Asst. Mechanic - Bearing Maintenance

QP Code:ISC/Q0906

Version: 2.0

NSQF Level: 3

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ISC/Q0906: Asst. Mechanic - Bearing Maintenance

Brief Job Description

The individual in this role performs inspection of the equipment to identify and rectify the problems related to bearings. The individual also carry out routine maintenance and ensure fitness of all types of bearings in the plant.

Personal Attributes

The person should be patient, organised, team-oriented and have the ability to work for long hours in adverse conditions. They must be able to plan and prioritise tasks effectively and have an eye for detail and quality..

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. ISC/N0008: Use basic health and safety practices at the work place
2. ISC/N0009: Work effectively with others
3. ISC/N0929: Prepare for bearing maintenance work
4. ISC/N0930: Perform bearing maintenance activities
5. ISC/N0931: Perform post-maintenance activities

Qualification Pack (QP) Parameters

Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
Occupation	Mechanical Maintenance
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7233.0301
Minimum Educational Qualification & Experience	8th Class Pass with 1 year of relevant experience OR 10th Class Pass
Minimum Level of Education for Training in School	

Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	
Version	2.0

ISC/N0008: Use basic health and safety practices at the workplace

Description

This OS unit is about following safety and adopting sustainable practices for optimising use of resources.

Scope

The scope covers the following :

- Maintain safe and secure working environment
- Emergencies, rescue and first aid procedures
- Health and hygiene
- Housekeeping and waste management
- Material and energy conservation

Elements and Performance Criteria

Maintain safe and secure working environment

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

PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace

PC2. follow safe working practices while dealing with hazards to ensure safety of self and others

PC3. use appropriate protective clothing/equipment for specific tasks and work

PC4. follow appropriate safety practices while working in and around trenches, elevated places and confined areas

PC5. lift heavy objects safely using correct procedures

PC6. carry out routine check of the machine for identifying potential hazards

PC7. report any identified breaches in health, safety and security policies and procedures to the designated person

Emergencies, rescue and first aid procedures

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

PC8. use appropriate type of fire extinguisher

PC9. apply appropriate rescue techniques during fire hazard

PC10. provide appropriate first aid procedure to victims wherever required eg.in case of bleeding, burns, choking, electric shock etc.

PC11. follow emergency procedures such as raising alarm, safe evacuation etc.

PC12. attend safety training and fire drills to respond promptly during an emergency

Health and hygiene

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

PC13. follow regular cleaning and disinfection practices at work place using appropriate techniques and materials

PC14. follow hand hygiene practices at work place using appropriate techniques and materials
PC15. report regarding the contagious illness of self or people in close contact
PC16. avoid contact with ill people and self-isolate in a similar situation

Housekeeping and waste management

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

PC17. follow the fundamentals of 5S for housekeeping
PC18. ensure good housekeeping in order to prevent hazards and accidents
PC19. store the material, tools and equipment in the correct location and in good condition
PC20. segregate waste into different categories
PC21. identify recyclable, non-recyclable and hazardous waste
PC22. dispose non-recyclable, recyclable and reusable waste appropriately at identified location

Material and energy conservation

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

PC23. identify ways to optimize usage of material in various tasks/activities/processes
PC24. check for spills/leakages in various tasks/activities/processes
PC25. plug spills/leakages and escalate to appropriate authority if unable to rectify
PC26. check if the equipment/machine is functioning normally before commencing work and rectify wherever required
PC27. ensure electrical equipment and appliances are properly connected and turned off when not in use

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organisation procedures for health, safety and security, individual role and responsibilities in this context
KU2. the organisation's emergency procedures for different emergency situations and the importance of following the same
KU3. evacuation procedures for workers and visitors
KU4. how and when to report hazards
KU5. potential hazards, risks and threats based on the nature of work
KU6. preventative and remedial actions to be taken in case of exposure to toxic material
KU7. various types of fire extinguisher
KU8. various types of safety signs and their meaning
KU9. appropriate first aid treatment relevant to different condition e.g. bleeding, minor burns, eye injuries etc.
KU10. relevant standards, procedures and policies related to 5S followed in the company
KU11. the various materials used and their storage norms
KU12. efficient utilisation of material and water

KU13. basics of electricity and prevalent energy efficient devices
KU14. common practices of conserving electricity
KU15. categorisation of waste into dry, wet, recyclable, non-recyclable and items of single-use plastics
KU16. usage of different colors of dustbins
KU17. waste management techniques

Generic Skills (GS)

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

GS1. read safety instructions/guidelines
GS2. modify work practices to improve them
GS3. ask for clarifications from superior about the job requirement
GS4. work with supervisors/team members to carry out work related tasks
GS5. complete tasks efficiently and accurately within stipulated time
GS6. inform/report to concerned person in case of any problem
GS7. make timely decisions for efficient utilization of resources
GS8. write reports such as accident report, in at least English/regional language
GS9. be punctual and utilize time efficiently

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintain safe and secure working environment	**10**	**14**	**-**	**6**
PC1. identify hazardous activities and the possible causes of risks or accidents in the workplace	2	2	-	1
PC2. follow safe working practices while dealing with hazards to ensure safety of self and others	2	3	-	1
PC3. use appropriate protective clothing/ equipment for specific tasks and work	1	2	-	1
PC4. follow appropriate safety practices while working in and around trenches, elevated places and confined areas	2	1	-	-
PC5. lift heavy objects safely using correct procedures	1	2	-	1
PC6. carry out routine check of the machine for identifying potential hazards	1	2	-	1
PC7. report any identified breaches in health, safety and security policies and procedures to the designated person	1	2	-	1
Emergencies, rescue and first aid procedures	**6**	**9**	**-**	**5**
PC8. use appropriate type of fire extinguisher	1	1	-	1
PC9. apply appropriate rescue techniques during fire hazard	1	2	-	1
PC10. provide appropriate first aid procedure to victims wherever required eg.in case of bleeding, burns, choking, electric shock etc.	2	2	-	1
PC11. follow emergency procedures such as raising alarm, safe evacuation etc.	1	2	-	1
PC12. attend safety training and fire drills to respond promptly during an emergency	1	2	-	1
Health and hygiene	**2**	**6**	**-**	**2**
PC13. follow regular cleaning and disinfection practices at work place using appropriate techniques and materials	1	2	-	1

PC14. follow hand hygiene practices at work place using appropriate techniques and materials	1	2	-	1
PC15. report regarding the contagious illness of self or people in close contact	-	1	-	-
PC16. avoid contact with ill people and self-isolate in a similar situation	-	1	-	-
Housekeeping and waste management	**7**	**12**	**-**	**5**
PC17. follow the fundamentals of 5S for housekeeping	2	3	-	2
PC18. ensure good housekeeping in order to prevent hazards and accidents	1	2	-	-
PC19. store the material, tools and equipment in the correct location and in good condition	1	2	-	-
PC20. segregate waste into different categories	1	2	-	1
PC21. identify recyclable, non-recyclable and hazardous waste	1	1	-	1
PC22. dispose non-recyclable, recyclable and reusable waste appropriately at identified location	1	2	-	1
Material and energy conservation	**5**	**9**	**-**	**2**
PC23. identify ways to optimize usage of material in various tasks/activities/processes	1	2	-	-
PC24. check for spills/leakages in various tasks/ activities/processes	1	2	-	1
PC25. plug spills/leakages and escalate to appropriate authority if unable to rectify	1	2	-	1
PC26. check if the equipment/machine is functioning normally before commencing work and rectify wherever required	1	2	-	-
PC27. ensure electrical equipment and appliances are properly connected and turned off when not in use	1	1	-	-
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0008
NOS Name	Use basic health and safety practices at the work place
Sector	Iron & Steel
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

ISC/N0009: Work effectively with others

Description

This OS unit is about communicating with colleagues/superiors and others, either in own work group or in other work groups within organisation.

Scope

The scope covers the following :

- Communicate effectively with colleagues and others
- Interact with supervisor
- Follow appropriate behaviour at work place

Elements and Performance Criteria

Communicate effectively with colleagues and others

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

PC1. coordinate with colleagues to share work, as per the workload in order to achieve team goals

PC2. maintain clear communication with colleagues and others, wherever needed, through all means i.e. face-to-face, telephonic or written

PC3. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity

PC4. respect all colleagues and co-workers

PC5. resolve conflicts by communicating with colleagues and other departments

Interact with supervisor

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

PC6. identify work requirements by receiving instructions from reporting supervisor

PC7. escalate problems to supervisors that cannot be handled

PC8. report the completed work

PC9. interact with the reporting supervisor about any possible hazards and safety concerns

Follow appropriate behaviour at work place

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

PC10. extend help to people with Disability (PwD) at workplace, if required

PC11. empathize with people with disability

PC12. adopt a gender neutral behavior

PC13. adopt responsible and disciplined behaviours at the workplace

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. the importance of effective communication and establishing good working relationships with colleagues and supervisor
KU2. different methods of communication as per the circumstances
KU3. importance of teamwork in organization and individual success
KU4. various components of effective communication
KU5. barriers to effective communication
KU6. common reasons for interpersonal conflict
KU7. what constitutes disciplined behaviour for a working professional
KU8. gender concepts, issues & legislation
KU9. organisational policies and procedures related to gender equality
KU10. challenges faced by PWD and the ways to help them overcome the same

Generic Skills (GS)

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

GS1. read instructions/guidelines/procedures
GS2. listen effectively and orally communicate information
GS3. ask for clarification and advice from the concerned person
GS4. maintain positive and effective relationships with colleagues
GS5. evaluate the possible solution(s) to the problem
GS6. spot and communicate potential areas of disruptions in the work process and report the same
GS7. complete written work with attention to detail
GS8. check that the work meets customer requirements

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Communicate effectively with colleagues and others	13	20	-	9
PC1. coordinate with colleagues to share work, as per the workload in order to achieve team goals	3	5	-	2
PC2. maintain clear communication with colleagues and others, wherever needed, through all means i.e. face-to-face, telephonic or written	5	7	-	3
PC3. adjust communication styles to reflect gender and persons with disability (PwD) sensitivity	3	4	-	2
PC4. respect all colleagues and co-workers	1	2	-	1
PC5. resolve conflicts by communicating with colleagues and other departments	1	2	-	1
Interact with supervisor	8	14	-	6
PC6. identify work requirements by receiving instructions from reporting supervisor	2	3	-	1
PC7. escalate problems to supervisors that cannot be handled	2	3	-	2
PC8. report the completed work	2	3	-	1
PC9. interact with the reporting supervisor about any possible hazards and safety concerns	2	5	-	2
Follow appropriate behaviour at work place	9	16	-	5
PC10. extend help to people with Disability (PwD) at workplace, if required	2	4	-	2
PC11. empathize with people with disability	2	4	-	1
PC12. adopt a gender neutral behavior	2	4	-	1
PC13. adopt responsible and disciplined behaviours at the workplace	3	4	-	1
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0009
NOS Name	Work effectively with others
Sector	Iron & Steel
Sub-Sector	Generic
Occupation	Generic
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	NA
Next Review Date	NA
NSQC Clearance Date	

ISC/N0929: Prepare for bearing maintenance work

Description

This unit is about preparing for the bearing maintenance work as per the given work instructions and the standards specified by the organisation.

Scope

This unit/task covers the following:

- Identify work requirements
- Prepare for bearing maintenance work

Elements and Performance Criteria

Identify work requirements

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

PC1. identify the work to be done by interpreting the engineering drawings/work order/SOPs

PC2. interpret information from sections, views and scale of measurement used in drawing of the equipment

PC3. identify correct limits, tolerance and fits of bearings by interpreting machine drawings properly

PC4. identify the bearings, tools, equipment, machine and materials required for the job

PC5. select and arrange the right bearings, material, tools, equipment and consumables as per the SOP and job requirements

PC6. report to stores / supervisor in case of non-availability of tools, tackles and spares

Prepare for bearing maintenance work

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

PC7. use appropriate Personal Protective Equipment (PPE) for safe working in workshop

PC8. plan sequence of activities such as bearing changing, mounting, dismounting and maintenance need to perform during bearing maintenance work

PC9. check the material, tools, equipment and machines for any defects and that they are as per the required quality standards

PC10. check and calibrate the tools and equipment before use

PC11. prepare tools, tackles, spares, lifting equipment etc. as per SOP/WI

PC12. ensure not to store multiple bearings on top of each other and large bearings in the upright position

PC13. check the bearings in equipment for any problem i.e. radial run out of assembled bearing, face run out with race way, face run out with bore, race way parallel with face, outside face inclination and thickness variance etc.

PC14. select and replace the appropriate bearing in the equipment, if required

PC15. report damaged / defective components of equipment and bearings as per the escalation matrix

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant standards and procedures followed in the company
KU2. relevant standards and procedures followed in the company
KU3. impact of not following defined procedures/ work instructions
KU4. how to read engineering drawing and sketches of the equipment
KU5. Standard Operating Procedures (SOP) recommended by OEM for using tools, tackles and equipment (lifting equipment, various sizes of spanner, dial gauge, Vernier calliper, filler gauge, torque range, bearing heating furnace etc.)
KU6. various types of lubricants and their selection criteria
KU7. how to handle the lubricants safely
KU8. basic process followed for bearing maintenance work
KU9. different types of bearings e.g. single row radial ball bearing, roller bearing, angular contact ball bearing, self-aligning bearing, special bearing races, cylindrical roller bearing, single/double row tapered roller bearing, thrust bearing etc.
KU10. different parts of bearing
KU11. methods for cleaning of bearing
KU12. limits, fits and tolerances of the bearings and equipment of bearings

Generic Skills (GS)

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

GS1. read work instructions, equipment manuals and process documents
GS2. communicate the process requirements to the supervisor and co-workers
GS3. attentively listen and comprehend the information given by the supervisor/team members
GS4. write work related information in English/regional language
GS5. recognise a workplace problem and take suitable action
GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
GS7. plan and organise work according to the work requirements
GS8. complete the assigned tasks with minimum supervision
GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Identify work requirements	**13**	**19**	**-**	**9**
PC1. identify the work to be done by interpreting the engineering drawings/work order/SOPs	1	2		1
PC2. interpret information from sections, views and scale of measurement used in drawing of the equipment	2	4		2
PC3. identify correct limits, tolerance and fits of bearings by interpreting machine drawings properly	2	3		2
PC4. identify the bearings, tools, equipment, machine and materials required for the job	5	3		3
PC5. select and arrange the right bearings, material, tools, equipment and consumables as per the SOP and job requirements	2	5		1
PC6. report to stores / supervisor in case of non-availability of tools, tackles and spares	1	2		
Prepare for bearing maintenance work	**17**	**31**	**-**	**11**
PC7. use appropriate Personal Protective Equipment (PPE) for safe working in workshop	1	2		1
PC8. plan sequence of activities such as bearing changing, mounting, dismounting and maintenance need to perform during bearing maintenance work	2	3		2
PC9. check the material, tools, equipment and machines for any defects and that they are as per the required quality standards	3	6		1
PC10. check and calibrate the tools and equipment before use	2	3		1
PC11. prepare tools, tackles, spares, lifting equipment etc. as per SOP/WI	2	3		1
PC12. ensure not to store multiple bearings on top of each other and large bearings in the upright position	1	2		1
PC13. check the bearings in equipment for any problem i.e. radial run out of assembled bearing, face run out with race way, face run out with bore, race way parallel with face, outside face inclination and thickness variance etc.	3	6		2

PC14. select and replace the appropriate bearing in the equipment, if required	2	4		2
PC15. report damaged / defective components of equipment and bearings as per the escalation matrix	1	2		
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0929
NOS Name	Prepare for bearing maintenance work
Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
Occupation	Mechanical Maintenance
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	
Next Review Date	
NSQC Clearance Date	

ISC/N0930: Perform bearing maintenance activities

Description

This NOS is about rectifying the identified problem and carrying out lubrication and maintenance of bearings

Scope

This unit/task covers the following:

- Conduct routine maintenance of bearings
- Carry out lubrication of bearings
- Monitor vibration and temperature in the equipment

Elements and Performance Criteria

Conduct routine maintenance of bearings

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

PC1. follow the checklist and ensure all assembly check points of equipment are inspected for defects and all the observations are noted properly

PC2. dismantle the equipment as per the SOP/WI

PC3. check the bearings for any defects or geometric inaccuracies and rectify them as per SOP/WI

PC4. clean, change or repair the bearing as per requirement

PC5. assemble back the bearing related parts as per the drawing

PC6. fasten the mechanical components/ subassemblies together by using specified screws, bolts, and collars

PC7. set and adjust the linkages, tensions and clearances of assembled components to specified specifications by using fixed gauges and hand tools

Carry out lubrication of bearings

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

PC8. select the appropriate lubricant as per the manufacturer recommendation and SOP

PC9. measure the gaps between bearings and equipment surface by using measurement gauges

PC10. carry out hand scraping in case of babbitt bearing

PC11. apply lubricate on the bearing properly and ensure full coverage of bearing surface

Monitor vibration and temperature in the equipment

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

PC12. use appropriate vibration and temperature measuring instruments to monitor the vibration and temperature in the equipment

PC13. read the gauges and record the temperature and vibration readings from them

PC14. analyse the readings to identify any deviations and correct them if not within the desired levels
PC15. report to supervisor for taking the further action

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant standards and procedures followed in the company
KU2. relevant standards and procedures followed in the company
KU3. quality and damage checks to be done and importance of the same
KU4. different lubricants and their applications
KU5. different type of bearings and their applications
KU6. use of instruments for measurement of temperature and vibration
KU7. dismantling and assembling procedure of equipment
KU8. possible causes of common problems related to bearings in the equipment and their remedies
KU9. various type of defects in bearings and their impact on the bearing performance
KU10. methods for repairing defects in bearings
KU11. Standard Operating Procedures (SOP) recommended by OEM for using tools, tackles and equipment (lifting equipment, various sizes of spanner, dial gauge, Vernier calliper, filler gauge, torque range, bearing heating furnace etc.)
KU12. documentation required regarding repair, maintenance and service performed

Generic Skills (GS)

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

GS1. read signals, work instructions, equipment manuals and process documents
GS2. communicate the process requirements to the supervisor and co-workers
GS3. attentively listen and comprehend the information given by the supervisor/team members
GS4. write work related information in English/regional language
GS5. recognise a workplace problem and take suitable action
GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
GS7. plan and organise work according to the work requirements
GS8. complete the assigned tasks with minimum supervision
GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Setting up machine	**16**	**27**	**-**	**12**
PC1. follow the checklist and ensure all assembly check points of equipment are inspected for defects and all the observations are noted properly	2	3		2
PC2. dismantle the equipment as per the SOP/WI	2	3		1
PC3. check the bearings for any defects or geometric inaccuracies and rectify them as per SOP/WI	2	5		2
PC4. clean, change or repair the bearing as per requirement	3	5		2
PC5. assemble back the bearing related parts as per the drawing	2	3		1
PC6. fasten the mechanical components/ subassemblies together by using specified screws, bolts, and collars	2	3		1
PC7. set and adjust the linkages, tensions and clearances of assembled components to specified specifications by using fixed gauges and hand tools	3	5		3
Perform machining on the component	23	39		14
PC8. select the appropriate lubricant as per the manufacturer recommendation and SOP	2	3		2
PC9. measure the gaps between bearings and equipment surface by using measurement gauges	1	2		
PC10. carry out hand scraping in case of babbitt bearing	2	3		2
PC11. apply lubricate on the bearing properly and ensure full coverage of bearing surface	6	10		4
Monitor vibration and temperature in the equipment	**7**	**11**		**3**
PC12. perform various machining operations on the metal block to get the shape and dimension as per the drawing/work order	2	4		1
PC13. cut, shape and trim the metal block to specified lengths and shapes by using conventional/CNC machines	2	3		1
PC14. monitor the process parameters by reading the various gauges and correct them if not within standards	2	2		1

PC15. monitor the machine operations for any malfunctions/defects in the component and inform the supervisor/maintenance team for correction	1	2		
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0930
NOS Name	Perform bearing maintenance activities
Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
Occupation	Mechanical Maintenance
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	
Next Review Date	
NSQC Clearance Date	

ISC/N0931: Perform post-maintenance activities

Description

This NOS is about performing post-maintenance activities such as quality check, cleaning and storing.

Scope

This unit/task covers the following:

- Conduct tests to ensure fitness of equipment
- Perform post-testing activities

Elements and Performance Criteria

Conduct tests to ensure fitness of equipment

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

PC1. check the alignment of bearing related parts in the equipment

PC2. check the bearing for vibrations to ensure they are within desired limits

PC3. conduct trials of the equipment to ensure that specified parameters are attained with no abnormalities

PC4. record the trial results as per the organisation guidelines

PC5. ensure that all maintenance points are adequately considered and report the superiors about maintenance activity done on the bearing

Perform post-testing activities

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

PC6. clean and store all the tools, machine and equipment after completion of work

PC7. check the machine operations for any malfunctions/defects in the component and inform the supervisor/maintenance team for correction

PC8. dispose scrap or waste material into the disposal area in accordance with the company's policies and environmental regulations

PC9. report to the supervisor about any problems faced or anticipated during the complete process

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. relevant standards and procedures followed in the company

KU2. quality checks to be done and importance of the same

KU3. how to conduct trial of the equipment

KU4. post-maintenance processes like inspection, cleaning, storage etc.

KU5. methods of storage and cleaning tools and equipment

KU6. documentation required regarding repair, maintenance and service performed

KU7. escalation matrix for reporting identified problem

Generic Skills (GS)

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

GS1. read work instructions, equipment manuals and process documents
GS2. communicate the process requirements to the supervisor and co-workers
GS3. attentively listen and comprehend the information given by the supervisor/team members
GS4. write work related information in English/regional language
GS5. recognise a workplace problem and take suitable action
GS6. analyse and apply the information gathered from observation, experience, reasoning or communication to act efficiently
GS7. plan and organise work according to the work requirements
GS8. complete the assigned tasks with minimum supervision
GS9. report to the supervisor or deal with a colleague individually, depending on the type of concern

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Conduct tests to ensure fitness of equipment	**19**	**31**	**-**	**12**
PC1. check the alignment of bearing related parts in the equipment	4	7		3
PC2. check the bearing for vibrations to ensure they are within desired limits	4	7		3
PC3. conduct trials of the equipment to ensure that specified parameters are attained with no abnormalities	4	6		2
PC4. record the trial results as per the organisation guidelines	3	5		2
PC5. ensure that all maintenance points are adequately considered and report the superiors about maintenance activity done on the bearing	4	6		2
Perform post-testing activities	**11**	**19**		**8**
PC6. clean and store all the tools, machine and equipment after completion of work	4	5		3
PC7. check the machine operations for any malfunctions/defects in the component and inform the supervisor/maintenance team for correction	3	5		2
PC8. dispose scrap or waste material into the disposal area in accordance with the company's policies and environmental regulations	2	5		2
PC9. report to the supervisor about any problems faced or anticipated during the complete process	2	4		1
NOS Total	**30**	**50**	**-**	**20**

National Occupational Standards (NOS) Parameters

NOS Code	ISC/N0931
NOS Name	Perform post-maintenance activities
Sector	Iron & Steel
Sub-Sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory, Foundry
Occupation	Mechanical Maintenance
NSQF Level	3
Credits	TBD
Version	2.0
Last Reviewed Date	
Next Review Date	
NSQC Clearance Date	

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) (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 center (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5. In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
6. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
ISC/N0008. Use basic health and safety practices at the work place	30	50	0	20	100	15
ISC/N0009. Work effectively with others	30	50	0	20	100	15
ISC/N0929. Prepare for bearing maintenance work	30	50	0	20	100	20
ISC/N0930. Perform bearing maintenance activities	30	50	0	20	100	25
ISC/N0931. Perform post-maintenance activities	30	50	0	20	100	25
Total	**150**	**250**	**0**	**100**	**500**	**100**

Acronyms

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

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
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.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (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 (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
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.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.

Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.