

QUALIFICATIONS PACK – OCCUPATIONAL STANDARDS FOR MINING INDUSTRY

What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or functions
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

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Introduction

Qualifications – Driver Special Vehicle (Explosive & Sprinkler)

SECTOR: MINING

SUB-SECTOR: Mining Operation

OCCUPATION: Blasting

REFERENCEID: MIN/Q0207

ALIGNED TO: NCO-2015/8111.2601

Brief Job Description: Sprinkler and Other Vehicle Driver in mining industry is an ancillary job role. The individual assigned in this role could be driving a sprinkler truck to control dust on a haul-road or an explosive carrier truck used to deliver explosives to mine sites. The role requires the individual to know and understand the basic of mining operations, traffic rules to be followed in the mining area and safety guidelines for mining operations in line with MVTR.

Personal Attributes: This job requires sensitivity to problem solving, safety orientation, reading, writing and communication skills and good agility. The person should be of good physical condition with good vision and must pass through periodic medical tests.

Job Details	Qualifications Pack Code	MIN/Q0207		
	Job Role	Driver Special Vehicle		
	Credits(NSQF)	Level 4	Version number	1.0
	Sector	Mining	Drafted on	01/11/2017
	Sub-sector	Mining Operation	Last reviewed on	17/01/2018
	Occupation	Blasting	Next review date	16/01/2022
	NSQC Clearance on	22/08/2019		

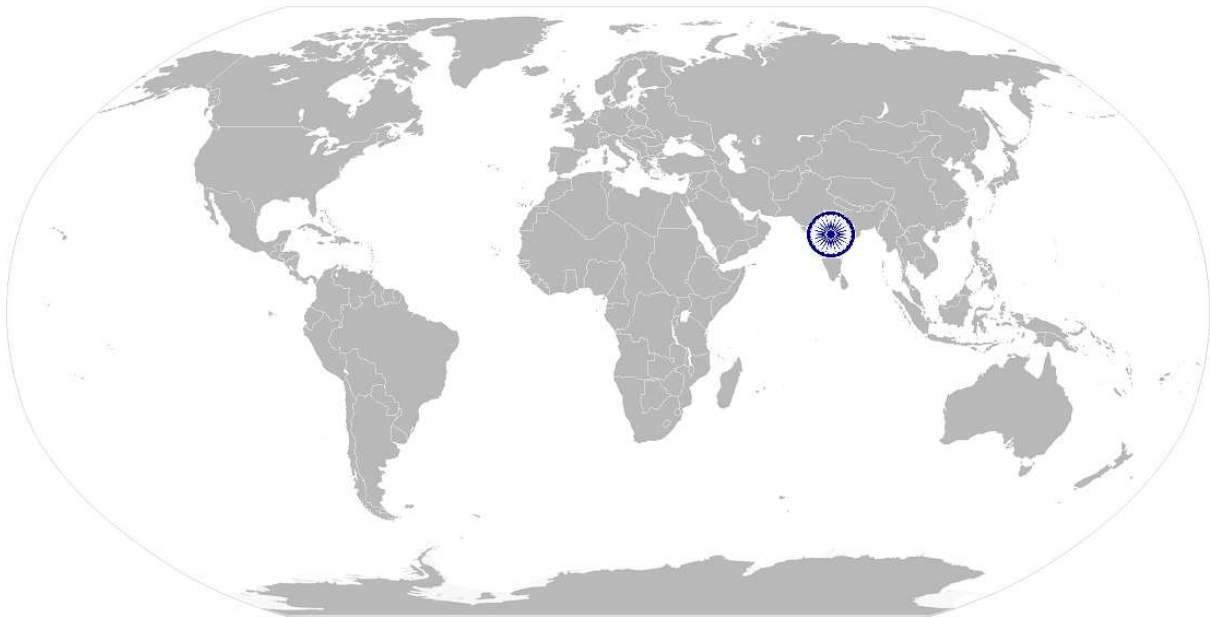
Job Role	Driver Special Vehicle
Role Description	Driving special vehicle is responsible for carrying explosives and delivering to designated areas or for sprinkling water at the mine sites.
NSQF level	4
Minimum Educational Qualifications	Class X
Maximum Educational Qualifications	Not Applicable
Prerequisite License or Training	<p>Mandatory:</p> <ol style="list-style-type: none"> Heavy Commercial Vehicle Driving License <p>Recommended:</p> <ol style="list-style-type: none"> DGMS prescribed norms for Explosives Van driving. Motor vehicle and hazardous waste (handling) rules 2008
Minimum Job Entry Age	20 Years
Experience	2 Year driving experience, out of which 1 year on HCV preferred.
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> MIN/N0232(Prepare vehicle and perform vehicle operation) MIN/N0233(Deliver bulk explosives to the blast location) MIN/N0234 (Perform basic maintenance on vehicle) MIN/N0902 (Adhere to health & safety and MVTR requirements in OC Mines)
Performance Criteria	As described in the relevant OS units

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Job Role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
OS	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
NOS	NOS are Occupational Standards which apply uniquely in the Indian context.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Qualifications Pack	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Unit Code	Unit Code is a unique identifier for an Occupational Standard, which is denoted by an 'N'.
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual need in order to perform to the required standard.
Organizational Context	Organizational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills or Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working 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.

Acronyms

Keywords/Terms	Description
SCMS	Skill Council for Mining Sector
NOS	National Occupational Standards
NSQF	National Skill Qualification Framework
NVEQF	National Vocational Educational Qualification Framework
NVQF	National Vocational Qualification Framework
OS	Occupational Standard
PC	Performance Criteria
QP	Qualification Pack
SSC	Sector Skill Council
HEMM	Heavy Earth Moving Machinery
OEM	Original Equipment Manufacturer
DGMS	Director General of Mines & Safety
OC	Open Cast
UG	Under Ground
MVTR	Mine Vocational Training Rule

National Occupational Standard



Overview

This unit is about preparing the explosive van/ sprinkler van before driving it and transporting the explosives to designated areas or sprinkle water to be carried out during a shift

Prepare vehicle and perform vehicle operation

Unit Code	MIN/N0232
Unit Title(Task)	Prepare Vehicle and perform vehicle operation
Description	This unit is about preparing the Vehicle before driving it for tasks assigned to be carried out during a shift
Scope	<p>This OS unit/task covers the following:</p> <ul style="list-style-type: none"> conducting pre-operation checks to ensure the Vehicle is ready and safe to use. starting and driving the Vehicle safely. parking the vehicle in a safe manner. reporting of problem/incidents and Documentation.
Performance Criteria (PC)w.r.t. the Scope	
Element	Performance Criteria
Conducting pre-operation checks to ensure the Vehicle is ready and safe to use.	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. check the vehicle features, such as any visible fluid leaks (oil, fuel, coolant), air pressure and treads of all wheels, oil levels of engine, transmission, radiator coolant and brake etc. and check and clean the windshield and mirrors for safe driving.</p> <p>PC2. check proper signage / panels affixed to the van side panels as per required specifications.</p> <p>PC3. check and ensure availability of at least 2 fire extinguishers for explosive van (CO2 & CCL4).</p> <p>PC4. check and ensure that explosive van is fitted with earthing strap to take away static electricity.</p> <p>PC5. check the sprinkler pumps and pipes are functioning properly and the tanks are full (if prefilled).</p>
Starting and driving the Vehicle safely.	<p>PC6. look out for people working and hazards such as trenches and cables</p> <p>PC7. ensure vehicle load and operating speed is within limits specified by OEM / manager mines.</p> <p>PC8. ensure all requisite safeguards for driving an explosive van, e.g. drive loaded van at 20km/hr. (max)in mines, not to fuel or refuel loaded van,</p>

Prepare vehicle and perform vehicle operation

	<p>not to allow any unauthorized person in van and not to leave the van unattended.</p> <p>PC9. perform in-operation visual checks on critical gauges and maintain safe following distance, lane driving and lane changing etiquette.</p>
<p>Parking the vehicle in a safe manner</p>	<p>PC10. slow, stop and secure the vehicle at a suitable location in a safe manner.</p> <p>PC11. demonstrate the ability to reverse the vehicle in straight line and to one side.</p> <p>PC12. ensure that vehicle is always parked on firm, level ground; with handbrake applied and drive and controls disengaged</p> <p>PC13. avoid parking loaded explosive van in crowded place. for any urgent break down, he would not leave it unattended.</p>
<p>Reporting of problem/incidents and Documentation.</p>	<p>PC14. report problems/incidents in a timely manner and accurately using the appropriate format.</p> <p>PC15. follow reporting procedures as prescribed by the employer, complete all documentation within stipulated time. and ensure documents are available to appropriate authorities to inspect</p>
<p>Knowledge and Understanding (K)</p>	
<p>A. Organizational Context (Knowledge of the company/ organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. different types of mines and detail of the mine he is working in</p> <p>KA2. mine organisation, time keeping, need for discipline and punctuality</p> <p>KA3. benching in quarries, dressing of overhangs, undercuts, fencing, first aid and hygiene</p> <p>KA4. code of traffic in specific areas of mine. significance of fences</p> <p>KA5. standing orders in force at the mine. safety in the vicinity of machinery</p> <p>KA6. shot-firing and safety regulations. how and where to take shelter</p> <p>KA7. duties of workmen under mines act.</p> <p>KA8. provision of compensation and working hours as per mines act.</p> <p>KA9. knowledge of mining safety procedures</p> <p>KA10. outcome of violation of safely procedures</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. introduction to engine, transmission, their use and function.</p>

Prepare vehicle and perform vehicle operation

	<p>KB2. understanding of the vehicle aggregates and assemblies, including steering mechanisms, service brakes and parking brakes, alarms and signaling devices, instrument panel, controls, levers and switches, correct oil pressures and temperatures etc.</p> <p>KB3. operation of sprinkler pump and spray system and critical operating parameters.</p> <p>KB4. safe constrictions and DGMS guidelines for an explosive carrier vehicle.</p> <p>KB5. DGMS specified guidelines for operations of explosive carrier vehicle for different type of roadways and driver’s special responsibilities.</p> <p>KB6. general safety rules vis-à-vis driving and parking in mines</p> <p>KB7. signage, mining area signs and other safety and emergency signals</p> <p>KB8. traffic rules to be followed inside the mining yard. movement of men in open cast mines.</p> <p>KB9. Correct maintenance procedures for vehicle.</p> <p>KB10. Response to emergencies e.g. correct way to use fire extinguisher.</p>
<p>Skills</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. fill out check-list /maintenance logbooks detailing maintenance activities conducted</p> <p>SA2. fill out administrative forms</p> <p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. read operators’ manual</p> <p>SA4. read and understand checking/maintenance logbook</p> <p>SA5. read and comprehend banners /signage</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. communicate with supervisors and peers in a proper manner adhering to the values of respect for individual</p>

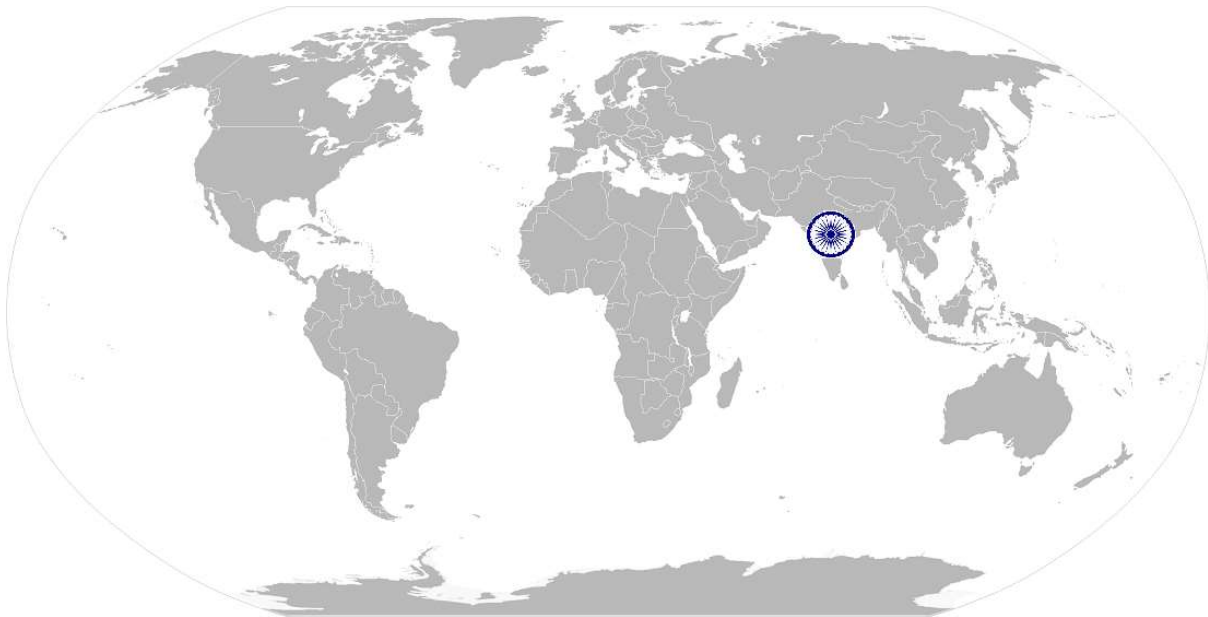
Prepare vehicle and perform vehicle operation

B. Professional Skills	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. make decisions pertaining to the concerned area of work.
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB2. plan and organize the work order and jobs SB3. organize all process manuals so that sorting/ accessing information is easy
	Customer Centricity
	NA
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB4. detect problems in day to day tasks SB5. discuss possible solution with the supervisor for problem solving SB6. make decisions in emergency conditions
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB7. follow instructions and work on areas of improvement identified SB8. complete the assigned tasks with minimum supervision SB9. complete the job within timelines and quality norms
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB10. use common sense and make judgments during day to day basis SB11. use reasoning skills to identify and resolve basic problems SB12. use intuition to detect any potential problems which could arise

Prepare vehicle and perform vehicle operation

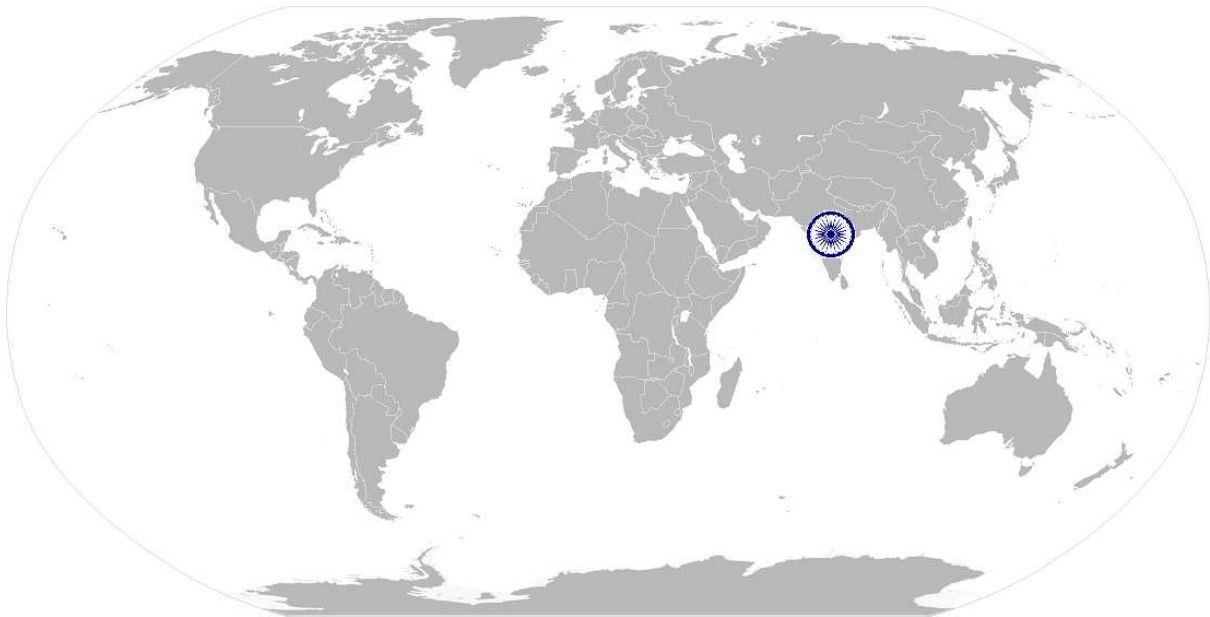
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NOS Code	MIN/N0232		
Credits(NSQF)	TBD	Version number	1.0
Sector	Mining	Drafted on	01/11/2017
Sub-sector	Mining Operation	Last reviewed on	17/01/2018
Occupation	Blasting	Next review date	16/01/2022



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National Occupational Standard



Overview

This unit is about delivering bulk explosives to the blast location or specified area. It covers entry to the site (e.g. the quarry/mine or part of the quarry/mine in which the planned blast is located), complying with site rules and procedures and driving to the location of the blast. It does not include driving on public roads.

Deliver bulk explosives to the blast location

National Occupational Standard	Unit Title(Task)	Deliver Bulk Explosives to the blast location
	Unit Code	MIN/N0233
	Description	To deliver bulk explosives to the authorized person in the blast location. It covers entry to the site (e.g. the quarry/mine or part of the quarry/mine in which the planned blast is located), complying with site rules and procedures and driving to the location of the blast. It does not include driving on public roads.
	Scope	This OS unit/task covers the following: <ul style="list-style-type: none"> Deliver materials to blast location
	Performance Criteria (PC)w.r.t. the Scope	
	Element	Performance Criteria
Deliver materials to blast location	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. identify and confirm location of and route to blast area as appropriate, identify the potential hazards to transportation and confirm that the loading position, including edge protection are safe and appropriate.</p> <p>PC2. understand the site procedures for reporting and meet the specific site requirements for identification, registration and induction of contractors/visitors</p> <p>PC3. identify and locate the site personnel with responsibility for oneself and the blast. delivery shall only be made to authorized persons and into approved magazines or approved temporary storage or handling areas.</p> <p>PC4. ensure that vehicle is safely driven and positioned at agreed optimum loading point/s according to operational procedures, site rules and loading requirements.</p> <p>PC5. deliver the quantities and qualities of material/s as communicated by instruction of blasting in-charge.</p> <p>PC6. ensure that the vehicle is safely driven to blast location in compliance with organisational and site procedures and DGMS guidelines in permission letter.</p>	

Deliver bulk explosives to the blast location

Knowledge and Understanding(K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KA1. Different types of mines and detail of the mine he is working in KA2. mine organisation, timekeeping, need for discipline and punctuality KA3. benching in quarries, dressing of overhangs, undercuts, fencing, first aid and hygiene KA4. code of traffic in specific areas of mine. significance offences KA5. standing orders in force at the mine. safety in the vicinity of machinery KA6. shot-firing and safety regulations. how and where to take shelter KA7. duties of workmen KA8. usage in firefighting equipment. KA9. provision of compensation and working hours as per mines act KA10. Knowledge of mining safety procedures KA11. Impact of violation of safety procedures
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KB1. on-site driving techniques KB2. the potential dangers/ hazards during transportation on blast sites. KB3. the hazards to other staff/contractors/visitors on site arising from bulk explosive truck operation. KB4. blast specifications and material characteristics KB5. identification of safe driving routes on sites. KB6. the reasons for specified routes to be used when transporting explosive materials. KB7. motor vehicle and hazardous waste (handling) rules 2008 KB8. awareness of safety hazards
Skills (S) [Optional]	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA1. note down observations (if any) SA2. write information documents or enter the information in online ERP systems under guidance of the supervisor

Deliver bulk explosives to the blast location

	Reading Skills
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA3. read and interpret symbols and measurements SA4. read information documents SA5. understand and analyse the available data about the site
	Oral Communication (Listening and Speaking skills)
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA6. discuss task lists, schedules and activities SA7. communicate effectively SA8. listen with full attention and comprehend the information given by various sources about the site
B. Professional Skills	Plan and Organize
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB1. plan and organize the work order and jobs SB2. organize all process manuals so that sorting/ accessing information is easy
	Decision Making
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB3. make decisions pertaining to the concerned area of work
	Problem Solving
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB4. think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s) SB5. deal with clients lacking the technical background to solve the problem on their own SB6. identify immediate or temporary solutions to resolve delays
	Customer Centricity
<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB7. manage relationships with customers who may be stressed, frustrated, confused, or angry 	

Deliver bulk explosives to the blast location

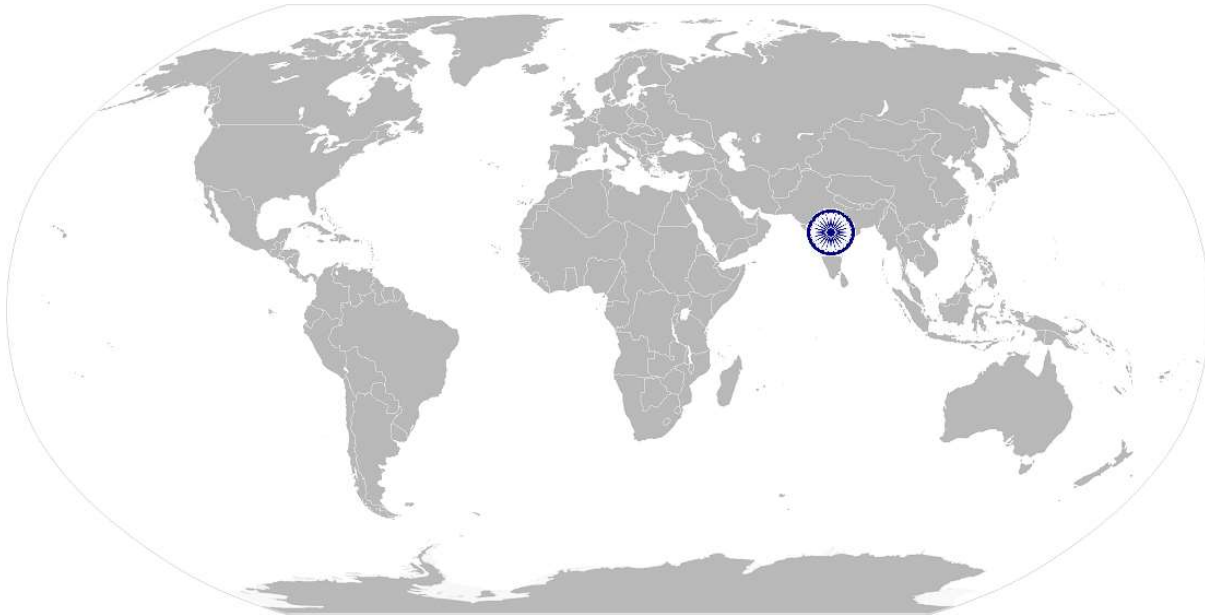
	<p>SB8. build customer relationships and use customer centric approach /make decisions in emergency conditions</p>
	<p>Analytical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. use the existing data to arrive at specific data points</p> <p>SB10. use the existing data points for improving the call resolution time use the existing data points to generate required reports for business</p>
	<p>Critical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB11. apply, analyze, and evaluate the information gathered from observation,</p> <p>SB12. experience, reasoning, or communication, as a guide to thought and action</p>



Deliver bulk explosives to the blast location

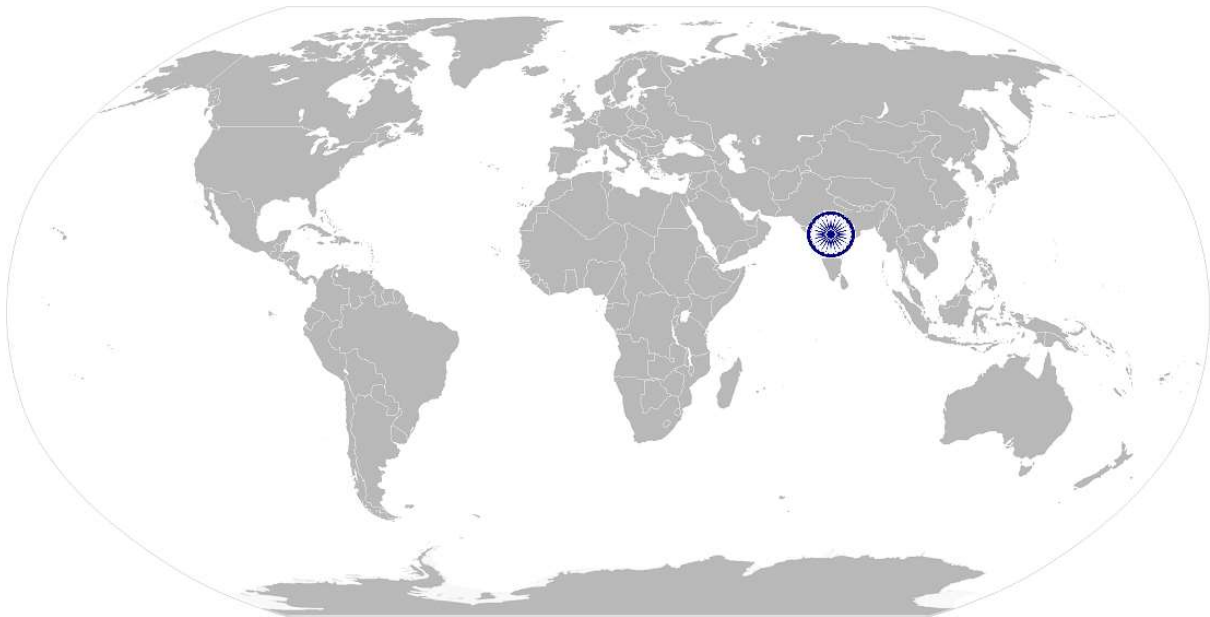
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NOS Code	MIN/N0233		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	01/11/2017
Industry Sub-sector	Mining Operation	Last reviewed on	17/01/2018
Occupation	Blasting	Next review date	16/01/2022



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National Occupational Standard



Overview

This unit is about performing routine maintenance and troubleshooting on the Sprinkler or Explosive delivery Van.

Perform basic maintenance on vehicle

National Occupational Standard	Code	MIN/N0234
	Unit Title (Task)	Perform basic maintenance on Vehicles
	Description	This unit is about performing routine maintenance and troubleshooting tasks on the Sprinkler / explosive carrier Vehicle
	Scope	<p>This OS unit/task covers the following:</p> <ul style="list-style-type: none"> preventive maintenance of vehicle in accordance with the manufacturer's recommendations and company procedures basic diagnostics and Troubleshooting
	Performance Criteria (PC)w.r.t. the Scope	
	Element	Performance Criteria
	Preventive maintenance of vehicle in accordance with the manufacturer's recommendations and company procedures	<p>To be a competent vehicle driver, the individual on the job must also be able to:</p> <p>PC1. track vehicle operating hours to assess the right service schedule.</p> <p>PC2. clean air filter dust bowls, drain water and sediment /fuel separators, replenish coolants, lubricants and fluids, grease all greasing pins and pivot points, check tyre rims, air pressure etc.</p> <p>PC3. clean footplates, pedals and steps free from mud, dirt, ice and snow</p> <p>PC4. check battery levels and condition of the terminals and carry out minor adjustments if required.</p> <p>PC5. complete timely and legibly daily/weekly maintenance/defect sheets as provided.</p> <p>PC6. check and clean the sprinkler pumps, piping and spray systems.</p> <p>PC7. check an explosive van thoroughly within 24 hours before loading of explosives.</p> <p>PC8. check and ensure that fire extinguishers (e.g. one each of co2 and ccl4) are within expiry period and functioning.</p>
	Basic diagnostics and Troubleshooting	<p>PC9. ensure the parking brake and indicators are used to prevent any accident</p> <p>PC10. ensure the machine is on firm and level ground before attempting to carry out any checking and ensure that no maintenance task on the engine is performed when running or still hot.</p> <p>PC11. check and identify out-of-range readings on the instrument panel and various control gauges to detect possible cause of failure.</p> <p>PC12. assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel.</p>

Perform basic maintenance on vehicle

Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KA1. different types of mines and detail of the mine he is working in KA2. mine organisation, time keeping, need for discipline and punctuality KA3. benching in quarries, dressing of overhangs, undercuts, fencing KA4. Fire-fighting, first aid and hygiene KA5. code of traffic in specific areas of mine. significance of fences KA6. standing orders in force at the mine. safety in the vicinity of machinery KA7. shot-firing and safety regulations. how and where to take shelter KA8. duties of workmen under mines act KA9. provision of compensation and working hours as per mines act KA10. knowledge of mining safety procedures KA11. outcome of violation of safely procedures
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> KB1. basic physics and mechanics involved in various functions of the vehicle. KB2. preventive maintenance schedule prescribed for the vehicle he uses. KB3. Response to emergencies e.g. fire KB4. Safety regulations while handling the vehicle KB5. the optimal levels of control indicators e.g. fuel gauge, engine oil pressure and temperature, air pressure etc. KB6. procedure to check and adjust belts for tightness and excessive wear. the optimal "give" the belts should have when adjusted correctly KB7. visual checks to identify damage, defects, cracks, or leaks beforehand KB8. possible sources of any unusual sound emanating from the engine
Skills (S)	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills</p>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA1. fill out check-list /maintenance logbooks detailing maintenance activities conducted SA2. fill out administrative forms
	<p>Reading Skills</p>

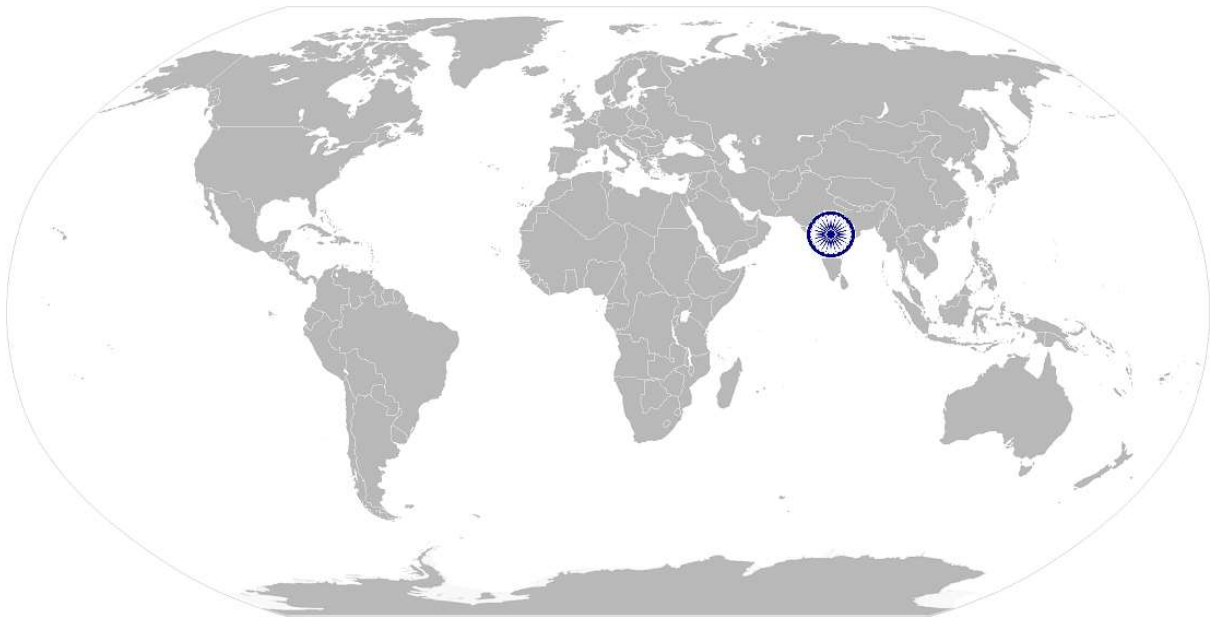
Perform basic maintenance on vehicle

	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA3. read operators’ manual SA4. read and understand checking/maintenance logbook SA5. read and comprehend banners /signage
	<p>Oral Communication (Listening and Speaking skills)</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SA6. communicate with supervisors and peers in a proper manner adhering to the values of respect for individual
B. Professional Skills	<p>Decision Making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB1. make decisions pertaining to the concerned area of work.
	<p>Plan and Organize</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB2. plan and organize the work order and jobs SB3. organize all process manuals so that sorting/ accessing information is easy
	<p>Customer Centricity</p>
	<p>NA</p>
	<p>Problem Solving</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB4. detect problems in day to day tasks SB5. discuss possible solution with the supervisor for problem solving SB6. make decisions in emergency conditions
	<p>Analytical Thinking</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB7. follow instructions and work on areas of improvement identified SB8. complete the assigned tasks with minimum supervision SB9. complete the job within timelines and quality norms
<p>Critical Thinking</p>	
<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> SB10. use common sense and make judgments during day to day basis 	

Perform basic maintenance on vehicle

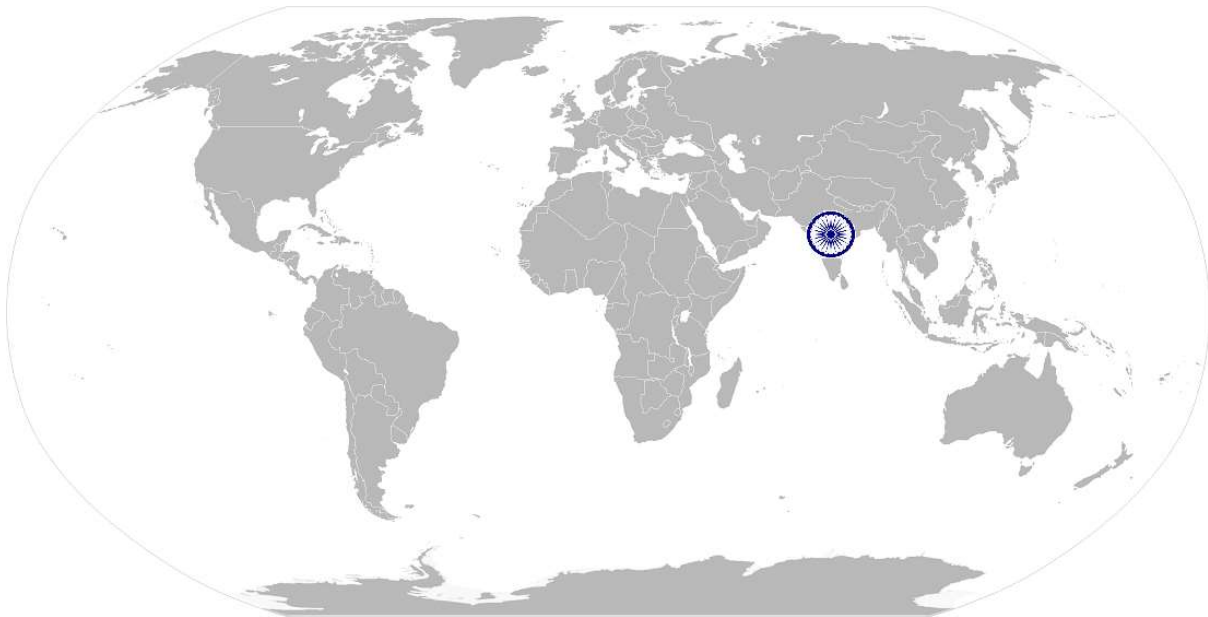
SB11. use reasoning skills to identify and resolve basic problems

SB12. use intuition to detect any potential problems which could arise



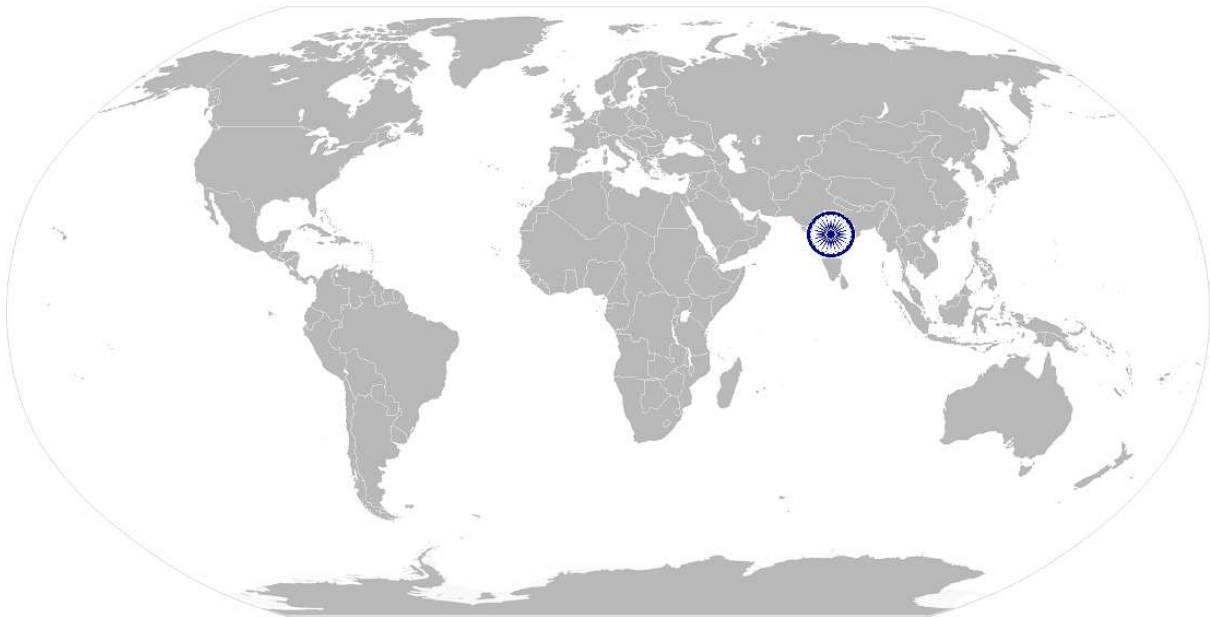
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NOS Code	MIN/N0234		
Credits(NSQF)	TBD	Version number	1.0
Sector	Mining	Drafted on	01/11/2017
Sub-sector	Mining Operation	Last reviewed on	17/01/2018
Occupation	Blasting	Next review date	16/01/2022



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National Occupational Standards



Overview

This unit is about adhering to Health & Safety and DGMS prescribed MVTR requirements at an Open Cast Mine or Quarry or job roles associated with surface operations in a Mining industry.

Adhere to health & safety and MVTR requirements in OC Mines

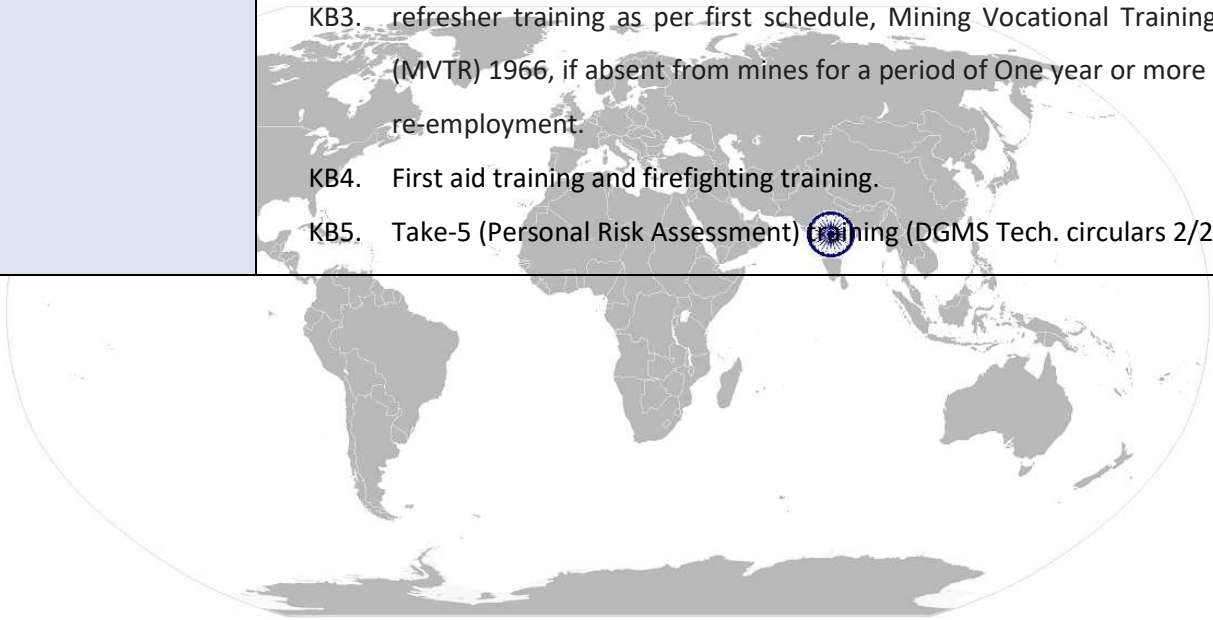
National Occupational Standard	Unit Code	MIN/N0902
	Unit Title(Task)	Adhere to health & safety and MVTR requirements in OC Mines
	Description	This unit is about adhering to health and safety requirements at the Open Cast Mines or Surface operations and during execution of varied job roles, equipment upkeep and maintenance and operations.
	Scope	<ul style="list-style-type: none"> Comply with safety, security and administrative requirements
	Performance Criteria(PC) w.r.t. the Scope	
	Element	Performance Criteria
	Comply with safety, security and administrative requirements	<p>To be competent, the user/individual on the job must be able to</p> <p>PC1. comply with safety, health, security and environment related regulations / guidelines at the mine and follow the Safe Operation Procedure (SOP) made before hand in consultation with the DGMS and implement the same.</p> <p>PC2. use PPE (personal protective equipment) such as, hand gloves, helmet, safety shoes, dust mask, ear plug, reflective jackets, safety goggles, etc.</p> <p>PC3. carry out operations as per the manufacturer's and worksite related health and safety guidelines and take requisite care not to damage any power, utility and pneumatic lines and protect self and machinery from unwarranted exposure.</p> <p>PC4. follow safety measures in the OC mining or outdoor environment to ensure that the health and safety of self or others (including members of the public) are not at risk.</p> <p>PC5. ensure that no unauthorized personnel or equipment are present in specified work area and ensure that no other operators travel on or stand near the loader</p> <p>PC6. utilize judiciously various signaling devices available in the mining equipment and HEMMs, such as turn signal, parking indicator, air horn etc.</p> <p>PC7. ensure that HEMM or other such transportation and moving machinery are always parked on firm, level ground; with handbrake applied and drive and controls disengaged</p>

Adhere to health & safety and MVTR requirements in OC Mines

	<p>PC8. undertake all prescribed measures while camping in a remote site or camp, including compliance to safety procedures in case of inundation, fire hazard, gas occurrence etc.</p> <p>PC9. support in administering first aid and resuscitation measures to fellow team members and operate various grades of fire extinguishers, as applicable.</p> <p>PC10. handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite guidelines as prescribed by DGMS and mine manager.</p> <p>PC11. deal with misfires as per laid out process and during blasting operation, take shelter at the miner's station.</p> <p>PC12. respond promptly and appropriately to an accident/ incident or emergency situation, within limits of the role and responsibility.</p>
Knowledge and Understanding (K)	
<p>A. Organizational</p> <p>Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. mining safety procedures and outcome of violation of safety procedures.</p> <p>KA2. benching in quarries, fencing</p> <p>KA3. sources of dust, noise and vibration and measures to minimize such sources as per guideline & regulation enforce by the DGMS.</p> <p>KA4. locally prepared emergency preparedness / disaster management plan.</p> <p>KA5. code of traffic in specific areas of mine and significance of fences.</p> <p>KA6. standing orders in force at the mine, safety in the vicinity of machinery to protect from any electrical / mechanical / compressed air trouble by enforcing the safe operation procedure (sop).</p> <p>KA7. shot-firing and safety regulations- how and where to take shelter.</p> <p>KA8. process for reporting any unsafe act/condition in work area which may endanger his or his colleague's life.</p> <p>KA9. hazardous material safety and security rules and regulations as prescribed by DGMS.</p> <p>KA10. proper up keeping and storage of his own tools, tackles and support material.</p>

Adhere to health & safety and MVTR requirements in OC Mines

	<p>KA11. environmental impact of mining hazardous material safety and security rules and regulations as prescribed by DGMS</p> <p>KA12. code of practice (the do's & don'ts) for safe handling and transport of dangerous material and heavy equipment.</p> <p>KA13. various national and international standard, and statutory provisions, laws and bylaws related to compressed gases handling in mining sector in India.</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. basic knowledge of operation of the machines used in OC Mines.</p> <p>KB2. Technical and gallery training as per first schedule, Mining Vocational Training Rules (MVTR) 1966.</p> <p>KB3. refresher training as per first schedule, Mining Vocational Training Rules (MVTR) 1966, if absent from mines for a period of One year or more before re-employment.</p> <p>KB4. First aid training and firefighting training.</p> <p>KB5. Take-5 (Personal Risk Assessment) Training (DGMS Tech. circulars 2/2014.</p>

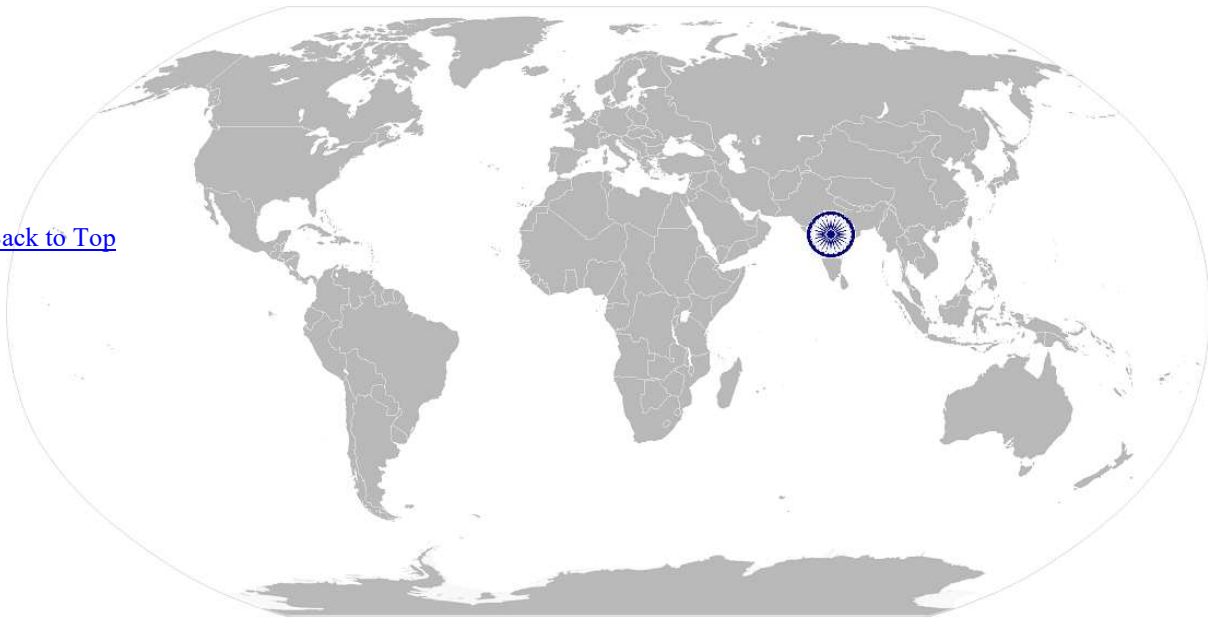


Adhere to health & safety and MVTR requirements in OC Mines

NOS Version Control

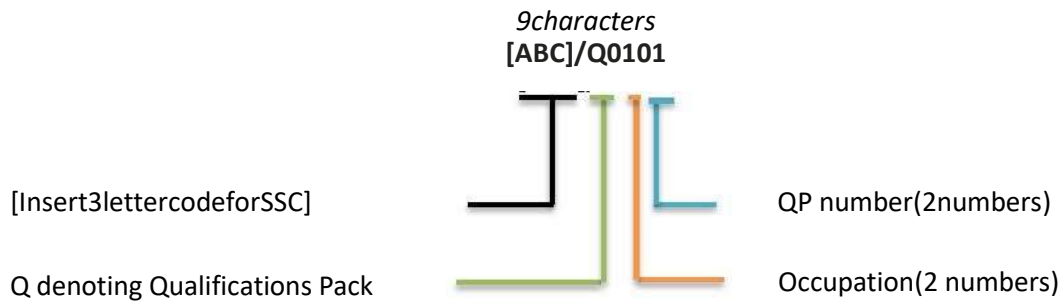
NOS Code	MIN/N0902		
Credits(NSQF)	TBD	Version number	1.0
Sector	Mining	Drafted on	01/11/2017
Sub-sector	Mining Operation	Last reviewed on	17/01/2018
Occupation	Blasting	Next review date	16/01/2022

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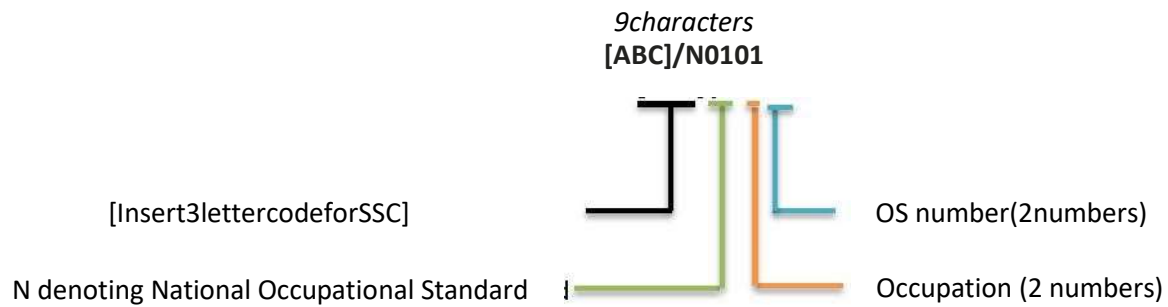
Annexure

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Exploration & Resource Management	1 to 25
Mining Operation	26 to 65
Engineering Services	66 to 90
Mineral Beneficiation	91 to 99

Sequence	Description	Example
Three letters	Industry name	MIN
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Driver Special Vehicle (Explosive & Sprinkler)

Qualification Pack MIN/Q0207

Sector Skill Council Skill Council for Mining Sector

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each 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 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 this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS				Marks Allocation	
Total Marks: 100					
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
1. MIN/N0232 (Prepare vehicle and perform vehicle operation)	PC1. check the vehicle features, such as any visible fluid leaks (oil, fuel, coolant), air pressure and treads of all wheels, oil levels of engine, transmission, radiator coolant and brake etc. and check and clean the windshield and mirrors for safe driving.	30	2	0	2
	PC2. check proper signage / panels affixed to the van side panels as per required specifications.		1	1	0

	PC3. check and ensure availability of at least 2 fire extinguishers for explosive van(CO2 & CCL4).		3	1	2
	PC4. check and ensure that explosive van is fitted with earthing strap to take away static electricity.		2	0	2
	PC5. check the sprinkler pumps and pipes are functioning properly and the tanks are full (if prefilled).		2	1	1
	PC6. look out for people working and hazards such as trenches and cables		2	0	2
	PC7. ensure vehicle load and operating speed is within limits specified by OEM / manager mines.		3	0	3
	PC8. ensure all requisite safeguards for driving an explosive van, e.g. drive loaded van at 20km/hr. (max)in mines, not to fuel or refuel loaded van, not to allow any unauthorized person in van and not to leave the van unattended.		2	0	2
	PC9. perform in-operation visual checks on critical gauges and maintain safe following distance, lane driving and lane changing etiquette,		2	0	2
	PC10. slow, stop and secure the vehicle at a suitable location in a safe manner.		2	1	1
	PC11. demonstrate the ability to reverse the vehicle in straight line and to one side.		2	0	2
	PC12. ensure that vehicle is always parked on firm, level ground; with handbrake applied and drive and controls disengaged		2	0	2

	PC13. avoid parking loaded explosive van in crowded place. for any urgent break down, he would not leave it unattended.		2	1	1
	PC14. report problems/incidents in a timely manner and accurately using the appropriate format.		1	1	0
	PC15. follow reporting procedures as prescribed by the employer, complete all documentation within stipulated time. and ensure documents are available to appropriate authorities to inspect		2	1	1
	Total		30	7	23
2. MIN/N0233 (Deliver bulk explosives to the blast location)	PC1. identify and confirm location of and route to blast area as appropriate, identify the potential hazards to transportation and confirm that the loading position, including edge protection are safe and appropriate.	30	5	2	3
	PC2. understand the site procedures for reporting and meet the specific site requirements for identification, registration and induction of contractors/visitors		5	2	3
	PC3. identify and locate the site personnel with responsibility for oneself and the blast. delivery shall only be made to authorized persons and into approved magazines or approved temporary storage or handling areas.		5	2	3
	PC4. ensure that vehicle is safely driven and positioned at agreed optimum loading point/s according to operational procedures, site rules and loading requirements.		5	2	3

	PC5. deliver the quantities and qualities of material/s as communicated by instruction of blasting in-charge.		5	2	3
	PC6. ensure that the vehicle is safely driven to blast location in compliance with organisational and site procedures and DGMS guidelines in permission letter.		5	2	3
	Total		30	12	18
3. MIN/N0234 (Perform basic maintenance on Vehicle)	PC1. track vehicle operating hours to assess the right service schedule.	15	1	0	1
	PC2. clean air filter dust bowls, drain water and sediment /fuel separators, replenish coolants, lubricants and fluids, grease all greasing pins and pivot points, check tyre rims, air pressure etc.		1	0	1
	PC3. clean footplates, pedals and steps free from mud, dirt, ice and snow		1	0	1
	PC4. check battery levels and condition of the terminals and carry out minor adjustments if required.		1	0	1
	PC5. complete timely and legibly daily/weekly maintenance/defect sheets as provided.		1	0	1
	PC6. check and clean the sprinkler pumps, piping and spray systems.		1	0	1
	PC7. check an explosive van thoroughly within 24 hours before loading of explosives.		1	0	1
	PC8. check and ensure that fire extinguishers (e.g. one each of co2 and ccl4) are within expiry period and functioning.		1	0	1

	PC9. ensure the parking brake and indicators are used to prevent any accident		2	1	1
	PC10. ensure the machine is on firm and level ground before attempting to carry out any checking and ensure that no maintenance task on the engine is performed when running or still hot.		2	1	1
	PC11. check and identify out-of-range readings on the instrument panel and various control gauges to detect possible cause of failure.		1	0	1
	PC12. assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel		2	1	1
	Total		15	3	12
4. MIN/N0902 (Adhere to health & safety and MVTR requirements in OC Mines)	PC1. comply with safety, health, security and environment related regulations / guidelines at the mine and follow the safe operation procedure (SOP) made before hand in consultation with the DGMS and implement the same.	25	3	2	1
	PC2. use PPE (personal protective equipment) such as, hand gloves, helmet, safety shoes, dust mask, ear plug, reflective jackets, safety goggles etc.		2	1	1
	PC3. carry out operations as per the manufacturer's and worksite related health and safety guidelines and take requisite care not to damage any power, utility and pneumatic lines and protect self and machinery from unwarranted exposure.		2	1	1
	PC4. follow safety measures in the OC mining or outdoor environment to ensure		1	0	1

	that the health and safety of self or others (including members of the public) are not at risk.			
	PC5. ensure that no unauthorized personnel or equipment are present in specified work area and ensure that no other operators travel on or stand near the loader	2	0	2
	PC6. utilize judiciously various signaling devices available in the mining equipment and HEMMs, such as turn signal, parking indicator, air horn etc.	2	0	2
	PC7. ensure that HEMM or other such transportation and moving machinery are always parked on firm, level ground; with handbrake applied and drive and controls disengaged	2	0	2
	PC8. undertake all prescribed measures while camping in a remote site or camp, including compliance to safety procedures in case of inundation, fire hazard, gas occurrence etc.	2	1	1
	PC9. support in administering first aid and resuscitation measures to fellow team members and operate various grades of fire extinguishers, as applicable.	2	0	2
	PC10. handle the transport, storage and disposal of hazardous materials and waste in compliance with worksite guidelines as prescribed by DGMS and mine manager.	2	1	1
	PC11. deal with misfires as per laid out process and during blasting operation, take shelter at the miner's station.	2	1	1



Qualifications Pack for Driver Special Vehicles



	PC12. respond promptly and appropriately to an accident/ incident or emergency situation, within limits of the role and responsibility.		3	1	2
	Total		25	8	17
	QP Total		100	30	70