

## QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR IRON & STEEL 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
- 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 Pack - Rigger: Rigging of Heavy Material

SECTOR: Iron & Steel

SUB-SECTOR: Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory

REFERENCE ID : ISC/Q0908

ALIGNED TO: NCO-2004/NIL

Title of Job: The job is all about selection of tools and tackles, understanding and analysis of load distribution and lifting, moving (to be tied with manila rope to arrest lateral movement) of loads safely as per needs of the group ( Fitter, Welder etc.)

Personal Attributes: This job requires the individual to work independently as well as in teams. He should be physically fit, not have colour blindness , have analytical skills, problem solving attitude, high concentration levels and willingness to work in a factory environment.

*Qualifications Pack for*  
Rigger : Rigging of Heavy Material

Job Details	Qualifications Pack Code	ISC/Q0908		
	Job Role	Rigger: Rigging of Heavy Material		
	Credits(NSQF)	TBD	Version number	1.0
	Industry	Iron & Steel	Drafted on	08/09/2014
	Sub-sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory	Last reviewed on	30/12/2014
	Occupation	Mechanical Maintenance	Next review date	30/12/2015
	NSQC Clearance on	18/06/2015		

Job Role	Rigger : Rigging of Heavy Material
Role Description	The job holder is responsible for selection of tools and tackles, understanding and analysis of load distribution and lifting of loads safely as per needs of the group ( Fitter, Welder, etc.).
NSQF level	3
Minimum Educational Qualifications	Class 10 <sup>th</sup> Pass
Maximum Educational Qualifications	ITI Pass
Training (Suggested but not mandatory)	<ul style="list-style-type: none"> <li>Working knowledge of tools &amp; fixtures (mandatory)</li> <li>Hands on rigging practice for 2 weeks (mandatory)</li> <li>5S and safety practices (mandatory)</li> <li>Working at heights, confined spaces &amp; high temperatures (mandatory)</li> </ul>
Experience	<ul style="list-style-type: none"> <li>Class 10th pass with 4-6 years of experience, otherwise 2-3 years with ITI Pass</li> <li>In lieu of minimum qualification the incumbent should have minimum 6 to 7 years relevant experience in the similar field/function (e.g. Blast furnace construction/Relining etc.) as utility hand/helper</li> </ul>
Occupational Standards (OS)	Compulsory: <a href="#">ISC/N0935: Understand the given job of rigging</a>

Qualifications Pack for  
Rigger : Rigging of Heavy Material

	<p><a href="#">ISC/N0936: Carry out the required job of rigging</a> <a href="#">ISC/N0008: Use basic health and safety practices at the work place</a> <a href="#">ISC/N0009: Works effectively with others</a></p> <p>Optional: N/A</p>
Performance Criteria	As described in the relevant NOS units

Keywords /Terms	Description
Core Skills/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 NOS, these include communication related skills that are applicable to most job roles.
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 NOS.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
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.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Organisational Context	Organisational 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.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Scope	Scope is the 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 the quality of performance required.
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.

*Qualifications Pack for*  
Rigger : Rigging of Heavy Material

Sub-Sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Unit Code	Unit Code is a unique identifier for a NOS unit, which can be denoted with an 'N'
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be able to do.
Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
Keywords /Terms	Description
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
OEM	Original Equipment Manufacturer
OS	Occupational Standard(s)
QP	Qualifications Pack
5 S	Technique of maintaining orderliness –Japanese terminology
CP	Control Plan
WI	Work Instructions

ISC/N0935: Understand the given job of rigging

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## Overview

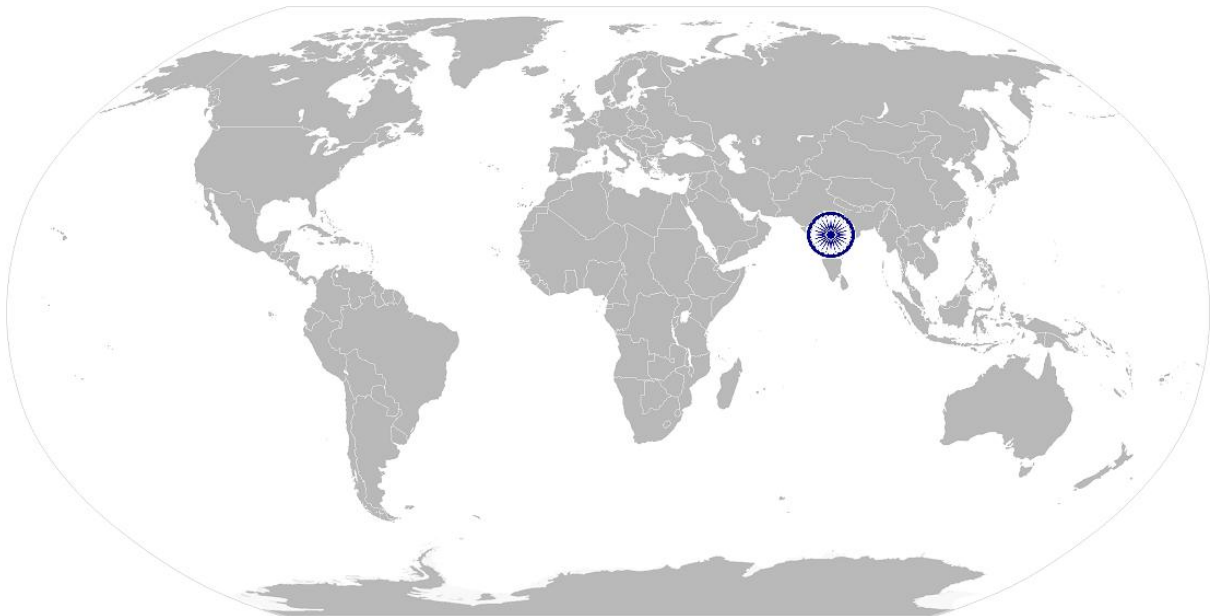
This NOS is about understanding the rigging job requirements in accordance with the checklist and seek any clarifications on the same

Unit Code	ISC/N0935
Unit Title (Task)	Understand the given job of rigging
Description	This unit is about understanding the requirements of the rigging job after receiving the checklist from the supervisor, seek any clarifications on the requirements of the job and identify the tools and tackles that would be needed to carry out the rigging job
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>Understand the assigned rigging job in accordance with the instructions / checklist</li> <li>Identify the tools and tackles that are required to carry out the assigned rigging job</li> </ul>
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Understand the assigned rigging job in accordance with the instructions / checklist	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Interpret the checklist and understand the rigging job requirements</p> <p>PC2. Identify the associated, risks and hazards</p> <p>PC3. Make a work plan to carry out the rigging job considering the area of work and floor load bearing capacity</p>
Identify the tools and tackles that are required to carry out the assigned rigging job	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC4. Identify tools, tackles &amp; equipment required to perform the operation and inspect them before operation</p> <p>PC5. Identify and select knots based on the requirement e.g. Bowline knots, Slip knots, Butterfly knots etc.</p> <p>PC6. Use various types of rigging equipments and basic hitches and their applications</p> <p>PC7. Identify hitch configurations and capacities</p> <p>PC8. Identify appropriate anchors</p> <p>PC9. Identify appropriate slings, wire ropes, end terminations and tightness</p> <p>PC10. Identify appropriate chains, pulley required for the rigging job</p> <p>PC11. Understand wind force, temperature and visibility</p> <p>PC12. Asks helper to carry tools required to the desired work site (slings as required, different type of shackles, eyebolt, chain-block etc.)</p> <p>PC13. Report to stores in case of non-availability of tools &amp; tackles or stock-out</p>
Element	Knowledge and Understanding
A. Organisational Context (Knowledge of the Company/ Organisation and	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Quality and damage checks to be done and importance of the same</p> <p>KA2. Risk and impact of not following defined procedures/work instructions</p> <p>KA3. Escalation matrix for reporting identified issues</p>

its processes)	
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Basic physics as it relates to mass, weight and centre of gravity                  KB2. Basic concept related to friction and equilibrium                  KB3. Distribution of load                  KB4. Weight loads and sling capacity/size                  KB5. Techniques to use slings                  KB6. Techniques to use shackle                  KB7. Techniques to use eyebolt                  KB8. Techniques to use chain-block                  KB9. Techniques to use hoist                  KB10. Techniques to tie different types of knots                  KB11. Force consideration as they relate to movement of heavy objects                  KB12. Implications of not adhering to sequence of activities and operations                  KB13. Units of measurement                  KB14. Response to emergencies e.g. Power failures ,fire and system failures</p>
Skills (S) w.r.t. the scope	
Element	Skills
A. Core Skills/ Generic Skills	<p style="background-color: #e6f2ff;">Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Construct simple sentences and express ideas clearly through written communication                  SA2. Fill up appropriate technical forms, process charts, activity logs in required format of the company</p> <p style="background-color: #e6f2ff;">Reading and Understanding Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Read and interpret engineering and machine drawings                  SA4. Read and understand manuals, health and safety instructions, memos, reports, job cards etc.</p> <p style="background-color: #e6f2ff;">Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Express statements, opinions or information clearly so that others can hear and understand                  SA6. Respond appropriately to any queries                  SA7. Communicate with team members and supervisor</p>
B. Professional Skills	<p style="background-color: #e6f2ff;">Analytical Thinking</p> <p>The user/individual on the job needs to know and understand how to:</p>

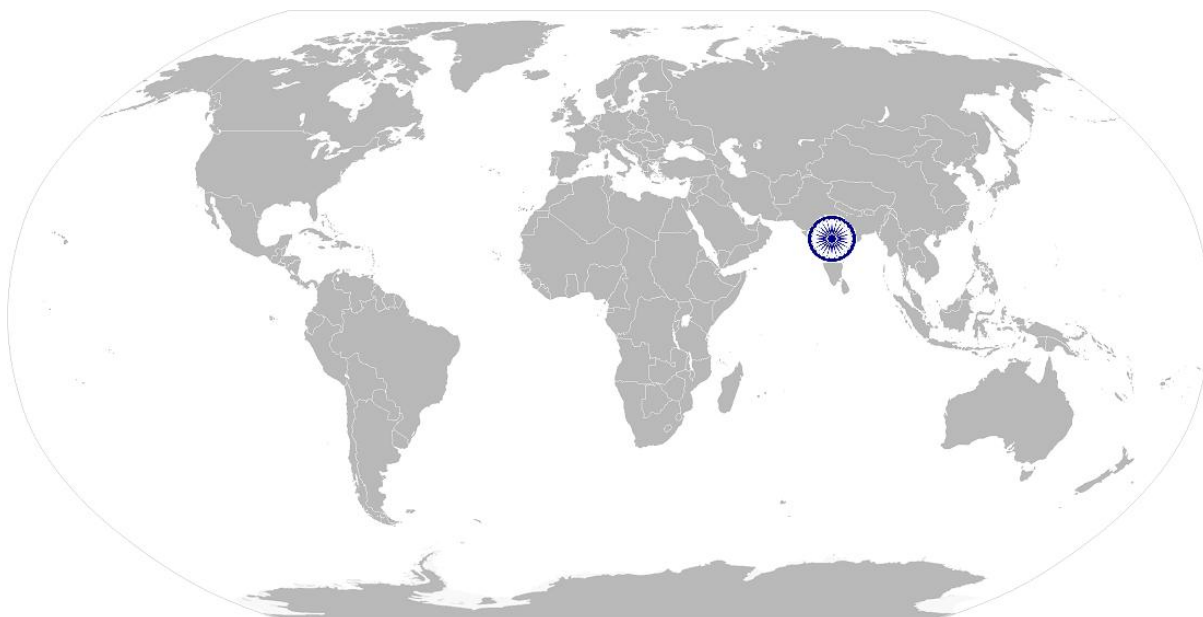


	SB1. Diagnose common problems during the rigging operation based on visual inspection SB2. Suggest improvements(if any) in rigging based on experience
	Process Orientation
	The user/individual on the job needs to know and understand how to:  SB3. Adhere to laid down processes for rigging operation SB4. Adhere to safety standards and procedures for rigging SB5. Escalate issues, concerns if any to supervisors, proactively



## NOS Version Control

NOS Code	ISC/N0935		
Credits(NSQF)	TBD	Version number	1.0
Industry	Iron and steel	Drafted on	08/09/2014
Industry Sub-sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory	Last reviewed on	30/12/2014
Occupation	Mechanical Maintenance	Next review date	30/12/2015



ISC/N0936: Carry out the required job of rigging

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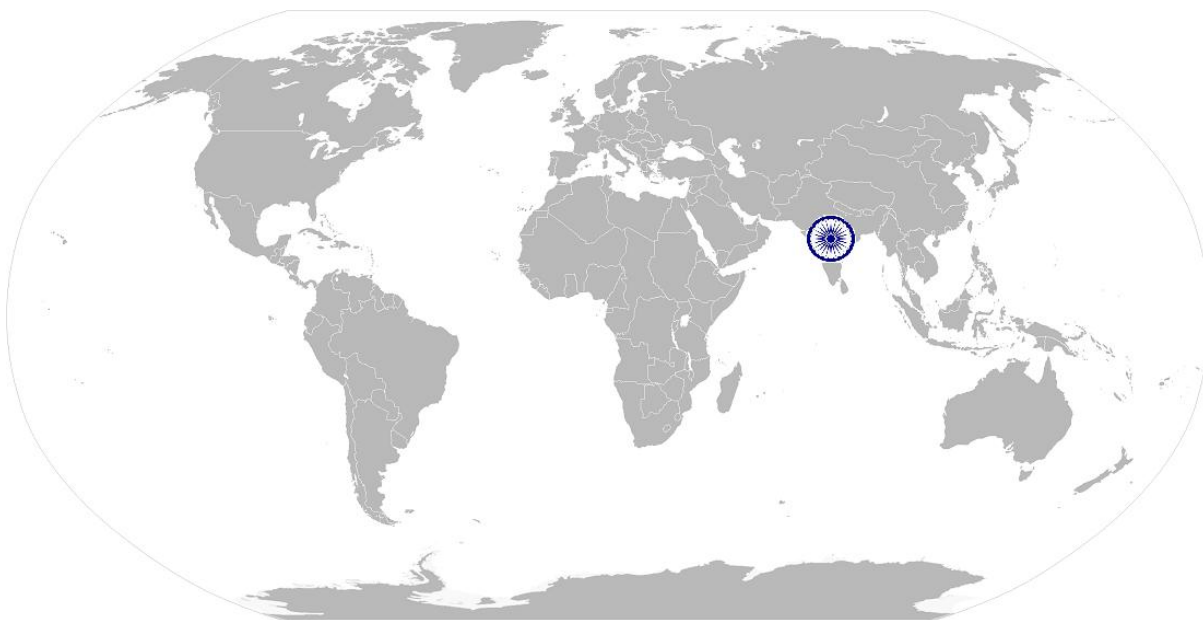
## Overview

This NOS is about carrying out the rigging operations in terms of identifying the correct position for setting up tools, tackles & checking if rigging required prior to shut down or other operations

Unit Code	ISC/N0936
Unit Title (Task)	Carry out the required job of rigging
Description	This unit is about carrying out the operations assigned to the Rigger and report to the supervisor on successful completion of job and/or escalate issues if any.
Scope	<p>This unit covers the following:</p> <ul style="list-style-type: none"> <li>Plan the rigging operation based on actual load, equipment to be lifted and moved</li> <li>Execute the rigging operation</li> <li>Complete post rigging activities</li> </ul>
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Plan the rigging operation based on actual load, equipment to be lifted and moved	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. Understand the weight and volume of loads                      PC2. Estimate the centre of gravity of the load                      PC3. Identify the lift points of in the load                      PC4. Determine and select rigging based on loading                      PC5. Perform pre-use inspection of rigging and lift points                      PC6. Ensure hoisting/rigging activity is not performed under hazardous conditions e.g. close proximity to energised line                      PC7. Understand hazards related to the rigging job at hand                      PC8. Plan, in accordance with safety guidelines</p>
Execute the rigging operation	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC9. Verify that all slings and hardware are rated more than the expected load                      PC10. Use padding to protect synthetic slings from damage                      PC11. Attach pulleys and blocks to fix overhead structure e.g. beams, equipment assemblies, valves etc.                      PC12. Provide necessary support/tie the load to be handled                      PC13. Control movement of heavy loads during lifting through narrow openings/confined space to prevent any lateral damage and for safe working                      PC14. Provide signal / verbal direction for moving loads to co-workers                      PC15. Tilt, dip and turn suspended load to maneuver obstacles around the work place using multi point suspension techniques                      PC16. Identify false modes and carry out emergency damage control</p>
Complete post rigging activities	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC17. Remove tools and tackles, slings etc. from the working area after job is completed                      PC18. Remove hoisting equipment, crane, chain blocks, pull hoists etc. from the work</p>

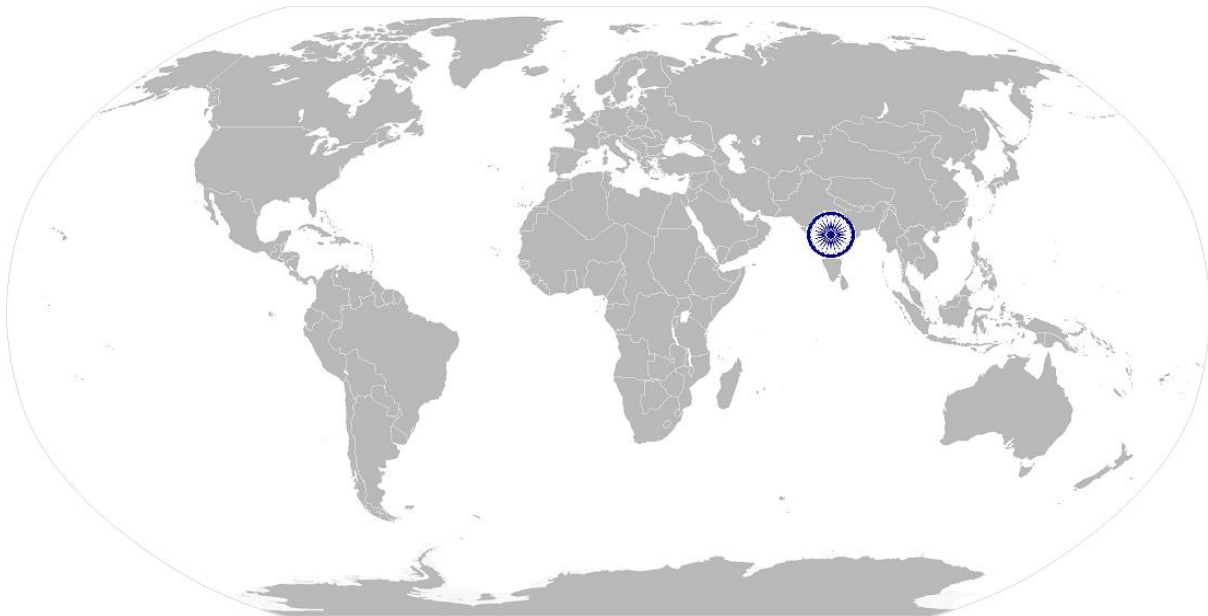
	place PC19. Ensure the work site is left in clean and safe condition PC20. Ensure all tools and tackles, slings, chain blocks etc. are returned to the department store
<b>Element</b>	<b>Knowledge and Understanding</b>
A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	The user/individual on the job needs to know and understand:  KA1. Quality and damage checks to be done and importance of the same KA2. Risk and impact of not following defined procedures/work instructions KA3. Escalation matrix for reporting identified issues
B. Technical Knowledge	The user/individual on the job needs to know and understand:  KB1. Conversant with fastening practices KB2. Knowledge of proper specifications of jacks, de shackles, clits, pulleys, chains, lifting tackles, slings etc. KB3. Knowledge of various rigging knots and their use KB4. Checks that need to be made to ensure that equipment is safe and ready to use KB5. Limits, fits and tolerances KB6. Estimation of weight of the material KB7. Knowledge of crane signals
<b>Skills (S) w.r.t. the scope</b>	
<b>Element</b>	<b>Skills</b>
A. Core/ Generic skills	Oral Communication (Listening and Speaking skills)  The user/individual on the job needs to know and understand how to:  SA1. Express statements, opinions or information clearly so that others can hear and understand SA2. Respond appropriately to any queries SA3. Communicate with team members supervisor
B. Professional Skills	Detail Orientation  The user/individual on the job needs to know and understand how to:  SB1. Pay attention to the load carrying ability of different areas before starting rigging operation SB2. Ensure that all parts are tightly fastened according to given specifications before handover  Process Orientation  The user/individual on the job needs to know and understand how to:  SB3. Adhere to laid down processes for rigging operation

	SB4. Adhere to safety standards and procedures for rigging SB5. Escalate issues, concerns if any to supervisors, proactively
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## NOS Version Control

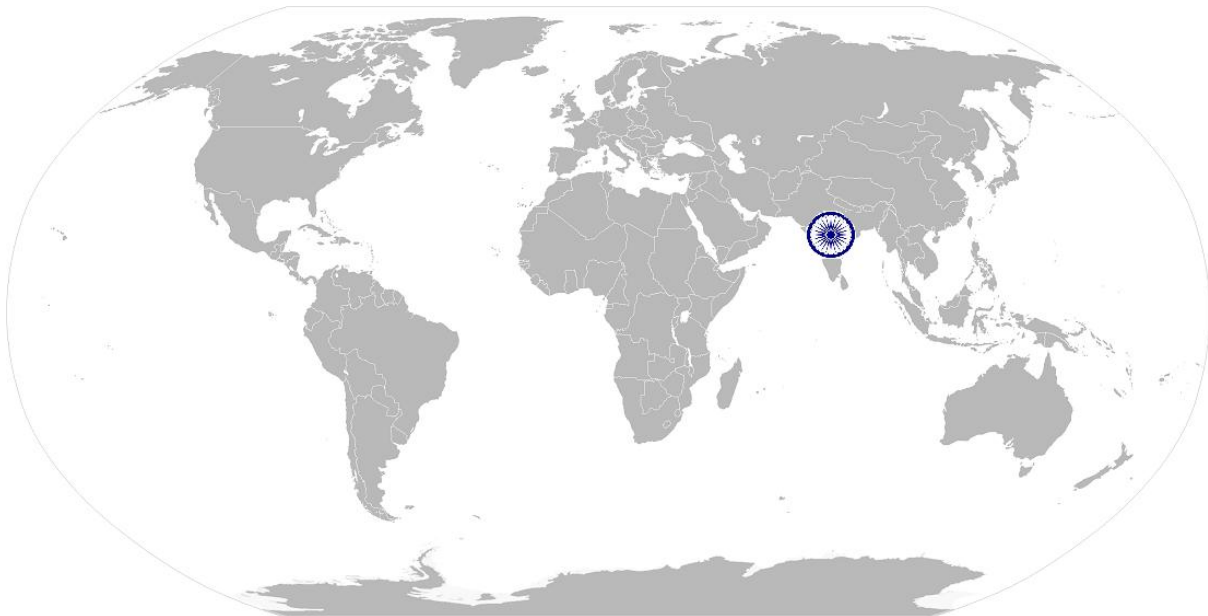
NOS Code	ISC/N0936		
Credits(NSQF)	TBD	Version number	1.0
Industry	Iron and steel	Drafted on	08/09/2014
Industry Sub-sector	Steel, Sponge iron, Ferro Alloys, Re-Rollers, Refractory	Last reviewed on	30/12/2014
Occupation	Mechanical Maintenance	Next review date	30/12/2015



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

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# National Occupational Standards



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## Overview

This unit covers health, safety and security at the workplace. This includes procedures and practices that candidates need to follow to help maintain a healthy, safe and secure work environment.



National Occupational Standard	Unit Code	ISC/N0008
	Unit Title (Task)	Use basic health and safety practices at the workplace
	Description	<p>This OS unit is about knowledge and practices relating to health, safety and security that candidates need to use in the workplace. It covers responsibilities towards self, others, assets and the environment.</p> <p>It includes understanding of risks and hazards in the workplace, along with common techniques to minimize risk, deal with accidents, emergencies, etc.</p>
	Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Health and safety procedures</li> <li>• Fire safety procedures</li> <li>• Emergencies, rescue and first aid procedures</li> </ul>
Performance Criteria (PC) w.r.t. the Scope		
	Element	Performance Criteria
	Health and safety procedures	<p>The user/individual on the job should be able to:</p> <p>PC1. Use protective clothing/equipment for specific tasks and work conditions</p> <p>Protective clothing includes:</p> <ul style="list-style-type: none"> <li>• Leather or asbestos gloves</li> <li>• Flame proof aprons</li> <li>• Flame proof overalls buttoned to neck</li> <li>• Cuff less (without folds) trousers</li> <li>• Reinforced footwear</li> <li>• Helmets/hard hats</li> <li>• Cap and shoulder covers</li> <li>• Ear defenders/plugs</li> <li>• Safety boots</li> <li>• Knee pads</li> <li>• Particle masks</li> <li>• Glasses/gloves/visors</li> </ul> <p>Equipment includes:</p> <ul style="list-style-type: none"> <li>• Hand shields</li> <li>• Machine guards</li> <li>• Residual current devices</li> <li>• Shields</li> <li>• Dust sheets</li> <li>• Respirator</li> </ul> <p>PC2. State the name and location of people responsible for health and safety in the workplace</p>

Various areas are listed below:

- On chemical containers
- Equipment
- Packages
- Inside buildings
- Open areas, public places etc.

PC3. State the names and location of documents that refer to health and safety in the workplace

PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace

Hazards include:

- Working with electrical and thermal tools and equipment
- Sharp edged and heavy tools
- Heated metals
- Oxyfuel and gas cylinders
- Welding radiation
- Surfaces: sharp, slippery, uneven, chipped, broken, etc.
- Substances: chemicals, gas, oxy-fuel, fumes, dust, etc.
- Physical: working at heights, large and heavy objects and machines, sharp and piercing objects, tools and machines, intense light, load noise, obstructions in corridors, by doors, blind turns, noise, over stacked shelves and packages, etc.
- Electrical: power supply and points, loose and naked cables and wires, electrical machines and appliances, etc.

PC5. Carry out safe working practices while dealing with hazards to ensure the safety of self and others state methods of accident prevention in the work environment of the job role

Safe working practices include:

- Using protective clothing and equipment
- Putting up and reading safety signs
- Handle tools in the correct manner and store and maintain them properly
- Keep work area clear of clutter, spillage and unsafe object lying casually
- While working with electricity take all electrical precautions like insulated clothing, adequate equipment insulation, use of control equipment, dry work area, switch off the power supply when not required, etc.
- Safe lifting and carrying practices
- Use equipment that is working properly and is well maintained
- Take due measures for safety while working in confined places, trenches or at heights, etc. Including safety harness, fall arrestors etc.

Methods are:

- Training in health and safety procedures
- Using health and safety procedures
- Use of equipment and working practices (such as safe carrying procedures)
- Safety notices, advice
- Instruction from colleagues and supervisors

	<p>PC6. State location of general health and safety equipment in the workplace                  PC7. Inspect for faults, set up and safely use steps and ladders in general use</p> <p>Faults :</p> <ul style="list-style-type: none"> <li>• Corrosion of metal components</li> <li>• Deterioration</li> <li>• Splits and cracks timber components</li> <li>• Imbalance</li> <li>• Loose rungs</li> <li>• Nuts or bolts, etc.</li> </ul> <p>Set up:</p> <ul style="list-style-type: none"> <li>• Firm/level base</li> <li>• Clip/lash down</li> <li>• Leaning at the correct angle, etc.</li> </ul> <p>PC8. Work safely in and around trenches, elevated places and confined areas                  PC9. Lift heavy objects safely using correct procedures                  PC10. Apply good housekeeping practices at all times. Good housekeeping practices:</p> <ul style="list-style-type: none"> <li>• Clean/tidy work areas</li> <li>• Removal/disposal of waste products</li> <li>• Protect surfaces</li> </ul> <p>PC11. Identify common hazard signs displayed in various areas                  PC12. Retrieve and/or point out documents that refer to health and safety in the workplace</p>
<p>Fire safety procedures</p>	<p>The user/individual on the job should be able to:</p> <p>PC13. Use the various appropriate fire extinguishers on different types of fires correctly.</p> <p>Fire extinguishers:</p> <ul style="list-style-type: none"> <li>• Sand</li> <li>• Water</li> <li>• Foam</li> <li>• Co2</li> <li>• Dry powder</li> </ul> <p>Fires:</p> <ul style="list-style-type: none"> <li>• Class A: Ordinary solid combustibles, e.g. wood, paper, cloth, plastic, charcoal etc.</li> <li>• Class B: Flammable liquids and gases, e.g. gasoline, propane, diesel fuel, tar, cooking oil and similar substances</li> <li>• Class C: Electrical equipment e.g. appliances, wiring, breaker panels etc. (these categories of fires become Class A, B, and D fires when the electrical equipment that initiated the fire is no longer receiving electricity)</li> <li>• Class D: Combustible metals such as magnesium, titanium, and sodium (these fires burn at extremely high temperatures and require special suppression agents)</li> </ul> <p>Causes of fires:</p> <ul style="list-style-type: none"> <li>• Heating of metal</li> </ul>

	<ul style="list-style-type: none"> <li>• Spontaneous ignition</li> <li>• Sparking,</li> <li>• Electrical heating</li> <li>• Loose fires (e.g. Smoking, welding, etc.)</li> <li>• Chemical fires, etc.</li> </ul> <p>PC14. Demonstrate rescue techniques applied during fire hazard</p> <p>PC15. Demonstrate good housekeeping in order to prevent fire hazards</p> <p>PC16. Demonstrate the correct use of a fire extinguisher</p>
<p>Emergencies, rescue and first-aid procedures</p>	<p>The user/individual on the job should be able to:</p> <p>PC17. Demonstrate how to free a person from electrocution</p> <p>PC18. Administer appropriate first aid to victims as required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.</p> <p>PC19. Demonstrate basic techniques of bandaging</p> <p>PC20. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments. Few general health and safety equipment are mentioned below :</p> <ul style="list-style-type: none"> <li>• Fire extinguishers</li> <li>• First aid equipment</li> <li>• Safety instruments and clothing</li> <li>• Safety installations, e.g. Fire exits, exhaust fans etc.</li> </ul> <p>PC21. Perform and organize loss minimization or rescue activity during an accident in real or simulated environments</p> <p>PC22. Administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases</p> <p>PC23. Demonstrate the artificial respiration and the CPR Process</p> <p>PC24. Participate in emergency procedures. Emergency procedures are:</p> <ul style="list-style-type: none"> <li>• Raising alarm</li> <li>• Safe/efficient evacuation</li> <li>• Correct means of escape</li> <li>• Correct assembly point</li> <li>• Roll call</li> <li>• Correct return to work</li> </ul> <p>PC25. Complete a written accident/incident report or dictate a report to another person, and send report to person responsible</p> <p>Incident Report should capture:</p> <ul style="list-style-type: none"> <li>• Name</li> <li>• Date/time of incident</li> <li>• Date/time of report,</li> <li>• Location</li> <li>• Environment conditions</li> <li>• Persons involved</li> <li>• Sequence of events</li> <li>• Injuries sustained</li> <li>• Damage sustained</li> <li>• Actions taken</li> <li>• Witnesses</li> </ul>

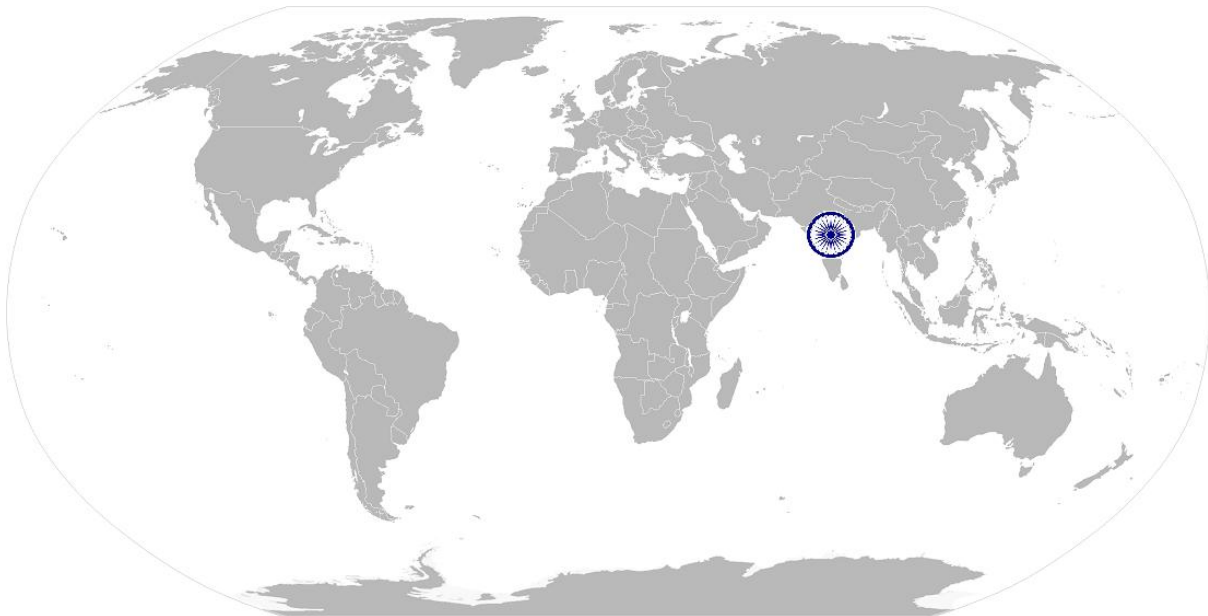
	<ul style="list-style-type: none"> <li>• Supervisor/manager notified</li> </ul> <p>Documents:</p> <ul style="list-style-type: none"> <li>• Fire notices</li> <li>• Accident reports</li> <li>• Safety instructions for equipment and procedures</li> <li>• Company notices and documents</li> <li>• Legal documents (e.g. Government notices)</li> </ul> <p>Job titles:</p> <ul style="list-style-type: none"> <li>• Health and safety officer</li> <li>• First aid officer</li> <li>• Fire officer</li> </ul> <p>PC26. Demonstrate correct method to move injured people and others during an emergency</p>
<b>Element</b>	<b>Knowledge and Understanding</b>
A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. State the names (and job titles if applicable), and describe where to find, all the people responsible for health and safety in a workplace</p> <p>KA2. State the names and location of documents that refer to health and safety in the workplace</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB3. Meaning of “hazards” and “risks”</p> <p>KB4. Health and safety hazards commonly present in the work environment and related precautions</p> <p>KB5. Possible causes of risk, hazard or accident in the workplace and why risk and/or accidents are possible</p> <p>KB6. Activities and causes of risk and accident</p> <p>KB7. Methods of accident prevention</p> <p>KB8. Safe working practices when working with tools and machines</p> <p>KB9. Safe working practices while working at various hazardous sites</p> <p>KB10. Where to find all the general health and safety equipment in the workplace</p> <p>KB11. Various dangers associated with the use of electrical equipment</p> <p>KB12. Preventative and remedial actions to be taken in the case of exposure to toxic materials</p> <ul style="list-style-type: none"> <li>• Exposure: ingested, contact with skin, inhaled</li> <li>• Preventative action: ventilation, masks, protective clothing/equipment</li> <li>• Remedial action: immediate first aid, report to supervisor</li> <li>• Materials: solvents, flux, lead</li> </ul> <p>KB13. Importance of using protective clothing/equipment while working</p> <p>KB14. Precautionary activities to prevent the fire accident</p> <p>Activities and causes:</p> <ul style="list-style-type: none"> <li>• Physical actions</li> <li>• Reading</li> <li>• Listening to and giving instructions</li> </ul>

	<ul style="list-style-type: none"> <li>• Inattention</li> <li>• Sickness and incapacity (e.g. Drunkenness)</li> <li>• Health hazards (e.g. Untreated injuries and contagious illness)</li> </ul> <p>KB15. Various causes of fire KB16. Techniques of using the different fire extinguishers KB17. Different methods of extinguishing fire KB18. Rescue techniques applied during a fire hazard KB19. Various types of safety signs and what they mean KB20. Appropriate basic first aid treatment relevant to the condition e.g. Shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries KB21. Content of written accident report KB22. Potential injuries and ill health associated with incorrect manual handling KB23. Safe lifting and carrying practices KB24. Personal safety, health and dignity issues relating to the movement of a person by others KB25. Potential impact to a person who is moved incorrectly</p>
Skills (S) w.r.t. the scope	
Element	Skills
A. Core Skills/ Generic Skills	Reading and Writing Skills
	The user/individual on the job needs to know and understand how to:
	SA1. Read and comprehend basic content to read labels, charts, signage's SA2. Read and comprehend basic English to read manuals of operations SA3. Read and write an accident/incident report in local language or English
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to:
	SA4. Question co-workers appropriately in order to clarify instructions and other issues SA5. Give clear instructions to co-workers, subordinates others
	Decision Making
	The user/individual on the job needs to know and understand how to:
	SA6. Make appropriate decisions pertaining to the concerned area of work with respect to intended work objective, span of authority, responsibility, laid down procedure and guidelines
B. Professional Skills	Plan and Organize
	The user/individual on the job needs to know and understand:
	SB1. Plan and organize their own work schedule, work area, tools, equipment and materials to maintain decorum and for improved productivity

	<p><b>Working with others</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. Remain congenial while discussing and debating issues with co-workers          SB3. Follow appropriate protocols for communication based on situation, hierarchy, organizational culture and practice          SB4. Ask for, provide and receive required assistance where possible to ensure achievement of work related objectives          SB5. Thank co-workers for any assistance received          SB6. Offer appropriate respect based on mutuality and respect for fellow workmanship and authority</p>
	<p><b>Problem Solving</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB7. Think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)          SB8. Identify immediate or temporary solutions to resolve delays          SB9. Identify sources of support that can be availed of for problem solving for various kind of problems          SB10. Seek appropriate assistance from other sources to resolve problems          SB11. Report problems that you cannot resolve to appropriate authority</p>
	<p><b>Analytical Thinking</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB12. Identify cause and effect relations in their area of work          SB13. Use cause and effect relations to anticipate potential problems and their solution</p>

## NOS Version Control

NOS Code	ISC/N0008		
Credits(NSQF)	TBD	Version number	1.0
Industry	Iron and steel	Drafted on	23/07/2014
Industry Sub-sector	All departments	Last reviewed on	30/12/2014
Occupation	Mechanical Maintenance	Next review date	30/12/2015





ISC/N0009: Works effectively with others

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# National Occupational Standards



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## Overview

This unit covers basic practices that improve effectiveness of working with others in an organisational set-up.

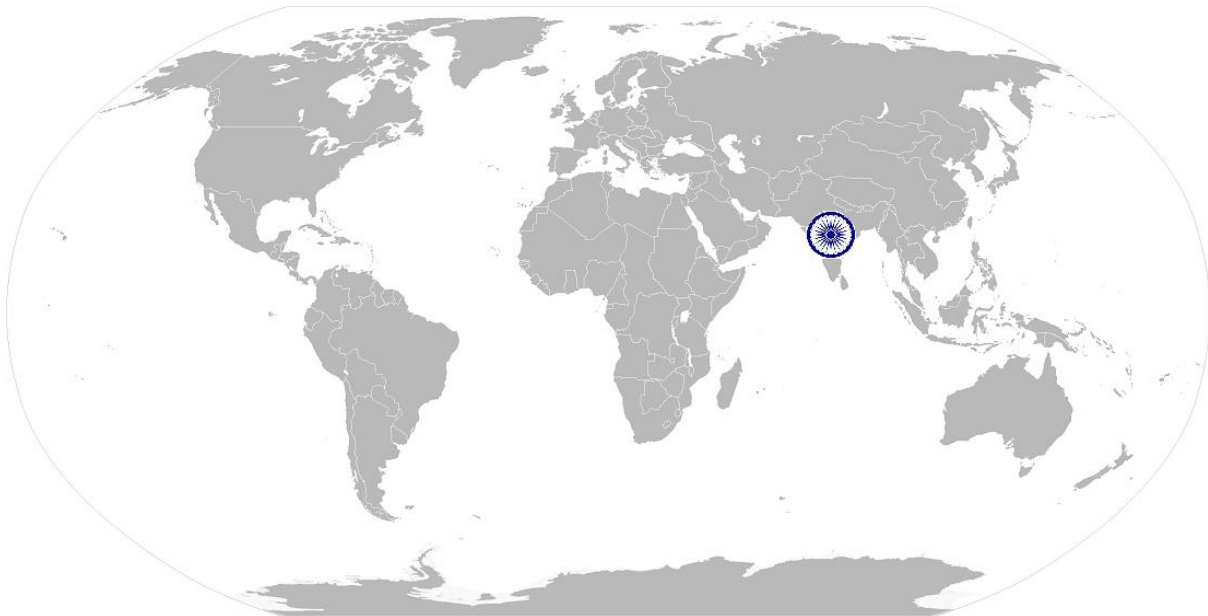
Unit Code	ISC/N0009
Unit Title (Task)	Works effectively with others
Description	This unit covers basic etiquette and competencies that a candidate is required to possess and demonstrate in their behaviour and interactions with others at the workplace.
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Ensure appropriate communication with superiors, peers and others as applicable at work place</li> <li>• Demonstrate appropriate behaviour and etiquette at work place</li> </ul>
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Ensure appropriate communication with superiors, peers and others as applicable at work place	<p>The user/individual on the job should be able to:</p> <p>PC1. Accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required</p> <p>PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt</p> <p>PC3. Provide information to others clearly, at a pace and in a manner that helps them to understand</p>
Demonstrate appropriate behaviour and etiquette at work place	<p>The user/individual on the job should be able to:</p> <p>PC4. Display helpful behaviour by assisting others in performing tasks in a positive manner, where required and possible</p> <p>PC5. Consult with and assist others to maximize effectiveness and efficiency in carrying out tasks</p> <p>PC6. Display appropriate communication etiquette while working</p> <p>PC7. Display active listening skills while interacting with others at work</p> <p>PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism</p> <p>PC9. Demonstrate responsible and disciplined behaviours at the workplace</p> <p>PC10. Escalate grievances and problems to</p>
Element	Knowledge and Understanding
A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Legislation, standards, policies, and procedures followed in the company relevant to own employment and performance conditions</p> <p>KA2. Reporting structure, inter-dependent functions, lines and procedures in the work area</p> <p>KA3. Relevant people and their responsibilities within the work area</p> <p>KA4. Escalation matrix and procedures for reporting work and employment related issues</p>

<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Various categories of people that one is required to communicate and co-ordinate with in the organization  KB2. Importance of effective communication in the workplace  KB3. Importance of teamwork in organizational and individual success  KB4. Various components of effective communication  KB5. Key elements of active listening  KB6. Value and importance of active listening and assertive communication  KB7. Barriers to effective communication  KB8. Importance of tone and pitch in effective communication  KB9. Importance of avoiding casual expletives and unpleasant terms while communicating professional circles  KB10. How poor communication practices can disturb people, environment and cause problems for the employee, the employer and the customer  KB11. Importance of ethics for professional success  KB12. Importance of discipline for professional success  KB13. What constitutes disciplined behaviour for a working professional  KB14. Common reasons for interpersonal conflict  KB15. Importance of developing effective working relationships for professional success  KB16. Expressing and addressing grievances appropriately and effectively  KB17. Importance and ways of managing interpersonal conflict effectively</p>
<p>Skills (S) w.r.t. the scope</p>	
<p>Element</p>	<p>Skills</p>
<p>A. Core Skills/ Generic Skills</p>	<p>Reading and Writing Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA1. Read and comprehend basic content to read labels, charts, signage's  SA2. Read and comprehend basic English to read manuals of operations  SA3. Read and write an accident/incident report in local language or English</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>SA4. Question co-workers appropriately in order to clarify instructions and other issues  SA5. Provide clear instructions to co-workers, subordinates others</p> <p>Decision Making</p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. Make appropriate decisions pertaining to the concerned area of work with respect to intended work objective, span of authority, responsibility, laid down</p>

	procedure and guidelines
B. Professional Skills	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand:  SB1. Plan and organize their own work schedule, work area, tools, equipment and materials to maintain decorum and for improved productivity
	<b>Working with others</b>
	The user/individual on the job needs to know and understand how to:  SB2. Remain congenial while discussing and debating issues with co-workers SB3. Follow appropriate protocols for communication based on situation, hierarchy, organizational culture and practice SB4. Ask for, provide and receive required assistance where possible to ensure achievement of work related objectives SB5. Thank co-workers for any assistance received SB6. Offer appropriate respect based on mutuality and respect for fellow workmanship and authority
	<b>Problem Solving</b>
	The user/individual on the job needs to know and understand how to:  SB7. Think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s) SB8. Identify immediate or temporary solutions to resolve delays SB9. Identify sources of support that can be availed of for problem solving for various kind of problems SB10. Seek appropriate assistance from other sources to resolve problems SB11. Report problems that you cannot resolve to appropriate authority
<b>Analytical Thinking</b>	
The user/individual on the job needs to know and understand how to:  SB12. Identify cause and effect relations in their area of work SB13. Use cause and effect relations to anticipate potential problems and their solution	

## NOS Version Control

NOS Code	ISC/N0009		
Credits(NSQF)	TBD	Version number	1.0
Industry	Iron and steel	Drafted on	23/07/2014
Industry Sub-sector	All departments	Last reviewed on	30/12/2014
Occupation	Mechanical Maintenance	Next review date	30/12/2015



CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role: Rigger: Rigging of Heavy Material

Qualification Pack: ISC/Q0908

Sector Skill Council: Indian Iron & Steel Sector Skill Council

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 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 this criteria.
5. To pass the Qualification Pack, every trainee should score a minimum of 60% 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.

NOSs	PCs	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
ISC/N0935: Understand the given job of rigging	PC1. Interpret the checklist and understand the rigging job requirements	250	20	10	10
	PC2. Identify the associated, risks and hazards		20	10	10
	PC3. Make a work plan to carry out the rigging job considering the area of work and floor load bearing capacity		20	10	10
	PC4. Identify tools, tackles & equipment required to perform the operation and inspect them before operation		20	5	15
	PC5. Identify and select knots based on the requirement e.g. Bowline knots, Slip knots, Butterfly knots etc.		20	5	15

	PC6. Use various types of rigging equipments and basic hitches and their applications		20	5	15
	PC7. Identify hitch configurations and capacities		20	5	15
	PC8. Identify appropriate anchors		20	5	15
	PC9. Identify appropriate slings, wire ropes, end terminations and tightness		20	5	15
	PC10. Identify appropriate chains, pulley required for the rigging job		20	5	15
	PC11. Understand wind force, temperature and visibility		20	5	15
	PC12. Asks helper to carry tools required to the desired work site (slings as required, different type of shackles, eyebolt, chain-block etc.)		15	5	10
	PC13. Report to stores in case of non-availability of tools & tackles or stock-out		15	5	10
		Total	250	80	170
ISC/N0936: Carry out the required job of rigging	PC1. Understand the weight and volume of loads	500	30	10	20
	PC2. Estimate the centre of gravity of the load		30	10	20
	PC3. Identify the lift points of in the load		30	10	20
	PC4. Determine and select rigging based on loading		30	10	20
	PC5. Perform pre-use inspection of rigging and lift points		25	5	20
	PC6. Ensure hoisting/rigging activity is not performed under hazardous conditions e.g. close proximity to energised line		30	10	20
	PC7. Understand hazards related to the rigging job at hand		15	10	5
	PC8. Plan, in accordance with safety guidelines		15	5	10
	PC9. Verify that all slings and hardware are rated more than the expected load		30	10	20
	PC10. Use padding to protect synthetic slings from damage		30	10	20

	PC11. Attach pulleys and blocks to fix overhead structure e.g. beams, equipment assemblies, valves etc.		30	10	20
	PC12. Provide necessary support/tie the load to be handled		30	10	20
	PC13. Control movement of heavy loads during lifting through narrow openings/confined space to prevent any lateral damage and for safe working		30	10	20
	PC14. Provide signal / verbal direction for moving loads to co-workers		25	5	20
	PC15. Tilt, dip and turn suspended load to maneuver obstacles around the work place using multi point suspension techniques		30	10	20
	PC16. Identify false modes and carry out emergency damage control		30	10	20
	PC17. Remove tools and tackles, slings etc. from the working area after job is completed		15	5	10
	PC18. Remove hoisting equipment, crane, chain blocks, pull hoists etc. from the work place		15	5	10
	PC19. Ensure the work site is left in clean and safe condition		15	5	10
	PC20. Ensure all tools and tackles, slings, chain blocks etc. are returned to the department store		15	5	10
		<b>Total</b>	<b>500</b>	<b>160</b>	<b>340</b>
ISC/N0008: Use basic health and safety practices at the workplace	PC1. Use protective clothing/equipment for specific tasks and work conditions	150	9	4	5
	PC2. State the name and location of people responsible for health and safety in the workplace		6	1	5
	PC3. State the names and location of documents that refer to health and safety in the workplace		2	1	1
	PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace		8	4	4



PC5. Carry out safe working practices while dealing with hazards to ensure the safety of self and others state methods of accident prevention in the work environment of the job role	6	1	5
PC6. State location of general health and safety equipment in the workplace	6	1	5
PC7. Inspect for faults, set up and safely use steps and ladders in general use	6	1	5
PC8. Work safely in and around trenches, elevated places and confined areas	6	1	5
PC9. Lift heavy objects safely using correct procedures	6	1	5
PC10. Apply good housekeeping practices at all times	2	1	1
PC11. Identify common hazard signs displayed in various areas	6	5	1
PC12. Retrieve and/or point out documents that refer to health and safety in the workplace	5	1	4
PC13. Use the various appropriate fire extinguishers on different types of fires correctly	9	4	5
PC14. Demonstrate rescue techniques applied during fire hazard	8	4	4
PC15. Demonstrate good housekeeping in order to prevent fire hazards	2	1	1
PC16. Demonstrate the correct use of a fire extinguisher	6	1	5
PC17. Demonstrate how to free a person from electrocution	6	1	5
PC18. Administer appropriate first aid to victims as required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.	8	3	5
PC19. Demonstrate basic techniques of bandaging	6	1	5
PC20. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments	7	2	5

	PC21. Perform and organize loss minimization or rescue activity during an accident in real or simulated environments		6	1	5
	PC22. Administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		6	1	5
	PC23. Demonstrate the artificial respiration and the CPR Process		6	1	5
	PC24. Participate in emergency procedures		6	1	5
	PC25. Complete a written accident/incident report or dictate a report to another person, and send report to person responsible		4	1	3
	PC26. Demonstrate correct method to move injured people and others during an emergency		2	1	1
		Total	150	45	105
ISC/N0009: Works effectively with others	PC1. Accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	5	5
	PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	5	5
	PC3. Provide information to others clearly, at a pace and in a manner that helps them to understand		10	0	10
	PC4. Display helpful behaviour by assisting others in performing tasks in a positive manner, where required and possible		10	5	5
	PC5. Consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	5	5
	PC6. Display appropriate communication etiquette while working		10	0	10

PC7. Display active listening skills while interacting with others at work		10	0	10
PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	5	5
PC9. Demonstrate responsible and disciplined behaviours at the workplace		15	5	10
PC10. Escalate grievances and problems to supervisor		5	0	5
	<b>Total</b>	<b>100</b>	<b>30</b>	<b>70</b>

