

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR IRON & STEEL

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 - Conveyor and Other Bulk Material Handling Technician

SECTOR: Iron & Steel

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

REFERENCE ID: ISC/Q0103

ALIGNED TO: NCO-2004/NIL

Title of Job: The job is all about bulk material handling by conveyor for day to day operations. This job also involves maintaining the stock of all materials in the bunker for uninterrupted operation.

Personal Attributes: The candidate should possess basic communication skill. Ability organize own work, identify and solve problems in the course of working. Understanding the need to take initiative and manage self and work to improve efficiency and effectiveness. This job requires the individual to work independently as well as in teams. He should be physically fit, not having colour blindness, having analytical skills, concentration levels and willingness to work in a factory environment.



Job Details	Qualifications Pack Code	ISC/Q0103		
	Job Role	Conveyor and Other Bulk Material Handling Technician		
	Credits(NSQF)	TBD	Version number	1.0
	Industry	Iron & Steel		Drafted on
	Sub-sector	Steel, Sponge Iron, Ferro Alloys, Re- Rollers, Refractory	Last reviewed on	
	Occupation	Raw Material Handling		Next review date
	NSQC clearance on			



Job Role	
Conveyor and Other Bulk Material Handling Technician	
Role Description	The job is all about bulk material handling by conveyor for day to day operations. This job also involves maintaining the stock of all raw materials used in iron and steel industry in the bunker for uninterrupted operation.
NSQF level	3
Minimum Educational Qualifications	Class 10 th Pass
Maximum Educational Qualifications	ITI Pass
Training (Suggested but not mandatory)	<ul style="list-style-type: none"> • Reading and writing report • 2 weeks on job training (mandatory) • Induction training on different conveying systems • Functioning of conveyor along with its components • Raw materials required for Steel Melting Shop • Specific material required per hour for maintaining the production schedule • 5S and safety practices
Minimum Job Entry Age	18 years
Experience	<ul style="list-style-type: none"> • 0-2 years' experience in similar function • In lieu of minimum qualification the incumbent should have minimum 4 to 5 years' experience as helper to Technician in the similar operation
Occupational Standards (OS)	<p>Compulsory:</p> <p>ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry</p> <p>ISC/N0008: Use basic health and safety practices at the workplace</p> <p>ISC/N0009: Work effectively with others</p> <p>Optional:</p> <p>N/A</p>
Performance Criteria	As described in the relevant NOS units



Definitions

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.



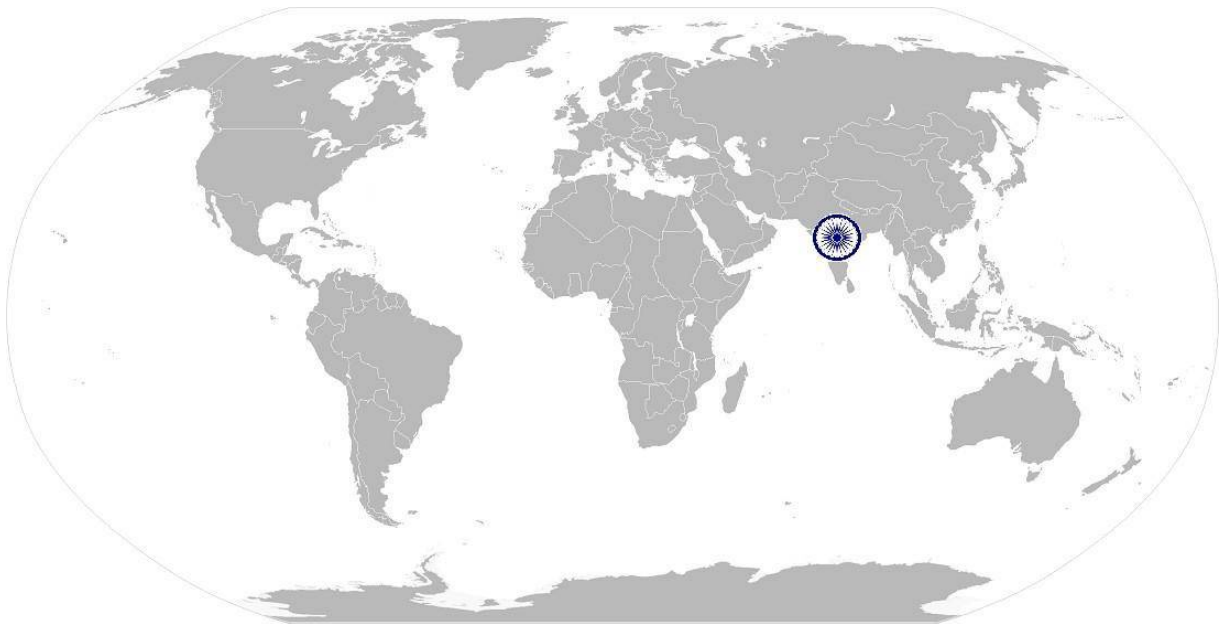
Sub-Sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed 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
CNC	Computer numerically controlled
OD	Outer diameter
ID	Inner diameter
DTI	Dial test indicators
CO2	Carbon dioxide
CPR	Cardiac pulmonary resuscitation
PPE	Personal protective equipment

Acronyms



ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry

National Occupational Standards



Overview

This unit covers the understanding of the assigned job of conveyor operation, bulk material handling for steel melting shop and different types of raw materials used in iron and steel industry



ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry

National Occupational Standard	Unit Code	ISC/N0101
	Unit Title (Task)	Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry
	Description	This unit covers the understanding of the assigned job of conveyor operation, bulk material handling for steel melting shop and different types of raw materials used in iron and steel industry.
	Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Understand the conveyor belt operation processes <ul style="list-style-type: none"> ○ Conduct pre-operation checks to ensure the Conveyor Belt System for safe operation ○ Start the conveyor belt in no load condition ○ Load the conveyor gradually by opening the bunker gates as required ○ Discharge the material in conveyor chutes by proper adjustment of conveyor gates • Understand bulk material handling process • Understand of different types of all raw materials used in iron and steel industry
	eria (PC) w.r	
	Understand conveyor belt operation processes	<p>To be competent, the user /individual on the job must be able to:</p> <p>Conduct pre-operation checks to ensure the Conveyor Belt System for safe operation</p> <p>PC1. Adhere to time limits given by supervisor PC2. Check oil levels of gear box and prime movers with couplers, driving pulleys. PC3. Check driving pulleys with lagging PC4. Check the belt conveyor for any damages PC5. Check condition of conveying and return side idlers. PC6. Check the cleanliness of conveyor gallery and conveyor deck PC7. Check position of gravity pulleys PC8. Check feeding chutes with wear plates PC9. Check operation of gates PC10. Check all shuttle belts with trolley etc. PC11. Check the level of bunkers to be filled PC12. Apply grease to all bearings PC13. Ensure the stock of raw material (lime stone and dolomite) at stock yard PC14. Keep all conveyor gallery and stair cases clean and free from mud, dust, scrap etc. PC15. Maintain logbook and record all activities performed before starting the conveyor system PC16. Report defects precisely to the supervisor if beyond scope of his role</p> <p>Start the conveyor belt in no load condition</p> <p>PC17. Study the log book and organize the job according to requirement PC18. Inspect the worksite to identify cleanliness of the conveyor gallery, walkway</p>



ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry

	<p>and stair cases</p> <p>PC19. Start the conveyor on no-load condition using the pushbutton switch for conveyor sequence operation</p> <p>PC20. Adjust feeding gates for loading the belt considering the capacity of the belt</p> <p>Load the conveyor gradually by opening the bunker gates as required</p> <p>PC21. Operate the chute gates for loading the shuttle conveyor belt</p> <p>PC22. Ensure the main bunker is filled up to the required level for safe operation</p> <p>PC23. Ensure after filling to specific volume of main bunker the transit bunkers gates to be closed slowly for emptying out the belt</p> <p>PC24. Adhere to time limits given by supervisor</p> <p>PC25. Perform in-operation visual checks on bunker level depending on the requirement for smooth operation</p> <p>PC26. Select and use the right type of operation for proper feeding of the conveyor belt</p> <p>PC27. Ensure that conveyor gallery and walkway are free from all hazards for starting the belt operation</p> <p>PC28. Utilize judiciously various communicating devices available in the conveyor gallery and control cabin</p> <p>PC29. Ensure that the belt operation is safe from all hazards by raising appropriate signal/alarm</p> <p>PC30. Ensure that the dust extraction system is working properly during the belt operation</p> <p>Discharge the material in conveyor chutes by proper adjustment of conveyor gates</p> <p>PC31. Ensure that the conveyor belt is emptied out before stopping</p> <p>PC32. Ensure that foreign materials (scrap, boulders etc.) does not come in contact with conveyor belt</p> <p>PC33. Discharge raw material on the conveyor by proper opening of gates so that belt loading is completed safely</p> <p>PC34. Ensure that no other persons move on the conveyor gallery other than the operators</p> <p>PC35. Inform supervisor of any problems while operating the Conveyor Belt</p>
<p>Understand the bulk material handling process</p>	<p>To be competent, the user /individual on the job must be able to:</p> <p>PC36. Understand the specific job and required tackles to be used for bulk material handling conveyor</p> <p>PC37. Make necessary plan for bulk material handling depending on the requirement and production schedule</p> <p>PC38. Inform supervisor after job completion and record the details in the log book</p>
<p>Understand different types of all raw materials used in iron and steel industry</p>	<p>To be competent, the user /individual on the job must be able to:</p> <p>PC39. Charge the raw materials by measuring volume/weight by crane depending on the quality of the finished product as per required specification</p>
<p>Element</p>	<p>Knowledge and Understanding</p>
<p>A. Organisational Context</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. Job specific documents e.g. daily maintenance checklist and importance of the</p>



ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry

(Knowledge of the Company/ Organisation and its processes)	<p>same</p> <p>KA2. Safety policy of the company</p> <p>KA3. Emergency organisation of the specific work site</p> <p>KA4. Risk and impact of not following defined procedures/work instructions</p> <p>KA5. Escalation matrix for reporting identified problems</p> <p>KA6. Cost of equipment and loss for the company that result from damage of equipment and direct / indirect cost of accidents</p> <p>KA7. Implications of delays in operational process</p>
B. Technical Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Different types of mechanical and electrical equipments and their specific use</p> <p>KB2. Introduction to mechanical and electrical equipments, motor and gear box their use and function</p> <p>KB3. Different types of pulleys, idlers etc.</p> <p>KB4. Principles of speed reduction on gear box</p> <p>KB5. Estimation of quantity/volume to be conveyed per hour for full filling the material requirement</p> <p>KB6. Significance of greasing and bearing of conveyor that needs routine lubrication</p> <p>KB7. Control cabins their location and operation</p> <p>KB8. Control on levers for operation of bunker/chute gates in order to load the conveyor system properly</p> <p>KB9. Optimal loading of belt for smooth operation with respect to time frame and schedule production</p> <p>KB10. Optimal load on the conveyor for rated out put</p> <p>KB11. Visual checks to identify damage of conveyor belt</p> <p>KB12. General safety rules for moving/operating conveyor system</p> <p>KB13. Dangers of starting the conveyor belts without signal/alarm</p> <p>KB14. Correct maintenance procedures for conveyor system</p> <p>KB15. Different types of raw materials to be handled</p> <p>KB16. Unit of measurements (volume /weight)</p> <p>KB17. Response to emergencies e.g. correct way to use fire extinguisher and other firefighting equipments</p>
Skills (S) w.r.t. the scope	
Element	Skills
A. Core Skills/ Generic Skills	<p>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</p> <p>SA2. Fill up appropriate activity logs in required format of the company</p> <p>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 previous shift log book / report</p> <p>SA4. Read and understand health and safety instructions, memos, reports, job cards, etc.</p> <p>Oral Communication (Listening and Speaking skills)</p>



ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry

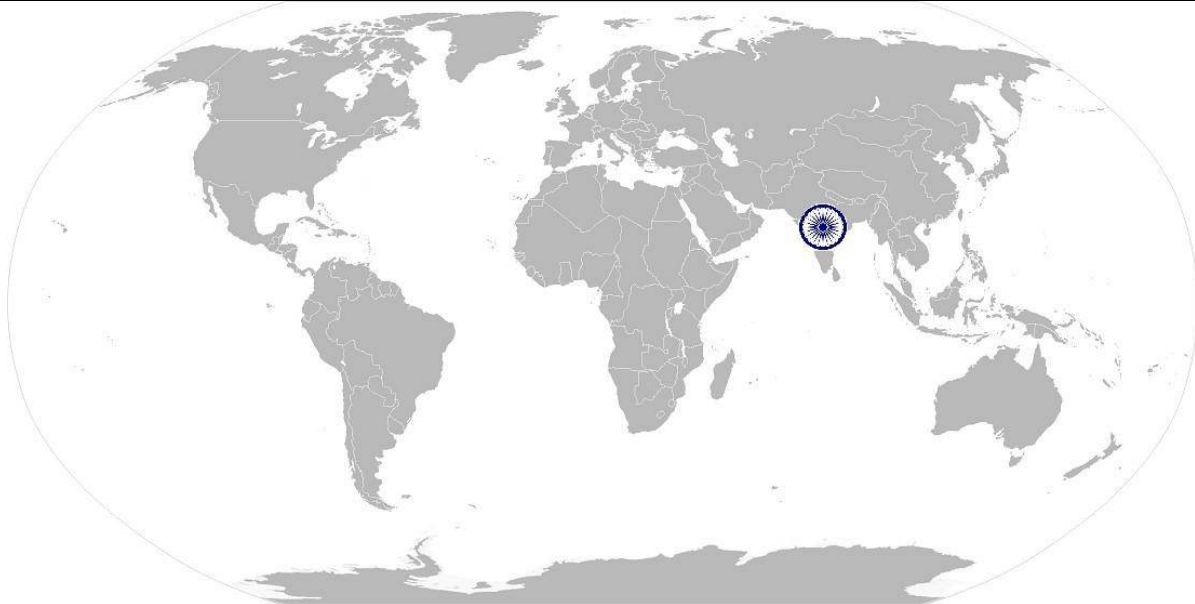
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. Express statements, opinions or information clearly so that others can hear and understand</p> <p>SA6. Respond appropriately to queries</p> <p>SA7. Communicate with team members and supervisor</p>
B. Professional Skills	Decision Making
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. 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</p>
	Plan and Organize
	<p>The user/individual on the job needs to know and understand:</p> <p>SB2. Plan and organize their own work schedule, work area, tools, equipment and materials to maintain decorum and for improved productivity</p>
	Customer Centricity
	N.A
	Problem Solving
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s)</p> <p>SB4. Identify immediate or temporary solutions to resolve delays</p> <p>SB5. Identify sources of support that can be availed of for problem solving for various kind of problems</p> <p>SB6. Seek appropriate assistance from other sources to resolve problems</p> <p>SB7. Report problems that you cannot resolve to appropriate authority</p>
	Analytical Thinking
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB8. Identify cause and effect relations in their area of work</p> <p>SB9. Use cause and effect relations to anticipate potential problems and their solution</p>	
Critical Thinking	
N.A	



ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of raw materials used in iron and steel industry

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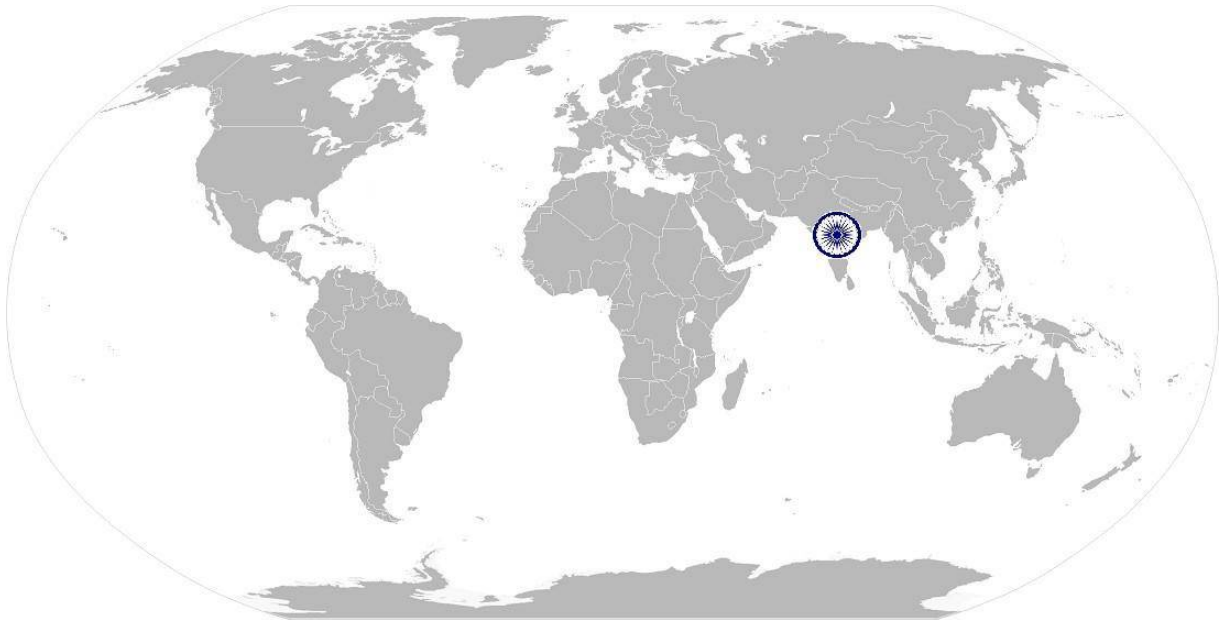
NOS Code	ISC/N0101		
Credits(NSQF)	TBD	Version number	1.0
Industry	Iron and Steel	Drafted on	12/11/2014
Industry Sub-sector	Steel, Sponge Iron, Ferro Alloys, Re-Rollers, Refractory	Last reviewed on	25/03/2015
Occupation	Raw Material Handling	Next review date	1/04/2017





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

National Occupational Standards



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.

ISC/N0008:

Use basic health and safety practices at the workplace

National Occupational Standard

Unit Code	ISC/N0008
Unit Title (Task)	Use basic health and safety practices at the work place
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"> • Health and safety procedures • Fire safety procedures • Emergencies, rescue and first aid procedures
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 Protective clothing includes:</p> <ul style="list-style-type: none"> • Leather or asbestos gloves • Flame proof aprons • Flame proof overalls buttoned to neck • Cuff less (without folds) trousers • Reinforced footwear • Helmets/hard hats • Cap and shoulder covers • Ear defenders/plugs • Safety boots • Knee pads • Particle masks • Glasses/gloves/visors <p>Equipment includes:</p> <ul style="list-style-type: none"> • Hand shields • Machine guards • Residual current devices • Shields • Dust sheets • Respirator <p>PC2. State the name and location of people responsible for health and safety in the workplace Various areas are listed below:</p> <ul style="list-style-type: none"> • On chemical containers • Equipment • Packages • Inside buildings • Open areas, public places etc. <p>PC3. State the names and location of documents that refer to health and safety in the workplace</p>

ISC/N0008:

Use basic health and safety practices at the workplace

	<p>PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace Hazards include:</p> <ul style="list-style-type: none">• 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. <p>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:</p> <ul style="list-style-type: none">• 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 arrestor etc. <p>Methods are:</p> <ul style="list-style-type: none">• 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 Faults :</p> <ul style="list-style-type: none">• Corrosion of metal components• Deterioration• Splits and cracks timber components• Imbalance• Loose rungs• Nuts or bolts, etc.
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ISC/N0008:

Use basic health and safety practices at the workplace

	<p>Set up:</p> <ul style="list-style-type: none"> • Firm/level base • Clip/lash down • Leaning at the correct angle, etc. <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"> • Clean/tidy work areas • Removal/disposal of waste products • Protect surfaces <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"> • Sand • Water • Foam • Co2 • Dry powder <p>Fires:</p> <ul style="list-style-type: none"> • Class A: Ordinary solid combustibles, e.g. wood, paper, cloth, plastic, charcoal etc. • Class B: Flammable liquids and gases, e.g. gasoline, propane, diesel fuel, tar, cooking oil and similar substances • 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) • Class D: Combustible metals such as magnesium, titanium, and sodium (these fires burn at extremely high temperatures and require special suppression agents) <p>Causes of fires:</p> <ul style="list-style-type: none"> • Heating of metal • Spontaneous ignition • Sparking, • Electrical heating • Loose fires (e.g. Smoking, welding, etc.) • Chemical fires, etc. <p>PC14. Demonstrate rescue techniques applied during fire hazard PC15. Demonstrate good housekeeping in order to prevent fire hazards 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 PC18. Administer appropriate first aid to victims as required e.g. in case of bleeding,</p>

ISC/N0008:

Use basic health and safety practices at the workplace

	<p>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">• Fire extinguishers• First aid equipment• Safety instruments and clothing• Safety installations, e.g. Fire exits, exhaust fans etc. <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">• Raising alarm• Safe/efficient evacuation• Correct means of escape• Correct assembly point• Roll call• Correct return to work <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">• Name• Date/time of incident• Date/time of report,• Location• Environment conditions• Persons involved• Sequence of events• Injuries sustained• Damage sustained• Actions taken• Witnesses• Supervisor/manager notified <p>Documents:</p> <ul style="list-style-type: none">• Fire notices• Accident reports• Safety instructions for equipment and procedures• Company notices and documents• Legal documents (e.g. Government notices) <p>Job titles:</p> <ul style="list-style-type: none">• Health and safety officer• First aid officer• Fire officer <p>PC26. Demonstrate correct method to move injured people and others during an</p>
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ISC/N0008:

Use basic health and safety practices at the workplace

	emergency
Element	Knowledge and Understanding
A. Organisational Context (Knowledge of the Company/ Organisation and its processes)	The user/individual on the job needs to know and understand: 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 KA2. State the names and location of documents that refer to health and safety in the workplace
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. Meaning of “hazards” and “risks” KB2. Health and safety hazards commonly present in the work environment and related precautions KB3. Possible causes of risk, hazard or accident in the workplace and why risk and/or accidents are possible KB4. Activities and causes of risk and accident KB5. Methods of accident prevention KB6. Safe working practices when working with tools and machines KB7. Safe working practices while working at various hazardous sites KB8. Where to find all the general health and safety equipment in the workplace KB9. Various dangers associated with the use of electrical equipment KB10. Preventative and remedial actions to be taken in the case of exposure to toxic materials. <ul style="list-style-type: none"> • Exposure: ingested, contact with skin, inhaled • Preventative action: ventilation, masks, protective clothing/equipment • Remedial action: immediate first aid, report to supervisor • Materials: solvents, flux, lead KB11. Importance of using protective clothing/equipment while working KB12. Precautionary activities to prevent the fire accident Activities and causes: <ul style="list-style-type: none"> • Physical actions • Reading • Listening to and giving instructions • Inattention • Sickness and incapacity (e.g. Drunkenness) • Health hazards (e.g. Untreated injuries and contagious illness) KB13. Various causes of fire KB14. Techniques of using the different fire extinguishers KB15. Different methods of extinguishing fire KB16. Rescue techniques applied during a fire hazard KB17. Various types of safety signs and what they mean KB18. Appropriate basic first aid treatment relevant to the condition e.g. Shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries KB19. Content of written accident report



ISC/N0008:

Use basic health and safety practices at the workplace

	KB20. Potential injuries and ill health associated with incorrect manual handling KB21. Safe lifting and carrying practices KB22. Personal safety, health and dignity issues relating to the movement of a person by others KB23. Potential impact to a person who is moved incorrectly
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, signages 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
	B. Professional Skills
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
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
Customer Centricity	N.A
Problem Solving	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
Analytical Thinking	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
Critical Thinking	N.A

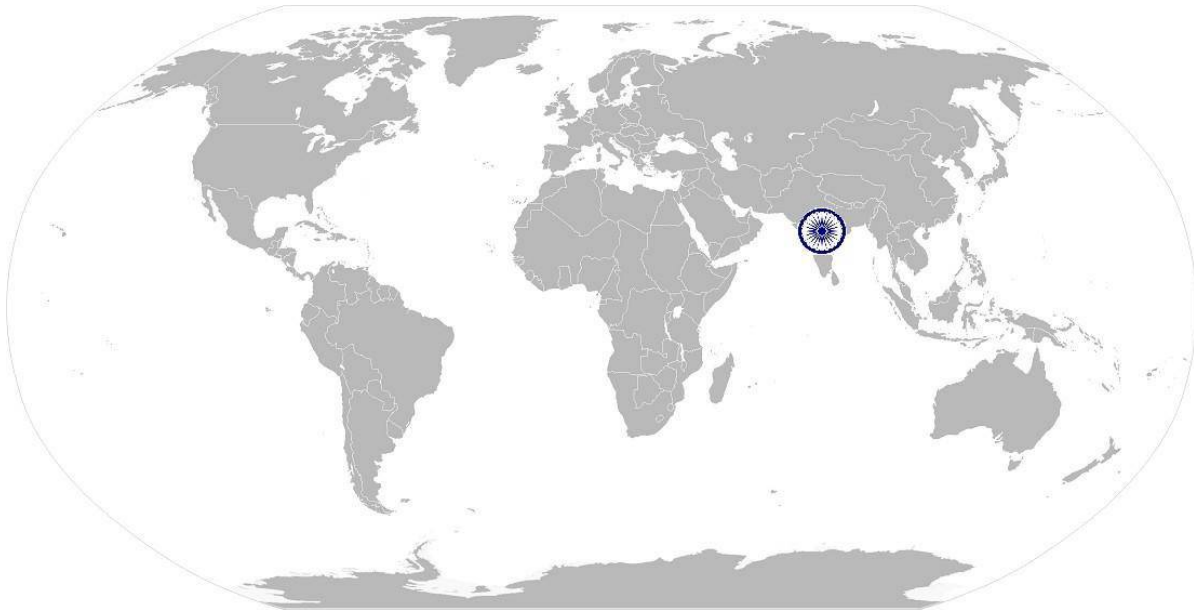


ISC/N0008:

Use basic health and safety practices at the workplace

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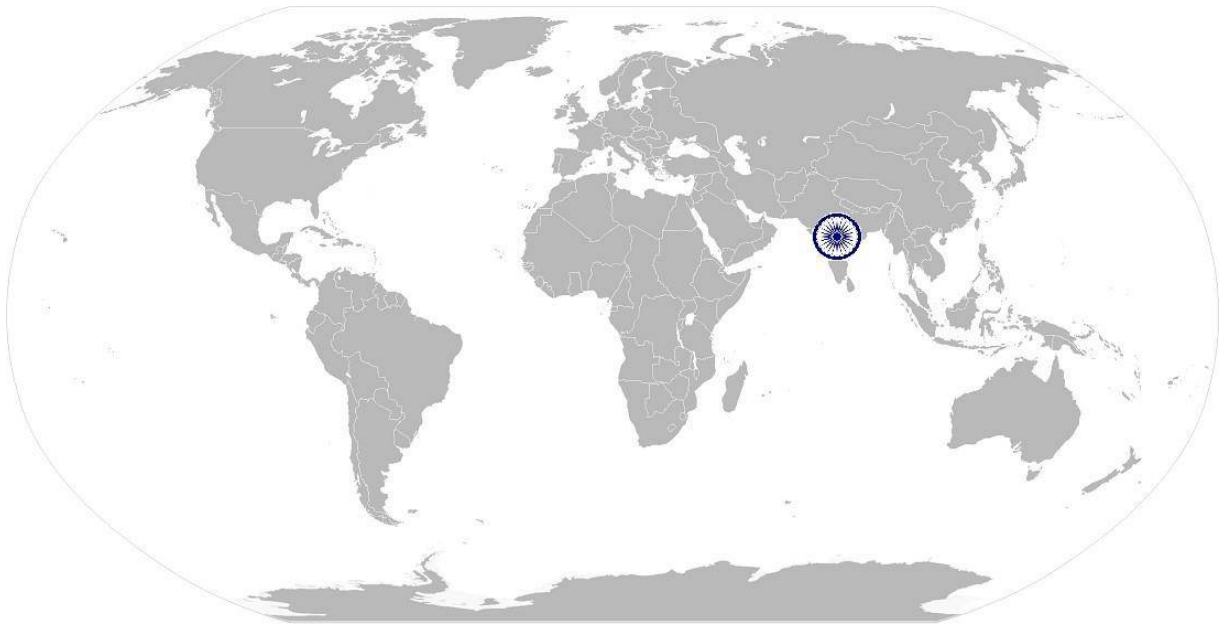
NOS Code	ISC/N0008		
Credits(NSQF)	TBD	Version number	1.0
Industry	Iron and Steel	Drafted on	23/07/2014
Industry Sub-sector	All Departments	Last reviewed on	30/12/2014
Occupation	Raw Material Handling	Next review date	1/04/2017





ISC/N0009: Work effectively with others

National Occupational Standards



Overview

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



ISC/N0009:

Work effectively with others

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



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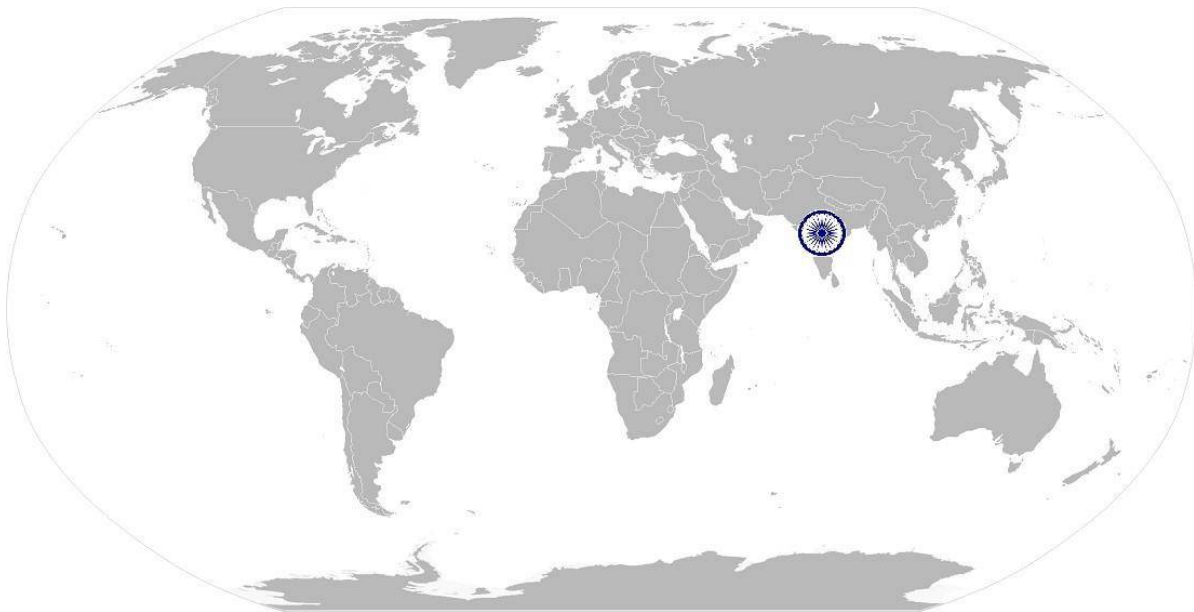
	<p>KB4. Various components of effective communication KB5. Key elements of active listening KB6. Value and importance of active listening and assertive communication KB7. Barriers to effective communication KB8. Importance of tone and pitch in effective communication KB9. Importance of avoiding casual 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>
Skills(S)	Scope
Element	
A. Core Skills/ Generic Skills	<p>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</p> <p>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. Provide clear instructions to co-workers, subordinates others</p>
B. Professional Skills	<p>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</p> <p>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> <p>Customer Centricity N.A</p> <p>Problem Solving 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</p>



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	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
Analytical Thinking	
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	
Critical Thinking	
N.A	



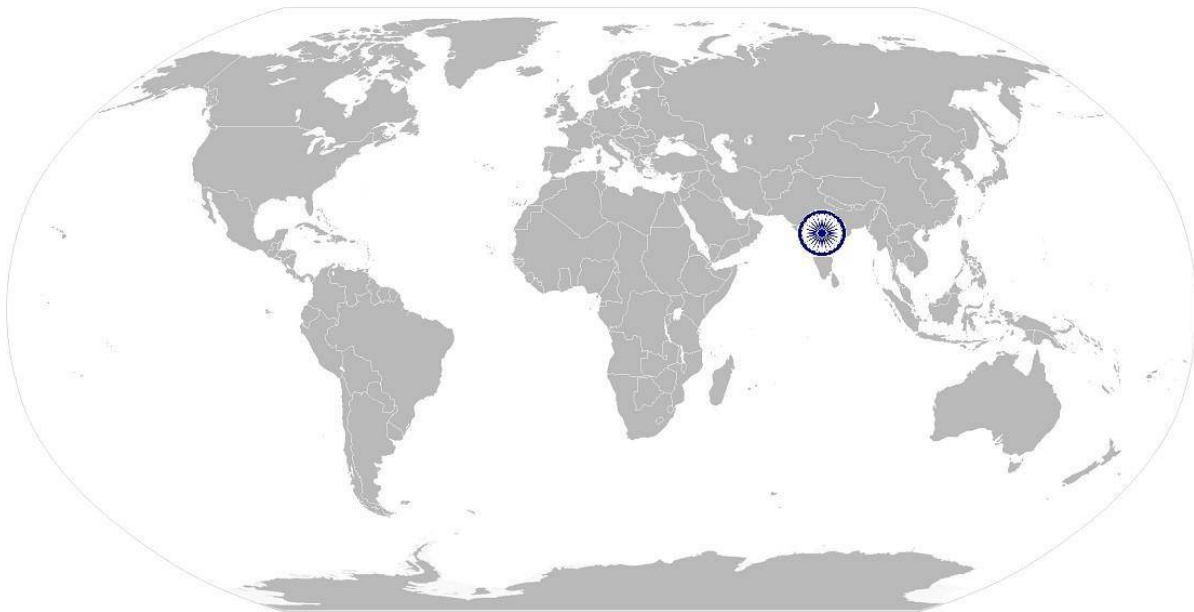


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NOS Version Control

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	Raw Material Handling	Next review date	1/04/2017





CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role: Conveyor & Other Bulk Material Handling Technician

Qualification Pack: ISC/Q0103

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.

Assessment outcomes	Assessment Criteria for outcomes	Total Marks 1000	Out Of	Marks Allocated	
				Theory	Practical
ISC/N0101: Understand the assigned job of conveyor operation, bulk material handling process and different types of fluxes used for steel melting	PC1. Adhere to time limits given by supervisor	750	10	5	5
	PC2. Check oil levels of gear box and prime movers with couplers, driving pulleys.		15	5	10
	PC3. Check driving pulleys with lagging		20	5	15
	PC4. Check the belt conveyor for any damages		20	5	15
	PC5. Check condition of conveying and return side idlers		20	5	15
	PC6. Check the cleanliness of conveyor gallery and conveyor deck		20	5	15
	PC7. Check position of gravity pulleys		20	5	15
	PC8. Check feeding chutes with wear plates		20	5	15



PC9. Check operation of gates	20	5	15
PC10. Check all shuttle belts with trolley etc.	20	5	15
PC11. Check the level of bunkers to be filled	20	5	15
PC12. Apply grease to all bearings	20	5	15
PC13. Ensure the stock of raw material (lime stone and dolomite) at stock yard	20	5	15
PC14. Keep all conveyor gallery and stair cases clean and free from mud, dust, scrap etc.	20	5	15
PC15. Maintain logbook and record all activities performed before starting the conveyor system	20	5	15
PC16. Report defects precisely to the supervisor if beyond scope of his role	20	5	15
PC17. Study the log book and organize the job according to requirement	20	5	15
PC18. Inspect the worksite to identify cleanliness of the conveyor gallery, walkway and stair cases	20	5	15
PC19. Start the conveyor on no-load condition using the pushbutton switch for conveyor sequence operation	20	5	15
PC20. Adjust feeding gates for loading the belt considering the capacity of the belt	20	5	15
PC21. Operate the chute gates for loading the shuttle conveyor belt	20	5	15
PC22. Ensure the main bunker is filled up to the required level for safe operation	20	5	15
PC23. Ensure after filling to specific volume of main bunker the transit bunkers gates to be closed slowly for emptying out the belt	20	5	15
PC24. Adhere to time limits given by supervisor	20	5	15
PC25. Perform in-operation visual checks on bunker level depending on the requirement for smooth operation	20	5	15
PC26. Select and use the right type of operation for proper feeding of the conveyor belt	20	5	15



	PC27. Ensure that conveyor gallery and walkway are free from all hazards for starting the belt operation		20	5	15
	PC28. Utilize judiciously various communicating devices available in the conveyor gallery and control cabin		20	5	15
	PC29. Ensure that the belt operation is safe from all hazards by raising appropriate signal/alarm		20	5	15
	PC30. Ensure that the dust extraction system is working properly during the belt operation		20	5	15
	PC31. Ensure that the conveyor belt is emptied out before stopping		20	5	15
	PC32. Ensure that foreign materials (scarps, boulders etc.) does not come in contact with conveyor belt		20	5	15
	PC33. Discharge raw material on the conveyor by proper opening of gates so that belt loading is completed safely		20	5	15
	PC34. Ensure that no other persons move on the conveyor gallery other than the operators		20	5	15
	PC35. Inform supervisor of any problems while operating the Conveyor Belt		15	5	10
	PC36. Understand the specific job and required tackles to be used for bulk material handling conveyor		20	5	15
	PC37. Make necessary plan for bulk material handling depending on the requirement and production schedule		20	5	15
	PC38. Inform supervisor after job completion and record the details in the log book		10	5	5
	PC39. Charge the raw materials by measuring volume/weight by crane depending on the quality of the finished product as per required specification		20	5	15
		Total	750	195	555
ISC/N0008: Use basic	PC1. Use protective clothing/equipment for specific tasks and work conditions	150	10	5	5



health and safety practices at the workplace	PC2. State the name and location of people responsible for health and safety in the workplace	5	0	5
	PC3. State the names and location of documents that refer to health and safety in the workplace	1	0	1
	PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace	9	5	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	10	5	5
	PC6. State location of general health and safety equipment in the workplace	5	0	5
	PC7. Inspect for faults, set up and safely use steps and ladders in general use	5	0	5
	PC8. Work safely in and around trenches, elevated places and confined areas	5	0	5
	PC9. Lift heavy objects safely using correct procedures	5	0	5
	PC10. Apply good housekeeping practices at all times	1	0	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	4	0	4
	PC13. Use the various appropriate fire extinguishers on different types of fires correctly	9	5	4
	PC14. Demonstrate rescue techniques applied during fire hazard	10	5	5
	PC15. Demonstrate good housekeeping in order to prevent fire hazards	1	0	1
	PC16. Demonstrate the correct use of a fire extinguisher	4	0	4
	PC17. Demonstrate how to free a person from electrocution	5	0	5



	PC18. Administer appropriate first aid to victims as required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.		10	5	5
	PC19. Demonstrate basic techniques of bandaging		5	0	5
	PC20. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		10	5	5
	PC21. Perform and organize loss minimization or rescue activity during an accident in real or simulated environments		5	0	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		5	0	5
	PC23. Demonstrate the artificial respiration and the CPR Process		5	0	5
	PC24. Participate in emergency procedures		5	0	5
	PC25. Complete a written accident/incident report or dictate a report to another person, and send report to person responsible		9	5	4
	PC26. Demonstrate correct method to move injured people and others during an emergency		1	0	1
		Total	150	45	105
ISC/N0009: Work 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
	Total	100	30	70