



## QUALIFICATIONS PACK - OCCUPATIONAL STANDARD 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 function
- POS are performance standard 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 Pack-HEMM Mechanic

**SECTOR: MINING** 

**SUB-SECTOR:** Open Cast and Underground Mines

**OCCUPATION:** Mechanical Maintenance

**REFERENCE ID:** MIN/Q 0433

**ALIGNED TO: NCO-2004/NIL** 

An HEMM Mechanic ensures end to end servicing of HEMM.

**Brief Job Description:** This job diagnoses, repairs, overhauls and services Heavy Earth Moving Machinery (HEMM) to keep them in good running order. Also carries out repairs of internal combustion engines

**Personal Attributes:** This job requires the individual to concentrate on the job at hand and complete it efficiently and effectively without any accidents so diligence and hard-working are desired attributes for individuals performing this role. He must also demonstrate strong work ethics, an ability to communicate courteously with co-workers, and must be good with following instructions of the supervisor.





Qualification Pack Code	MIN/Q 0433		
Job Role	HEMM Mechanic		
Credits(NSQF)	тво	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
, Sub-sector	Open cast and Underground Mines	Last reviewed on	24/03/2015
Occupation	Mechanical Maintenance	Next review date	24/03/2017

Job Role	HEMM Mechanic		
Role Description	Repairs, overhauls and services Heavy Earth Moving Machinery to keep them in good running order. Also carries out repairs of internal combustion engines		
NSQF level Minimum Educational Qualification Minimum Educational Qualification	4 ITI (Motor Vehicle Mechanic) NA		
Training (Suggested but not mandatory)	<ol> <li>Technical and gallery training as per first schedule, Mining Vocational Training Rules (MVTR) 1966.</li> <li>Refresher training if absent from mines for a period of one year or more before re-employment.</li> </ol>		
Experience	1 year		
Applicable National Occupational Standards	Compulsory: Click on the hyperlink to read/download the required NOS  1. MIN/N 0491 (Diagnose HEMM for repair requirements)  2. MIN/N 0492 (Carry out service, repair and maintenance activities)  3. MIN/N 0901 (Health and Safety)  Optional: Not Applicable		
Performance Criteria	As described in the relevant OS units		



## Qualifications Pack For HEMM Mechanic



Definitions

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 standard 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 Standard 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 Standard which apply uniquely in the Indian context.		
Qualification Pack Code	Qualification Pack Code is a unique reference code that identifies a qualification pack.		
Qualification Pack	Qualification Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualification 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 needs 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.		



## Qualifications Pack For HEMM Mechanic



Acronyms

Keywords /Terms	Description
SCMS	Skill council for Mining Sector
NOS	National Occupational Standard
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





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# National Occupational Standard



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## **Overview**

This Occupational Standard is about the knowledge, understanding and skill required of an individual to assist in diagnosing faults and troubleshooting problems in a Heavy Earth Moving Machine (HEMM)



## National Occupational Standards MIN/ N 0491 Diagnose HEMM for repair requirements



Unit Code	MIN/ N0491		
Unit Title(Task)	Diagnose HEMM for repair requirements		
Description	This unit is about diagnosing faults in HEMM and troubleshooting problems		
Scope	This OS unit/task covers the following:		
	Identify and diagnose operational faults		
Element	Performance Criteria		
	PC1. Conduct scheduled, routine examination methods and assessments against		
	vehicle specifications to identify damage, corrosion, inadequate fluid levels,		
	leaks, wear, security problems and general condition and serviceability		
Identify and diagnose	PC2. Review complaint sheet and understand repair requirements		
operational faults	PC3. Understand original equipment manufacturers' specifications and follow		
	standard operating procedure set out for diagnosing faults		
	PC4. Use diagnostic procedures as defined in the troubleshooting checklist		
	prepared by the equipment manufacturer		
	PC5. Use diagnostic tools as required to assess the problem, this includes using on		
	board diagnostic computer to attain vehicle data and compare the same with		
	standard output to detect faults in the system		
	PC6. check and make adjustments to clearances, gaps, settings, alignment,		
	pressures, tension, speeds and levels relevant to the engine area,		
	transmission area, chassis area, electrical area and body (including to valves,		
	ignition, fuel and emissions, brakes, transmission, lights, tyres, steering and		
	body fittings).		
	PC7. Check routine service components and materials, including filters, drive, belts,		
	wiper blades, brake linings and pads, lubricants and fluids.		
	PC8. recognise cosmetic damage to vehicle components and units outside normal		
	service items		
	PC9. Check lubricant levels and identify codes and grades of lubricants to be used		
	for specific components of HEMM		
	PC10. Dismantle specific components and assemblies to identify faults		
	PC11. Report malfunctions or repair requirements observed in vehicles beyond what		

is mentioned in the complaint sheet



## National Occupational Standards





Knowledge and Understanding (K)			
A. Regulatory	A. <b>Regulatory</b> The user/individual on the job needs to know and understand:		
context	KA1. Different types of mines and detail of the mine he is working in		
(knowledge of	KA2. Mine Organisation, time keeping, need for discipline and punctuality		
safety guidelines	KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and		
specified by	Hygiene		
Director General	KA4. Standing orders in force at the mine. Safety in the vicinity of machinery		
of Mine Safety	KA5. Shot-firing and Safety regulations. How and where to take shelter		
(DGMS))	KA6. Duties of workmen		
	KA7. Provision of wages, working hours and accident compensation as per Mines		
	act		
	KA8. Knowledge of mining safety procedures		
	KA9. Impact of violation		
B. Organizational	The user/individual on the job needs to know and understand:		
Context	KB1. Job specific documents e.g. daily maintenance checklist and importance of		
(Knowledge of	the same		
organization	KB2. Risk and impact of not following defined procedures/work instructions		
processes)	KB3. Escalation matrix for reporting identified problems		
	KB4. Cost of equipment and loss for the company that results from damage of		
	equipment		
	KB5. All direct /indirect cost of accidents to the company		
	KB6. Implications of delays in process to the company		
	KB7. Locally prepared emergency response /disaster management plan.		



## NOS

### MIN/ N 0491 Diagnose HEMM for repair requirements



### C. Technical

The user/individual on the job needs to know and understand:

### Knowledge

- KC1. The basic technology used in and functioning of various components and aggregates of the vehicle including:
  - engines and fuel system (diesel, petrol, electrical etc.)
  - · cooling system
  - · air supply systems
  - · emission and exhaust system
  - · ignition systems
  - · clutch assembly
  - clutch operating system
  - gearbox (manual and automatic)
  - · drivelines and hubs
  - drive-train assembly and transmission systems (manual, automatic etc.)
  - steering system
  - suspension system
  - brake system
  - tyres and wheels (including wheel alignment)
  - cooling system
  - batteries and power storage system
  - power-generating/transmission systems (including charging and interlocking systems)
  - electrical wire harness, lighting, ignition, electronic and airconditioning systems etc.
  - electronic systems including active and passive safety, media and other systems
  - electronic control unit
  - hydraulic and pneumatic system
  - various lubrication systems
- KC2. The tools used to assess and confirm technical faults that cannot be determined through a visual inspection, including use of (but not limited to):
  - pressure indicators: fuel pressure testers, manifold gauge sets,
     oil pressure gauges, tire pressure gauges
  - measuring equipment: vernier callipers, micrometer, feeler gauges, multi-metre, flow metre, temp gauge, dial gauge etc.
- KC3. The various sources of information available for assessing service and repair requirements of the vehicle including
  - diagnostic displays
  - visual inspections
  - · test drives
  - vehicle/equipment manufacturer specifications
  - standard operating procedures for diagnosis



## National Occupational Standards MIN/ N 0491 Diagnose HEMM for repair requirements



Skills (S) [Optional]		
Element	Skills	
Element A. Core Skills/ Generic Skills	Writing Skills  The user/ individual on the job needs to know and understand how to:  SA1. note down observations (if any)  SA2. write information documents or enter the information in online ERP systems under guidance of the supervisor  Reading Skills	
	The user/individual on the job needs to know and understand how to: 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)	
	The user/individual on the job needs to know and understand how to:  SA6. discuss task lists, schedules and activities  SA7. effectively communicate  SA8. attentively listen with full attention and comprehend the information given by various sources about the site	
B. Professional Skills	Plan and Organize  The user/individual on the job needs to know and understand how to:  SB1. plan and organize the work order and jobs  SB2. organize all process manuals so that sorting/ accessing information is easy  Judgment and Critical Thinking  The user/individual on the job needs to know and understand how to:  SB3. use common sense and make judgments during day to day basis  SB4. use reasoning skills to identify and resolve basic problems	
	SB5. use intuition to detect any potential problems which could arise  Desire to learn and take initiatives  The user/individual on the job needs to know and understand how to: SB6. follow instructions and work on areas of improvement identified SB7. complete the assigned tasks with minimum supervision SB8. complete the job within timelines and quality norms  Problem Solving and Decision making  The user/individual on the job needs to know and understand how to: SB9. detect problems in day to day tasks SB10. discuss possible solution with the supervisor for problem solving SB11. make decisions in emergency conditions	





## MIN/ N 0491 Diagnose HEMM for repair requirements



## **NOS Version Control**

NOS Code	MIN/ N0491		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open cast and Underground mines	Last reviewed on	24/03/2015
Occupation	Mechanical Maintenance	Next review date	24/03/2017

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## National Occupational Standard

## **Overview**

This unit is about carrying out service and repairs of a HEMM, including Loader, Dozer, Excavator, Grader etc.





Unit Code	MIN/ N0492
Unit Title(Task)	Carry out service, repair and maintenance activities
Description	This unit is about performing HEMM maintenance operation for activities that need to be carried out during a shift
Scope	<ul><li>This OS unit/task covers the following:</li><li>Carry out service, repair and maintenance activities</li></ul>

	be carried out during a stifft		
Scope	This OS unit/task covers the following:		
	Carry out service, repair and maintenance activities		
Performance Criteria (I	, · · · · · · · · · · · · · · · · · · ·		
Element	Performance Criteria		
	PC1. ensure OEM recommended procedure and checklist is followed for routine		
	servicing		
Corry out corvice	PC2. in case of non-routine service or repair, confirm tasks to be carried out with		
Carry out service, repair and	superior		
maintenance activities	PC3. ensure that the correct spare parts, lubricants, tools and other materials		
	required have been obtained		
	PC4. calibrate, align and adjust settings, alignment, pressures, tension, speeds and		
	levels relevant to:		
	engine and aggregates		
	transmission system		
	load bearing arms and structure		
	Safety devices and components installed		
	electrical and electronic components		
	other components (including to valves, ignition, fuel and emissions, brakes,		
	transmission, lights, tyres, steering and body fittings)		
	PC5. Identify and change components requiring change due to continuous wear and		
	tear including:		
	oil and air filters		
	drive belts		
	braking system		
	• drive		
	PC6. ensure disposal of materials in accordance with the organization's policies		
	PC7. refill correct grade of coolants, lubricants and other fluids as per OEM		





## MIN/ N 0492 Carry out service and repairs of engine and aggregates



Knowledge and Understanding (K)		
A. Regulatory	The user/individual on the job needs to know and understand:	
context	KA1. Different types of mines and detail of the mine he is working in	
(knowledge of	KA2. Mine Organisation, time keeping, need for discipline and punctuality	
safety guidelines	KA3. Benching in quarries, Dressing of overhangs, Undercuts, Fencing, First aid and	
specified by	Hygiene	
Director General	KA4. Standing orders in force at the mine. Safety in the vicinity of machinery	
of Mine Safety	KA5. Shot-firing and Safety regulations. How and where to take shelter	
(DGMS))	KA6. Duties of workmen	
	KA7. Provision of wages, working hours and accident compensation as per Mines act	
	KA8. Knowledge of mining safety procedures	
	KA9. Impact of violation of safely procedures	
B. Organizational	The user/individual on the job needs to know and understand:	
Context	KB1. Types of documentation in organization e.g. daily maintenance checklist and	
(Knowledge of	importance of the same	
the organization	KB2. Risk and impact of not following defined procedures/work instructions	
and its processes)	KB3. Rules and regulations of mine as per standard operating procedure (SOP)	
	KB4. Risk and impact of not following company's SOP	
	KB5. Escalation matrix for reporting identified problems	
	KB6. The duties and responsibilities associated with his job role as per the	
	employer	
	KB7. Cost of delays to the company	
	KB8. Direct /Indirect cost of accidents to the company	
	KB9. Locally prepared emergency response /disaster management plan.	
C. Technical	The user/individual on the job needs to know and understand:	
Knowledge	KC1. The basic technology used in and functioning of various components and	
	aggregates of the vehicle including:	
	engines and fuel system (diesel, petrol, electrical etc.)      and in a system.	
	<ul><li>cooling system</li><li>air supply systems</li></ul>	
	emission and exhaust system	
	ignition systems	
	clutch assembly	
	clutch operating system	
	gearbox (manual and automatic)	
	drive train assembly and transmission systems (manyal automatic	
	<ul> <li>drive-train assembly and transmission systems (manual, automatic</li> </ul>	



## NOS Nettonal Occupational Standards

## MIN/ N 0492 Carry out service and repairs of engine and aggregates



etc.)

- steering system
- suspension system
- · brake system
- tyres and wheels (including wheel alignment)
- cooling system
- batteries and power storage system
- power-generating/transmission systems (including charging and interlocking systems)
- electrical wire harness, lighting, ignition, electronic and airconditioning systems etc.
- electronic systems including active and passive safety, media and other systems
- electronic control unit
- hydraulic and pneumatic system
- · various lubrication systems
- KC2. Selecting the standard materials for the job such as seals, sealants, fittings, gaskets, joints, fasteners etc. as per manufacturers' specification
- KC3. how to carry out routine maintenance including
  - a. checking vehicle condition against OEM specifications to identify damage, corrosion, wear and tear, fluid levels, leaks and other problems in serviceability
  - b. make adjustments to settings, alignment, pressures, tension, speeds and levels relevant to
    - i. engine and aggregates
    - ii. steering system
    - iii. clutch and brake assembly
    - iv. transmission system
    - v. wheels and axle, or , track system
    - vi. electrical and electronic components
    - vii. other components
- KC4. the type and quality of components specified by the OEM for use as replacement parts
- KC5. the grade of lubricants specified by the OEM for use
- KC6. typical causes and symptoms of operational faults and failures of a vehicle corrective action to be taken for common engine and aggregate system faults and failures
- KC7. faults and failures that necessitate replacement of components and other units
- KC8. how to dispose of replaced components in accordance with safety, health and environmental policies and regulations







## MIN/ N 0492 Carry out service and repairs of engine and aggregates

Skills (S) [Optional]		
Element	Skills	
Element A. Core Skills/ Generic Skills	Writing Skills  The user/ individual on the job needs to know and understand how to:  SA1. note down observations (if any)  SA2. write information documents or enter the information in online ERP systems under guidance of the supervisor  Reading Skills	
	The user/individual on the job needs to know and understand how to:  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)	
	The user/individual on the job needs to know and understand how to:  SA6. discuss task lists, schedules and activities  SA7. effectively communicate  SA8. attentively listen with full attention and comprehend the information given by various sources about the site	
B. Professional Skills	Plan and Organize  The user/individual on the job needs to know and understand how to:  SB1. plan and organize the work order and jobs  SB2. organize all process manuals so that sorting/ accessing information is easy  Judgment and Critical Thinking	
	The user/individual on the job needs to know and understand how to: SB3. use common sense and make judgments during day to day basis SB4. use reasoning skills to identify and resolve basic problems SB5. use intuition to detect any potential problems which could arise  Desire to learn and take initiatives	
	The user/individual on the job needs to know and understand how to: SB6. follow instructions and work on areas of improvement identified SB7. complete the assigned tasks with minimum supervision SB8. complete the job within timelines and quality norms  Problem Solving and Decision making	
	The user/individual on the job needs to know and understand how to: SB9. detect problems in day to day tasks SB10. discuss possible solution with the supervisor for problem solving SB11. make decisions in emergency conditions	







## MIN/ N 0492 Carry out service and repairs of engine and aggregates

## **NOS Version Control**

NOS Code	MIN/ N0492		
Credits(NSQF)	TBD	Version number	1.0
Industry	Mining	Drafted on	15/12/2014
Industry Sub-sector	Open cast and Underground mines	Last reviewed on	24/03/2015
Occupation	Mechanical Maintenance	Next review date	24/03/2017



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# National Occupational Standard



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## **Overview**

This unit is about health and safety measures critical in mines







Unit Code	MIN/N 0901
Unit Title (Task)	Health and Safety
Description	This unit is about health and safety measures critical in mines
Scope	This OS unit/task covers the following:
	Health and safety measures critical in mines
Performance Criteria (PC	) w.r.t. the Scope
Element	Performance Criteria
	To be competent, the user/individual on the job must be able to:
	PC1. Comply with occupational health and safety regulations adopted by the
	employer.
	PC2. Follow mining operations procedures with respect to materials handling
	and accidents
	PC3. Follow the correct safety steps in case of accident or major failure
Safety, Security	PC4. Comply with safety regulations and procedures in case of fire hazard.
and	PC5. Operate various grades of fire extinguishers.
Administrative	PC6. Work responsibly and as safe and careful as possible so as not to put the
	health and safety of self or others at risk, including members of the
	public
	PC7. Perform storage and transport of hazardous materials compliant with
	safety guidelines prescribed by DGMS.
	PC8. Deal with misfires as per statutory requirement
	PC9. Identify characteristics of post-blast fumes and take necessary
	precautions.
	PC10. Wears safety gear such as hard hat, respiratory protection, eye
	protection, ear protection
	PC11. Follow the manufacturer's instructions for care and safe operation of the
	equipment.







Knowledge and Unders	standing (K)		
A. Regulatory	The user/individual on the job needs to know and understand:		
context (knowledge	KA1. Benching in quarries, Dressing of overhangs, undercuts, Fencing		
of safety guidelines	KA2. First aid and Hygiene		
specified by Director	KA3. Code of traffic in specific areas of mine. Significance of fences		
General of Mine	KA4. Standing orders in force at the mine. Safety in the vicinity of machinery		
Safety (DGMS))	KA5. Shot-firing and Safety regulations. How and where to take shelter		
	KA6. Knowledge of mining safety procedures		
	KA7. Impact of violation of safety procedures		
	KA8. Locally prepared Emergency Preparedness / Disaster Management Plan.		
	KA9. Environmental impact of mining		
	KA10. Sources of dust, noise and vibration and measures to minimise		
	KA11. Hazardous material safety and security rules and regulations as prescribed		
	by DGMS		
	KA12. Code of practice for safe handling and transport of dangerous material		
	and heavy equipment.		

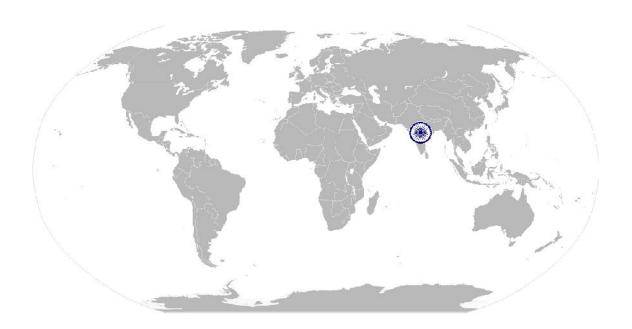






## **NOS Version Control**

NOS Code	MIN/N 0901			
Credits(NSQF)	TBD	Version number	1.0	
Sector	Mining	Drafted on	15/12/2014	
Sub-sector	Industrial Minerals	Last reviewed on	24/03/2015	
Occupation	Mechanical Maintenance	Next review date	24/03/2017	



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## **CRITERIA FOR ASSESSMENT OF TRAINEES**

Job Role HEMM Mechanic

## **Qualification Pack** MIN/Q 0433

## Sector Skill Council Mining

### **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. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training centre (as per assessment criteria below)
- 4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criteria
- 5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
- 6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

				Marks A	llocation
		Total Mark (100)	Out Of	Theory	Skills Practical
1. MIN/N 0491(Diagnose HEMM for repair requirements)	PC1. Conduct scheduled, routine examination methods and assessments against vehicle specifications to identify damage, corrosion, inadequate fluid levels, leaks, wear, security problems and general condition and serviceability	35	4	2	2
	PC2. Review complaint sheet and understand repair requirements		3	2	1
	PC3. Understand original equipment manufacturers' specifications and follow standard operating procedure set out for diagnosing faults		3	2	1
	PC4. Use diagnostic procedures as defined in the troubleshooting checklist prepared by the equipment manufacturer		3	2	1

		<del></del>			
	PC5. Use diagnostic tools as required to assess the problem, this includes using on board diagnostic computer to attain vehicle data and compare the same with standard output to detect faults in the system PC6. check and make		3	1.5	1.5
	adjustments to clearances, gaps, settings, alignment, pressures, tension, speeds and levels relevant to the engine area, transmission area, chassis area, electrical area and body (including to valves, ignition, fuel and emissions, brakes, transmission, lights, tyres, steering and body fittings).		3	1.5	1.5
	PC7. Check routine service components and materials, including filters, drive, belts, wiper blades, brake linings and pads, lubricants and fluids.		3	1.5	1.5
	PC8. recognise cosmetic damage to vehicle components and units outside normal service items		3	1.5	1.5
	PC9. Check lubricant levels and identify codes and grades of lubricants to be used for specific components of HEMM		3	1.5	1.5
	PC10. Dismantle specific components and assemblies to identify faults		4	2	2
	PC11. Report malfunctions or repair requirements observed in vehicles beyond what is mentioned in the complaint sheet	Total	3 <b>35</b>	1.5	1.5
	PG1		35	19	16
2. MIN/N 0492(Carry out service, repair and maintenance activities)	PC1. ensure OEM recommended procedure and checklist is followed for routine servicing	35	5	3	2
	PC2. in case of non-routine service or repair, confirm tasks to be carried out with superior PC3. Ensure that the		5	3	2
	correct spare parts, lubricants, tools and other materials required have been obtained		5	3	2

	ungt				
	"PC4. calibrate, align and adjust settings, alignment, pressures, tension, speeds and levels relevant to: • engine and aggregates • transmission system • load bearing arms and structure • Safety devices and components installed • electrical and electronic components • other components (including to valves, ignition, fuel and emissions, brakes, transmission, lights, tyres, steering and body fittings)		5	3	2
	"PC5. Identify and change components requiring change due to continuous wear and tear including:  • oil and air filters  • drive belts  • braking system  • drive		5	3	2
	PC6. ensure disposal of materials in accordance with the organization's policies		5	3	2
	PC7. refill correct grade of coolants, lubricants and other fluids as per OEM		5	3	2
		Total	35	21	14
3. MIN / N 0901 (Health and Safety)	PC1. Comply with occupational health and safety regulations adopted by the employer.	30	3	2	1
	PC2. Follow mining operations procedures with respect to materials handling and accidents		3	2	1
	PC3. Follow the correct safety steps in case of accident or major failure		3	2	1
	PC4. Comply with safety regulations and procedures in case of fire hazard.		3	2	1
	PC5. Operate various grades of fire extinguishers.		3	2	1
	PC6. Work responsibly and as safe and careful as possible so as not to put the health and safety of self or others at risk, including members of the public		2	1.5	0.5

PC7. Perform storage and transport of hazardous materials compliant with safety guidelines prescribed by DGMS.		2	1.5	0.5
PC8. Deal with misfires as per statutory requirement		2	1	1
PC9. Identify characteristics of post-blast fumes and take necessary precautions.		3	2	1
PC10. Wears safety gear such as hard hat, respiratory protection, eye protection, ear protection		3	2	1
PC11. Follow the manufacturer's instructions for care and safe operation of the equipment.		3	2	1
	Total	30	20	10