



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack



# Winding Operator

Electives: U/G Metal/ U/G Coal

QP Code: MIN/Q1503

Version: 2.0

NSQF Level: 4

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



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

### Contents

MIN/Q1503: Winding Operator .....	3
<i>Brief Job Description</i> .....	3
Applicable National Occupational Standards (NOS) .....	3
<i>Compulsory NOS</i> .....	3
<i>Elective 1: U/G Metal</i> .....	3
<i>Elective 2: U/G Coal</i> .....	3
<i>Qualification Pack (QP) Parameters</i> .....	3
MIN/N1506: Prepare winding engine for operation .....	5
MIN/N1507: Perform operations of Winding Engine .....	10
MIN/N1508: Perform basic maintenance and troubleshooting of Winding Engine .....	16
DGT/VSQ/N0102: Employability Skills (60 Hours) .....	22
MIN/N1702: Follow Health, Safety and Environmental guidelines for Underground Metalliferous Mines (UMM) (Including Mine Vocational Training Rule and Mine Rescue Rule) .....	30
MIN/N1704: Follow Health, Safety, and Environmental guidelines for underground coal mines (Including Mine Vocational Training Rule and Mine Rescue Rule) .....	38
Assessment Guidelines and Weightage .....	46
<i>Assessment Guidelines</i> .....	46
<i>Assessment Weightage</i> .....	47
Acronyms .....	49
Glossary .....	50

## Qualification Pack

### MIN/Q1503: Winding Operator

#### Brief Job Description

Winding Operator (Winding Engine Driver/Operator) operates steam, diesel, or electric-driven equipment to raise or lower cage or skip with men or materials through vertical or inclined mine shaft according to a signal from the surface or underground workers, and may attend to minor repairs.

#### Personal Attributes

This job requires the individual to concentrate on the job at hand and complete it efficiently and effectively without any accidents. Dexterity, diligence, and hardworking are desired attributes for individuals performing this role. The person must also demonstrate a strong work ethic, and the ability to read, write and communicate well. The person must possess a physique to sustain strenuous conditions.

#### Applicable National Occupational Standards (NOS)

##### Compulsory NOS:

1. [MIN/N1506: Prepare winding engine for operation](#)
2. [MIN/N1507: Perform operations of Winding Engine](#)
3. [MIN/N1508: Perform basic maintenance and troubleshooting of Winding Engine](#)
4. [DGT/VSQ/N0102: Employability Skills \(60 Hours\)](#)

##### Electives (mandatory to select at least one):

###### Elective 1: U/G Metal

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

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: U/G Coal

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

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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

### Qualification Pack (QP) Parameters

<b>Sector</b>	Mining
<b>Sub-Sector</b>	Mining Operation
<b>Occupation</b>	Loading and Hauling - Underground
<b>Country</b>	India
<b>NSQF Level</b>	4
<b>Credits</b>	21
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/8343.1400
<b>Minimum Educational Qualification &amp; Experience</b>	12th Class (or its equivalent, with 2 years relevant experience as Certificate-NSQF (Level 3: Jr. Winding Operator)
<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
<b>Reference code on NQR</b>	2022/MIN/SCMS/06975
<b>NQR Version</b>	1

#### Remarks:

Total Notional Duration: 540 Hours = Domain Theory Duration: 120 Hours+ Domain Practical Duration: 180 Hours + Domain OJT (Mandatory) Duration: 180 Hours + Employability Skills Duration: 60 Hours

## Qualification Pack

### MIN/N1506: Prepare winding engine for operation

#### Description

This unit is about pre-operation checks of the winding engine for activities that need to be carried out during a shift before starting the job, like examining, cleaning, oiling, checking brakes, and associated parts.

#### Scope

The scope covers the following :

- Conduct pre-operation checks, oiling, and cleaning

#### Elements and Performance Criteria

##### *Conduct pre-operation checks, oiling, and cleaning*

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

- PC1.** examine the engine, brakes, and all appliances to ensure that these are in good working order
- PC2.** check oil and fluid levels in hydraulic system, transfer gearboxes, and any other associated system
- PC3.** check that the brake is in proper condition to hold the load suspended from the drum
- PC4.** check control and safety devices such as winder brakes, emergency brakes, emergency stop switches, etc.
- PC5.** check the controlling system of the winding engine such as operating levers, locking devices, and other associated systems (e.g. foot brake, hand brake, hoisting/un-hoisting lever, etc.)
- PC6.** check the drum for proper laying of winding rope on the drum pitch
- PC7.** report immediately in writing to the engineer or other competent person appointed for any defect which a person has noticed in the engine, brake, indicator, drum, rope, or other appliances undercharge
- PC8.** maintain winding engine report book to record all activities performed on the winding engine at the end of the shift

#### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** the winding engine operator shall thoroughly acquaint himself/herself with, and carefully attend to, the prescribed code of signals
- KU2.** that the engine shall be fitted in every shaft with an automatically recording speed indicator
- KU3.** that no person, other than a winding engine operator appointed shall operate any winding engine
- KU4.** different types of mines and detail of the mine he/she is working in
- KU5.** mine organisation, time keeping, need for discipline and punctuality
- KU6.** standing orders in force at the mine - safety in the vicinity of machinery



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

- KU7.** duties of workmen
- KU8.** provision of wages, working hours and accident compensation as per mines act
- KU9.** mining safety procedures
- KU10.** impact of violation of safety procedures
- KU11.** different types of winding systems (eg. steam winder, compressed air winder, electrical winders)
- KU12.** safety and hazard related to different types of winding mechanisms
- KU13.** the control systems/devices and associated safety measures/devices of respective type of winding system
- KU14.** function of different types of levers and brake/clutch mechanism
- KU15.** code of signal as specified in relevant statutes, organizational processes and guidelines and related laws/bylaws provided from time to time
- KU16.** technical systems of winding engine e.g. size, capacity, power type , power capacity ,depth of shaft, total rope length, etc.
- KU17.** prescribed operating guidelines, the standard operating procedures (SOPs) for mechanism and operation to the pre-start working device and associated systems (automatic speed recorder, depth indicator, slow banking, over speeding, etc.)
- KU18.** electrical control systems and equipment of operations drive motor mechanism etc.
- KU19.** common troubles and troubleshooting techniques
- KU20.** signages, mining area signs, and other safety and emergency signals
- KU21.** code of signaling and signaling systems and relevant standard operating procedures (SOPs) for the safe operation of the winding engine
- KU22.** response to emergencies such as fire, accident, major failure, etc.
- KU23.** speed fixed by the manager for man riding purposes

## Generic Skills (GS)

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

- GS1.** note down observations (if any)
- GS2.** fill out administrative forms
- GS3.** read operators manual
- GS4.** analyze the available data about the site
- GS5.** read and comprehend banners /signages
- GS6.** communicate with supervisors and peers
- GS7.** make decisions about the concerned area of work
- GS8.** plan and organize the work order and jobs
- GS9.** organize all process manuals so that sorting/ accessing information is easy
- GS10.** detect problems in day to day tasks
- GS11.** discuss possible solution with the supervisor for problem solving
- GS12.** make decisions in emergency conditions
- GS13.** follow instructions and work on areas of improvement identified



Skill Council For Mining Sector



## Qualification Pack

- GS14.** complete the assigned tasks with minimum supervision
- GS15.** complete the job within timelines and quality norms
- 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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Conduct pre-operation checks, oiling, and cleaning</i>	<b>30</b>	<b>70</b>	-	-
<b>PC1.</b> examine the engine, brakes, and all appliances to ensure that these are in good working order	4	9	-	-
<b>PC2.</b> check oil and fluid levels in hydraulic system, transfer gearboxes, and any other associated system	4	9	-	-
<b>PC3.</b> check that the brake is in proper condition to hold the load suspended from the drum	4	9	-	-
<b>PC4.</b> check control and safety devices such as winder brakes, emergency brakes, emergency stop switches, etc.	4	9	-	-
<b>PC5.</b> check the controlling system of the winding engine such as operating levers, locking devices, and other associated systems (e.g. foot brake, hand brake, hoisting/un-hoisting lever, etc.)	4	9	-	-
<b>PC6.</b> check the drum for proper laying of winding rope on the drum pitch	4	9	-	-
<b>PC7.</b> report immediately in writing to the engineer or other competent person appointed for any defect which a person has noticed in the engine, brake, indicator, drum, rope, or other appliances undercharge	3	8	-	-
<b>PC8.</b> maintain winding engine report book to record all activities performed on the winding engine at the end of the shift	3	8	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-





Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N·S·D·C  
REIMAGINE FUTURE

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	MIN/N1506
<b>NOS Name</b>	Prepare winding engine for operation
<b>Sector</b>	Mining
<b>Sub-Sector</b>	Mining Operation
<b>Occupation</b>	Loading and Hauling - Underground
<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

## Qualification Pack

### MIN/N1507: Perform operations of Winding Engine

#### Description

This unit is about performing Winding Engine operations for activities that need to be carried out during a shift.

#### Scope

The scope covers the following :

- Operate winding engine for lowering or raising of people/material

#### Elements and Performance Criteria

##### *Operate winding engine for lowering or raising of people/material*

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

- PC1.** follow the code of signal and transmission of signal to operate the winding engine for lowering or raising of people/material
- PC2.** operate the winding engine for lowering or raising of men/material
- PC3.** ensure the functioning of continuous type alarm bell provided for slow banking zone
- PC4.** check automatic contrivance to be in working order with respect to slow banking, over speeding and over winding
- PC5.** avoid jerk to the cage in starting , running and stopping the engine
- PC6.** lower and raise the person at a speed fixed by the manager for man riding or at a speed approved by DGMS
- PC7.** follow all the norms & directives with regard to the operation of the winding engine
- PC8.** ensure that the station is not left unattended for any reason so that it is either locked or handed over to a successor
- PC9.** record observations in a mandatory report at end of the shift
- PC10.** monitor the condition of winding rope being laid on the winding drum regularly for any defects or deformation
- PC11.** ensure housekeeping of the winding engine room and it should be kept properly maintained and any oil or grease should be removed immediately to avoid slippage and falling
- PC12.** check if all means of fire extinguishing equipment are in working order
- PC13.** ensure proper lock out and tag out scenario to avoid any untoward incident triggered due to unknowingly operation of machine / system under maintenance

#### Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of mines and detail of the mine a 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



Skill Council For Mining Sector



## Qualification Pack

- KU4.** standing orders in force at the mine
- KU5.** safety measures required in the vicinity of machinery
- KU6.** duties of workmen
- KU7.** provision of wages, working hours and accident compensation as per mines act
- KU8.** knowledge of mining safety procedures
- KU9.** impact of violation of safety procedures
- KU10.** types of documentation in organization e.g. daily maintenance checklist and importance of the same
- KU11.** risk and impact of not following defined procedures/work instructions
- KU12.** rules and regulations of mine as per Standard Operating Procedure (SOP)
- KU13.** risk and impact of not following company's SOP
- KU14.** escalation matrix for reporting identified problems
- KU15.** the duties and responsibilities associated with his job role as per the employer
- KU16.** cost of delays to the company
- KU17.** direct /indirect cost of accidents to the company
- KU18.** locally prepared emergency response /disaster management plan.
- KU19.** different types of winding systems (eg. steam winder, compressed air winder, electrical winders)
- KU20.** safety and hazard related knowledge and understanding with different types of winding mechanisms
- KU21.** precautionary measures for hazards of different types for each type of mechanisms
- KU22.** control systems/devices and associated safety measures/devices of the respective type of winding system
- KU23.** function of different types of levers and brake/clutch mechanism
- KU24.** code of signal as specified in relevant statutes, organizational processes, and guidelines, relevant laws/bylaws provided from time to time
- KU25.** technical systems of winding engine e.g. size, capacity, power type, power capacity, depth of the shaft, total rope length, etc.
- KU26.** safety features of the winding engine

### Generic Skills (GS)

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

- GS1.** note down observations (if any)
- GS2.** fill out administrative forms
- GS3.** read operators manual
- GS4.** analyze the available data about the site
- GS5.** read and comprehend banners /signage
- GS6.** communicate with supervisors and peers in a proper manner adhering to the values of respect for individual
- GS7.** plan and organize the work order and jobs



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N·S·D·C  
REIMAGINE FUTURE

## Qualification Pack

- GS8.** organize all process manuals so that sorting/ accessing information is easy
- 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
- GS12.** follow instructions and work on areas of improvement identified
- GS13.** complete the assigned tasks with minimum supervision
- GS14.** complete the job within timelines and quality norms
- GS15.** detect problems in day to day tasks
- GS16.** discuss possible solution with the supervisor for problem solving
- GS17.** make decisions in emergency conditions

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Operate winding engine for lowering or raising of people/material</i>	<b>30</b>	<b>70</b>	-	-
<b>PC1.</b> follow the code of signal and transmission of signal to operate the winding engine for lowering or raising of people/material	2	5	-	-
<b>PC2.</b> operate the winding engine for lowering or raising of men/material	4	6	-	-
<b>PC3.</b> ensure the functioning of continuous type alarm bell provided for slow banking zone	3	5	-	-
<b>PC4.</b> check automatic contrivance to be in working order with respect to slow banking, over speeding and over winding	2	6	-	-
<b>PC5.</b> avoid jerk to the cage in starting , running and stopping the engine	3	6	-	-
<b>PC6.</b> lower and raise the person at a speed fixed by the manager for man riding or at a speed approved by DGMS	2	6	-	-
<b>PC7.</b> follow all the norms & directives with regard to the operation of the winding engine	2	5	-	-
<b>PC8.</b> ensure that the station is not left unattended for any reason so that it is either locked or handed over to a successor	2	5	-	-
<b>PC9.</b> record observations in a mandatory report at end of the shift	2	5	-	-
<b>PC10.</b> monitor the condition of winding rope being laid on the winding drum regularly for any defects or deformation	2	5	-	-
<b>PC11.</b> ensure housekeeping of the winding engine room and it should be kept properly maintained and any oil or grease should be removed immediately to avoid slippage and falling	2	5	-	-
<b>PC12.</b> check if all means of fire extinguishing equipment are in working order	2	5	-	-



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<b>PC13.</b> ensure proper lock out and tag out scenario to avoid any untoward incident triggered due to unknowingly operation of machine / system under maintenance	2	6	-	-
<b>NOS Total</b>	<b>30</b>	<b>70</b>	-	-



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	MIN/N1507
<b>NOS Name</b>	Perform operations of Winding Engine
<b>Sector</b>	Mining
<b>Sub-Sector</b>	Mining Operation
<b>Occupation</b>	Loading and Hauling - Underground
<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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

# MIN/N1508: Perform basic maintenance and troubleshooting of Winding Engine

## Description

This unit is about performing routine maintenance and troubleshooting tasks of the Winding Engine.

## Scope

The scope covers the following :

- Perform routine maintenance
- Perform troubleshooting

## Elements and Performance Criteria

### *Perform routine maintenance*

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

- PC1.** adhere to daily, weekly, monthly, and annual maintenance schedules and procedures
- PC2.** maintain proper records of maintenance
- PC3.** check ropes of mine-shaft system
- PC4.** ensure assembling and dismantling of the machine is carried out in accordance with manufacturer's instructions
- PC5.** ensure that a shaft conveyance is not used for the raising or lowering of persons until it has been checked with at least one complete trip up and down the working portion of the shaft post instances such as repairs performed to the winding installation, replacement done of rope, attachments, shaft conveyance or any other equipment, repairs performed to the shaft, stoppage in winding exceeding one-hour duration, the occurrence of any seismic event, etc.

### *Perform troubleshooting*

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

- PC6.** ensure the machine is on firm and level ground before attempting to carry out any maintenance activity
- PC7.** ensure that no maintenance task on the engine is performed when it is running or still hot.
- PC8.** ensure proper lock out and tag out has been done, to avoid any untoward incident trigger due to unknowing operation of machine/system under maintenance
- PC9.** assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel
- PC10.** complete timely and legibly defect sheets as provided by the company

## Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

- KU1.** different types of mines and detail of the mine a person is working in
- KU2.** mine organisation, time keeping, need for discipline and punctuality





Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

- KU3.** galleries in underground mine, dressing of roof, stable and unstable strata, etc.
- KU4.** code of practice in specific areas of mine
- KU5.** significance of fences
- KU6.** standing orders in force at the mine
- KU7.** safety measures in the vicinity of machinery
- 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.** types of documentation in organization e.g. daily maintenance checklist and importance of the same
- KU13.** risk and impact of not following defined procedures/work instructions
- KU14.** rules and regulations of mine as per Standard Operating Procedure (SOP)
- KU15.** risk and impact of not following company's SOP
- KU16.** escalation matrix for reporting identified problems
- KU17.** all equipment including all the control levers and their operation (foot brake, operating levers, hoisting/un-hoisting, and locking devices); pre start working device and associated systems (automatic speed recorder, depth indicator, slow banking, over speeding etc.); electrical control systems and equipment of operations
- KU18.** technical systems of winding engine e.g. size, capacity, power type, power capacity, depth of the shaft, total rope length, etc.
- KU19.** basic fault diagnostics and troubleshooting techniques
- KU20.** gear and transfer gearbox system of winding engine
- KU21.** basic understanding of power drive units - electrical & mechanical.
- KU22.** electrical systems including operation & maintenance of electrical motors, switchgear, and connections
- KU23.** oiling of components and lubricant specifications for different requirements

## Generic Skills (GS)

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

- GS1.** note down observations (if any)
- GS2.** fill out administrative forms
- GS3.** read operators manual
- GS4.** analyze the available data about the site
- GS5.** read and comprehend banners /signage
- GS6.** communicate with supervisors and peers in a proper manner adhering to the values of respect for individual
- GS7.** plan and organize the work order and jobs
- GS8.** organize all process manuals so that sorting/ accessing information is easy
- GS9.** use common sense and make judgments during day to day basis



Skill Council For Mining Sector



## Qualification Pack

- GS10.** use reasoning skills to identify and resolve basic problems
- GS11.** complete the assigned tasks with minimum supervision
- GS12.** complete the job within timelines and quality norms
- GS13.** detect problems in day to day tasks
- GS14.** discuss possible solution with the supervisor for problem solving
- GS15.** make decisions in emergency conditions

## Qualification Pack

### Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
<i>Perform routine maintenance</i>	<b>17</b>	<b>35</b>	-	-
<b>PC1.</b> adhere to daily, weekly, monthly, and annual maintenance schedules and procedures	3	7	-	-
<b>PC2.</b> maintain proper records of maintenance	3	7	-	-
<b>PC3.</b> check ropes of mine-shaft system	3	7	-	-
<b>PC4.</b> ensure assembling and dismantling of the machine is carried out in accordance with manufacturer's instructions	3	7	-	-
<b>PC5.</b> ensure that a shaft conveyance is not used for the raising or lowering of persons until it has been checked with at least one complete trip up and down the working portion of the shaft post instances such as repairs performed to the winding installation, replacement done of rope, attachments, shaft conveyance or any other equipment, repairs performed to the shaft, stoppage in winding exceeding one-hour duration, the occurrence of any seismic event, etc.	5	7	-	-
<i>Perform troubleshooting</i>	<b>13</b>	<b>35</b>	-	-
<b>PC6.</b> ensure the machine is on firm and level ground before attempting to carry out any maintenance activity	2	7	-	-
<b>PC7.</b> ensure that no maintenance task on the engine is performed when it is running or still hot.	3	7	-	-
<b>PC8.</b> ensure proper lock out and tag out has been done, to avoid any untoward incident trigger due to unknowing operation of machine/system under maintenance	3	7	-	-
<b>PC9.</b> assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel	3	7	-	-
<b>PC10.</b> complete timely and legibly defect sheets as provided by the company	2	7	-	-



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N·S·D·C  
REIMAGINE FUTURE

## Qualification Pack

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
NOS Total	30	70	-	-



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

### National Occupational Standards (NOS) Parameters

<b>NOS Code</b>	MIN/N1508
<b>NOS Name</b>	Perform basic maintenance and troubleshooting of Winding Engine
<b>Sector</b>	Mining
<b>Sub-Sector</b>	Mining Operation
<b>Occupation</b>	Loading and Hauling - Underground
<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



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

### 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:



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

- 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.



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

**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





Skill Council For Mining Sector



## 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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## 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	-	-	-	-



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

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>	-	-



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

### 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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## 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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

- 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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

- 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





Skill Council For Mining Sector



## 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	-	-



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

### Qualification Pack

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>



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## 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

## 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)



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## Qualification Pack

- 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:



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



कौशल गुणवत्ता प्रगति



REIMAGINE FUTURE

## 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





Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N·S·D·C  
REIMAGINE FUTURE

## 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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N·S·D·C  
REIMAGINE FUTURE

## Qualification Pack

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



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## 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

## 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.



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

## Qualification Pack

6. To pass the Qualification Pack assessment, every trainee should score the Recommended Pass % aggregate for the QP.

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/N1506.Prepare winding engine for operation	30	70	-	-	100	15
MIN/N1507.Perform operations of Winding Engine	30	70	-	-	100	25
MIN/N1508.Perform basic maintenance and troubleshooting of Winding Engine	30	70	-	-	100	25
DGT/VSQ/N0102.Employability Skills (60 Hours)	20	30	-	-	50	10
<b>Total</b>	<b>110</b>	<b>240</b>	<b>-</b>	<b>-</b>	<b>350</b>	<b>75</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	25
<b>Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>	<b>100</b>	<b>25</b>



Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

### Qualification Pack

Elective: 2 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
<b>Total</b>	<b>30</b>	<b>50</b>	<b>-</b>	<b>20</b>	<b>100</b>	<b>25</b>





Skill Council For Mining Sector



सत्यमेव जयते  
GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



N.S.D.C  
REIMAGINE FUTURE

## 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



Skill Council For Mining Sector



## 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.



Skill Council For Mining Sector



GOVERNMENT OF INDIA  
MINISTRY OF SKILL DEVELOPMENT  
& ENTREPRENEURSHIP



NCVET  
कौशल गुणवत्ता प्रगति



NSDC  
REIMAGINE FUTURE

### Qualification Pack

<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.