



Model Curriculum

Driver Special Vehicle (Explosive & Sprinkler)

SECTOR: Mining
SUB-SECTOR: Mining Operation
OCCUPATION: Blasting
REF ID: MIN/Q0207, V1.0
NSQF LEVEL: 4



Certificate

COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

SKILL COUNCIL FOR MINING SECTOR

for

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/Qualification Pack: 'Driver Special Vehicle' QP No. 'MIN/Qo207 NSQF Level 4'

Date of Issuance: **April 2th, 2018**

Valid up to*: **March 14th, 2022**

*Valid up to the next review date of the Qualification Pack or the
'Valid up to' date mentioned above (whichever is earlier)

Authorised Signatory
(Skill Council for Mining Sector)



TABLE OF CONTENTS

1. Curriculum	01
2. Trainer Prerequisites	06
3. Annexure: Assessment Criteria	07

Driver Special Vehicle

CURRICULUM/SYLLABUS

This program is aimed at training candidates for the job of a “Driver Special Vehicle”, in the “Mining & Allied” Sector/Industry and aims at building the following key competencies amongst the learner.

Program Name	Driver Special Vehicle		
Qualification Pack Name & Reference ID.	MIN/Q0207		
Version No.	1.0	Version update date	16/01/2022
Pre-requisites to Training	Class X		
Training Outcomes	<p>After completing this programme, participants will be able to:</p> <ul style="list-style-type: none"> • Conduct pre-operation checks to ensure the vehicle is ready and safe to use. • Start and drive the vehicle safely. • Park the vehicle in a safe manner. • Report of problem/incidents and fill up daily reports. • Conduct preventive maintenance and do basic diagnostics and Troubleshooting of vehicle in accordance with company procedures. • Comply with health & safety requirements. 		

This course encompasses 4 out of 4 National Occupational Standards (NOS) of “Driver Special Vehicle” Qualification Pack issued by “Skill Council for Mining Sector”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<p>Introduction</p> <p>Theory Duration (hh:mm) 45:00</p> <p>Practical Duration (hh:mm) 18:00</p> <p>Corresponding NOS Code Bridge Module</p>	<ul style="list-style-type: none"> Describe the general discipline in the class room (Do’s & Don’ts) Explain the role of Driver Special Vehicle in mining industry Report benching in quarries, dressing of overhangs, undercuts, fencing, first aid and hygiene Illustrate the standing orders in force at the mine. Practice safety in the vicinity of machinery. Characterize the shot-firing and safety regulations. Apply the basic skills of communication Underline the basic reading capabilities to enable reading of signs, notices and/or cautions at site. 	Computer With Internet, LCD Projector
2	<p>Prepare vehicle and perform vehicle operation</p> <p>(hh:mm) 50:00</p> <p>Practical Duration (hh:mm) 208:00</p> <p>Corresponding NOS Code MIN/N0232</p>	<ul style="list-style-type: none"> Describe 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. Examine and clean the windshield and mirrors for safe driving. Check proper signage / panels affixed to the van side panels as per required specifications. Examine availability of fire extinguishers for explosive van (CO₂ & CCL₄). Justify that explosive van is fitted with earthing strap to take away static electricity. Examine the sprinkler pumps and pipes are functioning properly and the tanks are full (if prefilled). Look out for people working and hazards such as trenches and cables Justify vehicle load and operating speed is within limits specified by OEM / manager mines. Examine all requisite safeguards for driving an explosive van, e.g. drive loaded van at 20km/hr. (max)in mines, not to fuel or re-fuel loaded van, not to allow any unauthorized person in van and not to leave the van unattended. Perform in-operation visual checks on critical gauges and maintain safe following distance, lane driving and lane changing etiquette. Operate vehicle slow and stop and secure at a suitable location in a safe manner. Utilize the ability to reverse the vehicle in straight line and to one side. 	Slide wrench, Spanner Set, Any HEMM vehicle

		<ul style="list-style-type: none"> Justify that vehicle is always parked on firm, level ground; with handbrake applied and drive and controls disengaged. Inspect that parking loaded explosive van not in crowded place. Perform responsibility in case any urgent break down. Report problems/incidents in a timely manner and accurately using the appropriate format. Follow reporting procedures as prescribed by the employer. Comply all documentation within stipulated time. and ensure documents are available to appropriate authorities to inspect 	
3	<p>Deliver bulk explosives to the blast location</p> <p>Theory Duration (hh:mm) 18:00</p> <p>Practical Duration (hh:mm) 45:00</p> <p>Corresponding NOS Code MIN/N0233</p>	<ul style="list-style-type: none"> Select 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. Review the site procedures for reporting and meet the specific site requirements for identification, registration and induction of contractors/visitors List and locate the site personnel with responsibility for oneself and the blast. Justify delivery shall only be made to authorized persons and into approved magazines or approved temporary storage or handling areas. Justify that vehicle is safely driven and positioned at agreed optimum loading point/s according to operational procedures, site rules and loading requirements. Perform delivery the quantities and qualities of material/s as communicated by instruction of blasting in-charge. Justify that the vehicle is safely driven to blast location in compliance with organisational and site procedures and DGMS guidelines in permission letter. 	Slide wrench, Spanner Set, Any HEMM vehicle
4	<p>Perform basic maintenance on vehicle :</p> <p>Theory Duration (hh:mm) 18:00</p> <p>Practical Duration (hh:mm) 45:00</p>	<ul style="list-style-type: none"> Assess the right service schedule by tracking vehicle operating hours. Perform cleaning air filter dust bowls, drain water and sediment /fuel separators, replenish coolants, lubricants and fluids, Perform grease all greasing pins and pivot points, check tyre rims, air pressure etc. Justify that footplates, pedals and steps free from mud, dirt, ice and snow to prevent from slips. Inspect battery levels and condition of the terminals and carry out minor adjustments if required. complete timely and legibly daily/weekly maintenance/defect sheets as provided. 	Slide wrench, Spanner Set, Any HEMM vehicle

	<p>Corresponding NOS Code MIN/N0234</p>	<ul style="list-style-type: none"> • Perform cleaning the sprinkler pumps, piping and spray systems. • Justify an explosive van thoroughly within 24 hours before loading of explosives. • Inspect that fire extinguishers (e.g. one each of co2 and ccl4) are within expiry period and functioning. • Examine the parking brake and indicators are used to prevent any accident • Justify the machine is on firm and level ground before attempting to any checking. • Justify that no maintenance task on the engine is performed when running or still hot. • Identify out-of-range readings on the instrument panel and various control gauges to detect possible cause of failure. • Report the problem to suitably qualified and competent personnel when the problem is beyond his competence. 	
5	<p>Adhere to health & safety and MVTR requirements in OC Mines:</p> <p>Theory Duration (hh:mm) 45:00</p> <p>Practical Duration (hh:mm) 18:00</p> <p>Corresponding NOS Code MIN/N0902</p>	<ul style="list-style-type: none"> • Comply with safety, health, security and environment related regulations / guidelines at the mine. • Apply the Safe Operation Procedure (SOP) made before hand in consultation with the DGMS and implement the same. • Use PPE (personal protective equipment) such as, hand gloves, helmet, safety shoes, dust mask, ear plug, reflective jackets, safety goggles, etc. • 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. • Use safety measures in the OC mining or outdoor environment for the health and safety of self or others (including members of the public). • Justify that no unauthorized personnel or equipment are present in specified work area. • Inspect that no other operators travel on or stand near the vehicle. • Utilize judiciously various signalling devices available in the mining equipment and HEMMs, such as turn signal, parking indicator, air horn etc. • Justify that HEMM or other such transportation and moving machinery are always parked on firm, level ground; with handbrake applied and drive and controls disengaged. • 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>Fire Extinguisher Cylinders, First Aid Box, Fire Fighting Charts, First Aid Charts</p>

		<ul style="list-style-type: none"> • Support in administering first aid and resuscitation measures to fellow team members. • Operate various grades of fire extinguishers, as applicable. • Organize handling the transport, storage and disposal of hazardous materials and waste in compliance with worksite health, safety and environmental guidelines. • Apply safety regulations and procedures with regard to worksite hazards and risks. • Deal with misfires as per laid out process and during blasting operation, take shelter at the miner's station. • Respond promptly and appropriately to an accident/ incident or emergency situation, within limits of the role and responsibility. 	
	<p>Total Duration</p> <p>Theory Duration 176:00</p> <p>Practical Duration 334:00</p>	<p>Unique Equipment Required:</p> <p>Computer With Internet, Helmet, Goggles, Dust Mask, Ear Plug, Gloves, Reflective Jacket, Safety Belt, Gum Boots/ Safety shoes, Explosive Van</p>	

Grand Total Course Duration: 510 Hours, 0 Minutes

(This syllabus/ curriculum has been approved by SSC: Skill Council for Mining Sector)

Trainer Prerequisites for Job role: “Driver Special Vehicle” mapped to Qualification Pack: “MIN/Q0207”

Sr. No	Area	Details
1	Description	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack “MIN/Q0207”.
2	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.
3	Minimum Educational Qualifications	Class X/ ITI or Diploma in Mining/ Mechanical or B-Tech in Mining/ Mechanical
4a	Domain Certification	Certified for Job Role: “Driver Special Vehicle” mapped to QP: “MIN/Q0207, v1.0”. Minimum accepted score is 80%
4b	Platform Certification	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q0102”. Minimum accepted score for platform certification will be 80%.
5	Experience	<ol style="list-style-type: none"> 1. Class X/ ITI – 6 years 2. Diploma in Mining/ Mechanical – 5 years 3. B-Tech in Mining/ Mechanical – 4 years

Annexure: Assessment Criteria

Assessment Criteria for Driver Special Vehicle	
Job Role	Driver Special Vehicle
Qualification Pack	MIN/Q0207
Sector Skill Council	Skill Council for Mining Sector

Sr. No.	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.
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 evaluations for skill practical for every student at each examination/training Centre based on these criteria.
5	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
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 <i>unsuccessful completion</i> , 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 opencast 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 that the health and safety of self or others (including members of the public) are not at risk.		1	0	1

	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 signalling 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
	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