>PC14.</b> communicate and behave appropriately with all genders and PwD	-	-	-	-
<b>PC15.</b> escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
<i>Financial and Legal Literacy</i>	<b>2</b>	<b>3</b>	-	-
<b>PC16.</b> select financial institutions, products and services as per requirement	-	-	-	-
<b>PC17.</b> carry out offline and online financial transactions, safely and securely	-	-	-	-
<b>PC18.</b> identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
<b>PC19.</b> identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
<i>Essential Digital Skills</i>	<b>3</b>	<b>4</b>	-	-
<b>PC20.</b> operate digital devices and carry out basic internet operations securely and safely	-	-	-	-
<b>PC21.</b> use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-	-
<b>PC22.</b> 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>	<b>2</b>	<b>3</b>	-	-
<b>PC23.</b> identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
<b>PC24.</b> develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
<b>PC25.</b> identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
<i>Customer Service</i>	<b>1</b>	<b>2</b>	-	-
<b>PC26.</b> identify different types of customers	-	-	-	-
<b>PC27.</b> identify and respond to customer requests and needs in a professional manner.	-	-	-	-
<b>PC28.</b> follow appropriate hygiene and grooming standards	-	-	-	-
<i>Getting ready for apprenticeship &amp; Jobs</i>	<b>2</b>	<b>3</b>	-	-
<b>PC29.</b> create a professional Curriculum vitae (Résumé)	-	-	-	-
<b>PC30.</b> search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
<b>PC31.</b> apply to identified job openings using offline /online methods as per requirement	-	-	-	-
<b>PC32.</b> answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
<b>PC33.</b> identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
<b>NOS Total</b>	<b>20</b>	<b>30</b>	-	-



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### National Occupational Standards (NOS) Parameters

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

**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>	<b>24</b>	<b>42</b>	-	<b>17</b>
<b>PC1.</b> undertake "The Take-5 (Personal Risk Assessment)" before commencement of any work	-	2	-	2
<b>PC2.</b> 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	-	-
<b>PC3.</b> operate various types of fire extinguishers to control different types of fire at a worksite when required	1	4	-	1
<b>PC4.</b> 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	-	-
<b>PC5.</b> take precaution against occupational health hazards (like dust, water, mine gases etc.) due to U/G working environment	1	2	-	1
<b>PC6.</b> use self-rescue apparatus, appropriately when required	-	4	-	1
<b>PC7.</b> follow appropriate emergency response procedure during emergency such as fire, water inrush, fall of ground etc.	1	2	-	1
<b>PC8.</b> follow precautions against U/G electrical appliances	2	2	-	2
<b>PC9.</b> follow appropriate Standard Operating Procedure while working near any isolated and sealed off area of the mine	2	2	-	1
<b>PC10.</b> follow appropriate safety practices while traveling on U/G haul roads, incase of post blast fumes and misfire	2	4	-	-
<b>PC11.</b> 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
<b>PC12.</b> identify the working ventilation district from line diagram of ventilation circuit to direct air to the working face	1	1	-	-
<b>PC13.</b> follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)	1	-	-	-
<b>PC14.</b> follow gas detecting alarm signal on leakage of inflammable gases and laid out procedure to ensure safety	1	2	-	1
<b>PC15.</b> follow process for reporting any unsafe act/condition in work area to the concerned person	-	2	-	1
<b>PC16.</b> use underground mine communication system	-	1	-	-
<b>PC17.</b> ensure positive isolation near the work place if applicable	1	1	-	1
<b>PC18.</b> use appropriate PPE as per the requirement	2	4	-	2
<b>PC19.</b> maintain hand hygiene by washing hands with alcohol based sanitisers/soap	1	1	-	1
<b>PC20.</b> disinfect the machine/tools before and after work/task	1	1	-	-
<b>PC21.</b> maintain hygiene at the work site	1	1	-	1
<b>PC22.</b> report any symptoms of illness to the shift-incharge	1	-	-	-
<b>PC23.</b> identify six directional hazards at workplace and take decisions accordingly	2	-	-	-
<i>Follow environmental guidelines</i>	<b>6</b>	<b>8</b>	-	<b>3</b>
<b>PC24.</b> identify the environmental impact of mining related operations and follow steps to reduce those impact	1	2	-	-
<b>PC25.</b> follow the mineral conservation practices in U/G mining operations to achieve optimum ore or mineral recovery	-	1	-	-
<b>PC26.</b> 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
<b>PC27.</b> ensure that the subgrade ore is carried out to surface and stacked separately at the earmarked place	1	-	-	1
<b>PC28.</b> ensure the productivity of the machine for material/fuel conservation	1	1	-	-
<b>PC29.</b> 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
<b>PC30.</b> follow the "5-S" practice at work site like cleaning oil from ground (to avoid soil from getting damaged), etc.	1	2	-	1
<b>NOS Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>



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## Qualification Pack

### National Occupational Standards (NOS) Parameters

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





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## Qualification Pack

# 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

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



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### Qualification Pack

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



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## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	MIN/N1703
<b>NOS Name</b>	Follow Health, Safety, and Environmental Guidelines for opencast mines (Including Mine Vocational Training Rule)
<b>Sector</b>	Mining
<b>Sub-Sector</b>	Mining Operation
<b>Occupation</b>	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
<b>NSQF Level</b>	4
<b>Credits</b>	TBD
<b>Version</b>	1.0
<b>Last Reviewed Date</b>	30/06/2022
<b>Next Review Date</b>	17/11/2025
<b>NSQC Clearance Date</b>	17/11/2022



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## 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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## Qualification Pack

- 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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## Qualification Pack

- 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

## 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>	<b>24</b>	<b>43</b>	-	<b>14</b>
<b>PC1.</b> follow preventive measures against firedamp, whitedamp, blackdamp etc.	1	1	-	-
<b>PC2.</b> use the flame safety lamp for detecting the methane gas as per Standard Operating Procedure (SOP)	-	1	-	-
<b>PC3.</b> undertake "The Take-5 (Personal Risk Assessment)" before commencement of any work	1	1	-	1
<b>PC4.</b> 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
<b>PC5.</b> ensure that oil, grease, canvas or other inflammable material are stored in fire-proof receptacle	-	1	-	-
<b>PC6.</b> ensure that every instrument, apparatus and equipment are DGMS approved before these are used	1	1	-	-
<b>PC7.</b> 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	-	-
<b>PC8.</b> provide first aid to an injured person	1	2	-	1
<b>PC9.</b> follow safety precautions against spontaneous heating of the coal	1	1	-	-
<b>PC10.</b> operate various types of fire extinguishers to control different types of fire at worksite, if required	-	2	-	-
<b>PC11.</b> ensure that no person is traveling/working/staying under unsupported roof	1	-	-	-
<b>PC12.</b> 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
<b>PC13.</b> take precaution against occupational health hazards (like dust, water, mine gases etc.) due to U/G working environment	-	1	-	1
<b>PC14.</b> use self-rescue apparatus appropriately when required	-	2	-	-
<b>PC15.</b> follow Safety Management Plan (SMP) and Emergency Management Plan (EMP)	1	2	-	1
<b>PC16.</b> follow precautions against U/G electrical appliances	2	2	-	1
<b>PC17.</b> take proper care against damage and accidents while loading, transporting, dismantling and erecting of roof supports	1	2	-	-
<b>PC18.</b> follow appropriate SOP while working near any isolated and sealed off area of the mine	1	1	-	1
<b>PC19.</b> 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	-	-
<b>PC20.</b> take relevant safety precautions during depillaring operation in UCM	-	2	-	1
<b>PC21.</b> follow appropriate safety practices while traveling on U/G haul roads, incase of post blast fumes and misfire	1	1	-	-
<b>PC22.</b> follow the manufacturer's instructions for care and safe operation of mine machinery and equipment	-	1	-	1
<b>PC23.</b> identify the working ventilation district from line diagram of ventilation circuit to direct air to the working face	-	1	-	1
<b>PC24.</b> follow laid out SOP in case of alarm signal for leakage of inflammable gases	1	1	-	-
<b>PC25.</b> follow the process of reporting any unsafe act/condition in the working area to the concerned person	-	1	-	1
<b>PC26.</b> use underground mine communication system	-	1	-	-

## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC27.</b> ensure positive isolation near the work place if applicable	1	1	-	-
<b>PC28.</b> use appropriate Personal Protective Equipment (PPE) as per the requirement	2	2	-	1
<b>PC29.</b> maintain hand hygiene by washing hands with alcohol based sanitisers/soap	-	1	-	-
<b>PC30.</b> disinfect the machine/tools before and after work/task	1	1	-	-
<b>PC31.</b> maintain hygiene at the work site	1	1	-	-
<b>PC32.</b> report any symptoms of illness to the shift-incharge	1	1	-	-
<b>PC33.</b> identify six directional hazards at workplace and take decisions accordingly	-	1	-	1
<i>Follow environmental guidelines</i>	<b>6</b>	<b>7</b>	-	<b>6</b>
<b>PC34.</b> identify the environmental impact of mining related operations and follow steps to reduce those impact	1	1	-	1
<b>PC35.</b> follow the mineral conservation practices in U/G mining operations to achieve optimum ore or mineral recovery	1	1	-	1
<b>PC36.</b> ensure that the stowing practices produce minimum disturbance to the surface	1	1	-	-
<b>PC37.</b> ensure that the subgrade coal is carried out to surface and stacked separately at the earmarked place	1	1	-	1
<b>PC38.</b> ensure the productivity of the machine for material/fuel conservation	1	1	-	1
<b>PC39.</b> 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
<b>PC40.</b> 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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## Qualification Pack

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

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

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



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### Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC16.</b> 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
<b>NOS Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>

## Qualification Pack

### National Occupational Standards (NOS) Parameters

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



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

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/N3216.Prepare Dewatering pump	30	50	0	20	100	30
MIN/N3217.Operate pumping systems	30	50	0	20	100	30
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
<b>Total</b>	<b>80</b>	<b>130</b>	<b>-</b>	<b>40</b>	<b>250</b>	<b>70</b>

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	30
<b>Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>	<b>100</b>	<b>30</b>

Elective: 2 Opencast



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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	30
<b>Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>	<b>100</b>	<b>30</b>

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	30
<b>Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>	<b>100</b>	<b>30</b>

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	30
<b>Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>	<b>100</b>	<b>30</b>



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## Qualification Pack

### Acronyms

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

## Qualification Pack

### Glossary

<b>Sector</b>	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.
<b>Sub-sector</b>	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
<b>Occupation</b>	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
<b>Job role</b>	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
<b>Occupational Standards (OS)</b>	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.
<b>Performance Criteria (PC)</b>	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
<b>National Occupational Standards (NOS)</b>	NOS are occupational standards which apply uniquely in the Indian context.
<b>Qualifications Pack (QP)</b>	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.
<b>Unit Code</b>	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
<b>Unit Title</b>	Unit title gives a clear overall statement about what the incumbent should be able to do.
<b>Description</b>	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.
<b>Scope</b>	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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<b>Knowledge and Understanding (KU)</b>	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.
<b>Organisational Context</b>	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.
<b>Technical Knowledge</b>	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
<b>Core Skills/ Generic Skills (GS)</b>	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.
<b>Electives</b>	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.
<b>Options</b>	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.