

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR CAPITAL GOODS 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: Maintenance Fitter - Mechanical

SECTOR: CAPITAL GOODS

SUB-SECTOR:

- | | |
|-------------------------------------|------------------------------------|
| 1. Machine Tools | 4. Textile Manufacturing Machinery |
| 2. Dies, Moulds and Press Tools | 5. Process Plant Machinery |
| 3. Plastics Manufacturing Machinery | 6. Electrical and Power Machinery |
| | 7. Light Engineering Goods |

OCCUPATION: Maintenance

REFERENCE ID: CSC/ Q 0901

ALIGNED TO: NCO-2004/7233.38, 7233.46

Maintenance Fitter - Mechanical: Perform maintenance activities by carrying out corrective maintenance procedures on mechanical equipment, in accordance with approved procedures.

Brief Job Description: This will involve dismantling, removing and replacing faulty equipment at component or unit level on a variety of different types of mechanical assemblies and sub-assemblies and diagnosing, locating faults, overhauling, fitting and adjusting mechanical systems and equipment.

Personal Attributes: Basic communication, numerical and computational abilities. Openness to learning, ability to plan and organize own work and 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.

Job Details	Qualifications Pack Code	CSC/ Q 0901		
	Job Role	Maintenance Fitter - Mechanical		
	Credits NSQF	TBD	Version number	1.0
	Sector	CAPITAL GOODS	Drafted on	10/04/14
	Sub-sector	<ol style="list-style-type: none"> 1. Machine Tools 2. Dies, Moulds And Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering Goods 	Last reviewed on	18/03/15
	Occupation	MAINTENANCE	Next review date	30/08/16
	NSQC Clearance on	18/06/2015		

Keywords /Terms	Description
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Job Role	Maintenance Fitter - Mechanical
Role Description	Perform maintenance activities by carrying out corrective maintenance procedures on mechanical equipment, in accordance with approved procedures.
NSQF level	4
Minimum Educational Qualifications	12 th standard
Maximum Educational Qualifications	N.A.
Training (Suggested but not mandatory)	Customised training required on the equipment and machines to be maintained
Minimum Job entry Age	18 Years Old
Experience	No Previous Experience Required
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> CSC/ N 0901 (Perform maintenance activities on mechanical equipment) CSC/ N 1335 (Use basic health and safety practices at the workplace) CSC/ N 1336 (Work effectively with others) <p>Optional: N.A.</p>
Performance Criteria	As described in the relevant OS units

Definitions

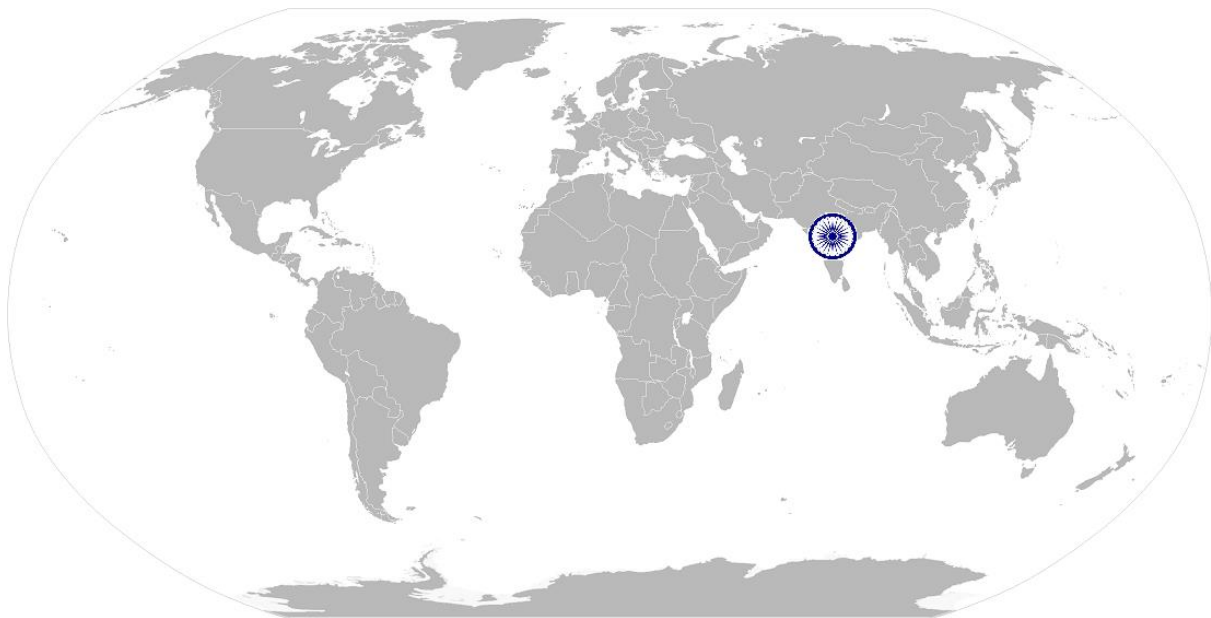
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.
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
CO2	Carbon dioxide

Acronyms

CPR	Cardiac Pulmonary Resuscitation
PPE	Personal Protective Equipment
OEE	Overall Equipment Effectiveness

CSC/ N 0901: Perform maintenance activities on mechanical equipment

National Occupational Standard



Overview

This unit covers maintenance activities on a range of mechanical equipment including include gearboxes, machine tools, lifting and handling equipment, processing plant, production plant, engines, pumps, process control valves, compressors, transfer equipment, mechanical structures and workholding devices, as per approved procedures.

CSC/ N 0901: Perform maintenance activities on mechanical equipment

National Occupational Standard	Unit Code	CSC / N 0901
	Unit Title (Task)	Perform maintenance activities on mechanical equipment
	Description	<p>This unit covers performing maintenance activities on mechanical equipment, as per approved procedures. As part of the team the candidate will be required to maintain a range of mechanical equipment which could include gearboxes, machine tools, lifting and handling equipment, processing plant, production plant, engines, pumps, process control valves, compressors, transfer equipment, mechanical structures and work holding devices.</p> <p>The candidate will be expected to work safely, with minimal supervision, taking personal responsibility for their own actions, and for the quality and accuracy of the work that they carry out.</p>
	Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Working safely • Preparing for mechanical maintenance operations • Performing mechanical maintenance operations
Performance Criteria(PC) w.r.t. the Scope		
Element	Performance Criteria	
Working safely	<p>The user/individual on the job should be able to:</p> <p>PC1. comply with health and safety, environmental and other relevant regulations and guidelines at work</p> <p>PC2. adhere to procedures and guidelines for personal protective equipment (PPE) and other relevant safety regulations while performing fabrication and fitting operations</p> <p>PC3. work following laid down procedures and instructions</p> <p>PC4. ensure work area is clean and safe from hazards</p> <p>PC5. ensure that all tools, equipment, power tool cables, extension leads are in a safe and usable condition</p> <p>PC6. follow all relevant setting up and operating specifications for the products or mechanical equipment being commissioned</p> <p>PC7. follow the defined procedures and set up the equipment correctly ensuring that all operating parameters are achieved</p>	
Preparing for mechanical maintenance operations	<p>The user/individual on the job should be able to:</p> <p>PC8. obtain job specifications and requirements from valid sources and find out the fault</p> <p>Valid sources: job instruction sheet/job card, maintenance log book/card/sheet, instructions from supervisor, instructions from user of the equipment, condition of end product, person or operator who reported the fault, sensory input (sight, sound, smell, touch), monitoring equipment or gauges, plant/machinery records, recording devices</p> <p>PC9. obtain and interpret drawings, specifications, manufacturers' manuals and other documents needed in the maintenance process</p> <p>PC10. follow the procedure to be adopted to establish the background of the fault and the tools to be used</p> <p>Tools: e.g. allen key, spanner, torque wrench, pliers, bearing puller, circlip</p>	

CSC/ N 0901: Perform maintenance activities on mechanical equipment

	<p>plier, scraper(flat & triangular), etc</p> <p>PC11. evaluate various types of information available for fault diagnosis</p> <p>PC12. evaluate sensory information to assess likely faults eg. sound, visual</p> <p>PC13. collect evidence regarding the fault from the sources using a range of diagnostic equipment and techniques</p> <p>Fault diagnostic techniques: half-split technique; emergent sequence; unit substitution; input/output; function/performance testing; six point technique; injection and sampling; equipment self-diagnostics</p> <p>Diagnostic equipment: manufacturer's manual, physical layout diagrams, algorithms, flow charts, probability charts/reports, fault analysis charts (eg. fault trees), equipment self-diagnostics, trouble shooting guides, machine assembly layout</p> <p>PC14. apply monitoring or testing procedures to help in the fault diagnosis using a range of test equipment</p> <p>Monitoring or testing procedures: alignment checks, force/pressure checks (eg. spring pressure, hydraulic or pneumatic pressures), leakage, vibration, thermal checks (eg. bearings, friction surfaces), movement checks (eg. travel, clearance, levers, links), visual checks</p> <p>Test equipment: measuring instruments/devices, thermal indicators, dial test indicators, audio test devices, torque measuring devices, self-diagnostic equipment, other specific test equipment</p> <p>PC15. relate previous reports/records of similar fault conditions</p> <p>PC16. evaluate the likely risk of running the equipment with the displayed fault, and the effects the fault could have on health and safety, and on the overall process or system</p>
<p>Performing mechanical maintenance operations</p>	<p>The user/individual on the job should be able to:</p> <p>PC17. carry out the maintenance activities in the specified sequence and in an agreed timescale</p> <p>PC18. carry out maintenance activities on various equipment</p> <p>Equipment : gearboxes; machine tool; lifting and handling equipment; processing plant; production plant; engines; pumps; process control valves; compressors; transfer equipment; mechanical structures; workholding devices(bench vice; machine vice; clamps (eg. toolmaker's); three-jaw chuck; four-jaw chuck; collet chuck; drive plate and centres; jigs and fixtures)</p> <p>PC19. perform dismantling processes mechanical equipment using appropriate method or technique in order to replace defective components</p> <p>Dismantling processes: eg. release of pressures/force, proofmarking of components, removal of components by extraction or pressing, etc.</p> <p>Range of components: shafts; couplings; gears; clutches; valves and seats; pistons; splined components; brakes; bearing and seals; fitting keys; springs; diaphragms; cams and followers; chains & sprockets; pulleys and belts; levers and links; slides; rollers; tooling; fluid storage units; fabricated components; wire ropes/cables; housings; actuating mechanisms; structural/operational components; locking & retaining devices (eg. circlips, pins, lock nuts); covers and casings; integrated modules; other specific components</p> <p>Methods and techniques: release of pressures/forces, proof marking,</p>

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	<p>extraction, pressing, alignment</p> <p>PC20. re-assemble the components using appropriate methods, and adjust them to meet the operating specification Adjustments: setting working clearance, setting travel, setting backlash in gears, preloading bearings, bearing pressing, lubrication oil/grease to be added Methods to produce mechanical assemblies: assembling components having interference fits (eg. by pressure, expansion or contraction); securing components using threaded fasteners (eg. nuts, bolts, machine screws, cap screws); securing components using spring clips (eg. external circlips, internal circlips, special clips); using locking and retaining devices (eg. tab washers, locking nuts, wire locks, special purpose types); securing components using rivets (eg. countersunk, roundhead, blind, special purpose types); applying sealing compounds or adhesives; electrical bonding of components; setting and adjusting components to give correct working parameters (eg. shimming and packing); torque setting of nuts and bolts; sby welding</p> <p>PC21. carry out servicing and maintenance techniques as applicable Maintenance techniques: installing, dismantling and reinstalling equipment to unit/sub-assembly level; installing, dismantling and reinstalling units to component level; proof marking/labelling of components; checking components for serviceability; replacing all lified items (eg. seals, bearings, gaskets); replacing damaged/defective components; setting, aligning and adjusting replaced components; tightening fastenings to the required torque; making 'off-load' checks before starting up; replenishing oils and greases; safety system checks; functionally testing the completed system; check leveling</p> <p>PC22. replace or refit basic hydraulic and pneumatic components Components: valves; seals; buckets; solenoid operated cylinders; clamping and positioning components; other basic components</p> <p>PC23. identify requirements for welding, machining, electric or electronic repair and handover to the relevant personal after following due process</p> <p>PC24. conduct a trial run of the equipment at full power/speed/flow</p> <p>PC25. confirm that the produced component/process outcomes meet specifications Specifications: components to be free from false tool cuts, burrs and sharp edges; dimensional tolerance +/- 0.25mm or +/- 0.010"; flatness and squareness 0.05mm per 25mm; angles within +/- 1 degree; screw threads to Medium fit; reamed holes within H8; surface finish 1.6 µm; minimum downtime of utilities; leveling</p> <p>PC26. monitor and record measurements and observations</p> <p>PC27. review and update maintenance procedures and plans Procedures and plans: e.g. preventive maintenance (routine inspections, and adjustments); corrective maintenance (activities identified from preventative maintenance activities); predictive maintenance (analysis of the equipment's condition); reactive maintenance (unexpected equipment/component failure); maintenance prevention (equipment/component design and development); equipment performance, equipment downtime/failure; overall equipment effectiveness (OEE); maintenance costs; health and safety, staff development and training; maintenance procedures/instructions;</p>
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	<p>operator manuals/working instructions; regulatory compliance</p> <p>PC28. deal with equipment malfunction and rectify faults during the breakdown servicing process as appropriate</p> <p>Breakdown categories: intermittent problem, partial failure/out-of-specification output, complete breakdowns, preventive maintenance</p> <p>PC29. identify areas of improvements in the various maintenance services and implement the improvement activities agreed upon by the relevant authorities</p> <p>Areas: equipment downtime during maintenance; equipment; performance monitoring systems; overall equipment effectiveness (OEE); maintenance procedures; operator instructions; visual management; systems/documentation; resource planning; costs; staff development and training; health and safety; procurement</p> <p>PC30. deal promptly and effectively with problems within their control, and seek help and guidance from the relevant people if they have problems that they cannot resolve</p> <p>PC31. leave the work area in a safe and tidy condition on completion of the manufacturing activities</p>
Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<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. relevant health and safety requirements applicable in the work place</p> <p>KA3. importance of working in clean and safe environment</p> <p>KA4. own job role and responsibilities and sources for information pertaining to employment terms, entitlements, job role and responsibilities</p> <p>KA5. reporting structure, inter-dependent functions, lines and procedures in the work area</p> <p>KA6. relevant people and their responsibilities within the work area</p> <p>KA7. escalation matrix and procedures for reporting work and employment related issues</p> <p>KA8. documentation and related procedures applicable in the context of employment and work</p> <p>KA9. importance and purpose of documentation in context of employment and work</p> <p>KA10. service request procedures, tools, and techniques</p> <p>KA11. company policy on repair/replacement of components during the maintenance process</p> <p>KA12. organizational procedure(s) to be adopted for the safe disposal of waste of all types of materials</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. health and safety requirements, and safe working practices and procedures required for the mechanical maintenance activities undertaken</p> <p>Safe working practices and procedures: ensuring the correct isolation of the machine before mounting work holding devices and tooling; fitting and adjusting machine guards; ensuring that the work piece is secure and that tooling is free from work piece before starting the machine; ensuring personal protective equipment (PPE) to be worn for the maintenance</p>

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	<p>activities eg. correctly fitting overalls and safety glasses; ensuring long hair is tied back or netted; jewellery or other items that can become entangled in the machinery are removed</p> <p>KB2. hazards associated with the mechanical maintenance activities and how they can be minimized Hazards: handling oils; greases; stored pressure/force; misuse of tools; using damaged or badly maintained tools and equipment; not following laid-down maintenance procedures</p> <p>KB3. isolation and lock-off procedures or permit-to-work procedure that applies</p> <p>KB4. how to extract and use information from engineering drawings and related specifications in relation to work undertaken</p> <p>KB5. how to interpret first and third angle drawings,</p> <p>KB6. British and metric systems of measurement,</p> <p>KB7. procedure(s) to be followed for investigating the faults, and how to deal with intermittent faults</p> <p>KB8. how to analyze and evaluate possible characteristics and causes of specific faults/problems</p> <p>KB9. procedure for obtaining replacement parts, materials and other consumables necessary for the maintenance activities</p> <p>KB10. sequence to be adopted for the dismantling/re-assembly of various types of assemblies</p> <p>KB11. methods and techniques used to dismantle/assemble mechanical equipment Methods and techniques: release of pressures/forces, proof marking, extraction, pressing, alignment Methods to produce mechanical assemblies: assembling components having interference fits (eg. by pressure, expansion or contraction); securing components using threaded fasteners (eg. nuts, bolts, machine screws, cap screws); securing components using spring clips (eg. external circlips, internal circlips, special clips); using locking and retaining devices (eg. tab washers, locking nuts, wire locks, special purpose types); securing components using rivets (eg. countersunk, roundhead, blind, special purpose types); applying sealing compounds or adhesives; electrical bonding of components; setting and adjusting components to give correct working parameters (eg. shimming and packing); torque setting of nuts and bolts; sby welding</p> <p>KB12. methods of checking components are fit for purpose, and how to identify defects and wear characteristics</p> <p>KB13. basic principles of how the equipment functions, operation sequence, the working purpose of individual units/components and how they interact</p> <p>KB14. identification, application, fitting and removal of different types of bearings and gears</p> <p>KB15. how to correctly adjust tension belts and chains</p> <p>KB16. identification and application of different types of locking devices</p> <p>KB17. methods of checking that removed components are fit for purpose, and the need to replace 'lifer' items</p> <p>KB18. uses of measuring equipment Measuring equipment: external micrometers, vernier/digital/dial caliper, surface finish equipment (eg. comparison plates, machines), rules, squares, protractors, depth micrometers, depth verniers, feeler gauges, bore/hole</p>
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	<p>gauges, slip gauges, radius/profile gauges, thread gauges, tachometers, torque wrenches, spirit levels</p> <p>KB19. how to make adjustments to components/assemblies to ensure they function correctly Adjustments: setting working clearance, setting travel, setting backlash in gears, preloading bearings, bearing pressing</p> <p>KB20. importance of making 'off-load' checks before running the equipment under power</p> <p>KB21. how to check tools and equipment are free from damage or defects, are in a safe and usable condition, and are configured correctly for the intended purpose</p> <p>KB22. importance of maintenance documentation and/or reports following the maintenance activity, and how to generate them Maintenance documentation: e.g. job cards; permit to work/formal risk assessment and/or sign-on/off procedures; maintenance log or report; company-specific recording system(manual or computerized)</p> <p>KB23. equipment operating and control procedures to be applied during the maintenance activity Operating and control procedures: organisational guidelines and procedures; equipment manufacturer's operating specification/range; recognised compliance agency/body standards or directives; health, safety and environmental requirements; customer standards and requirements</p> <p>KB24. how to use lifting and handling equipment in the maintenance activity</p> <p>KB25. problems associated with the maintenance activity, and how they can be overcome</p> <p>KB26. extent of their own authority and to whom they should report if they have a problem that they cannot resolve</p> <p>KB27. how to extract and use information from engineering drawings and related specifications in relation to work undertaken</p> <p>KB28. how to interpret first and third angle drawings, imperial and metric systems of measurement, workpiece reference points and system of tolerancing</p> <p>KB29. the methods of positioning, aligning and securing the workpiece</p> <p>KB30. assembly methods, techniques and procedures to be used Methods: assembling components having interference fits (eg. by pressure, expansion or contraction); securing components using threaded fasteners (eg. nuts, bolts, machine screws, cap screws); securing components using spring clips (eg. external circlips, internal circlips, special clips); using locking and retaining devices (eg. tab washers, locking nuts, wire locks, special purpose types); securing components using rivets (eg. countersunk, roundhead, blind, special purpose types); applying sealing compounds or adhesives; electrical bonding of components; setting and adjusting components to give correct working parameters (eg. shimming and packing); torque setting of nuts and bolts; by welding</p> <p>KB31. how the components are to be aligned, adjusted and positioned prior to securing them, and the tools and equipment Tools and equipment: clamping direct to machine table, pneumatic or magnetic table; machine vice (eg. plain, swivel, universal); angle plate; vee block and clamps; fixtures; chucks (eg. 3, 4 jaw); indexing head/device; rotary</p>
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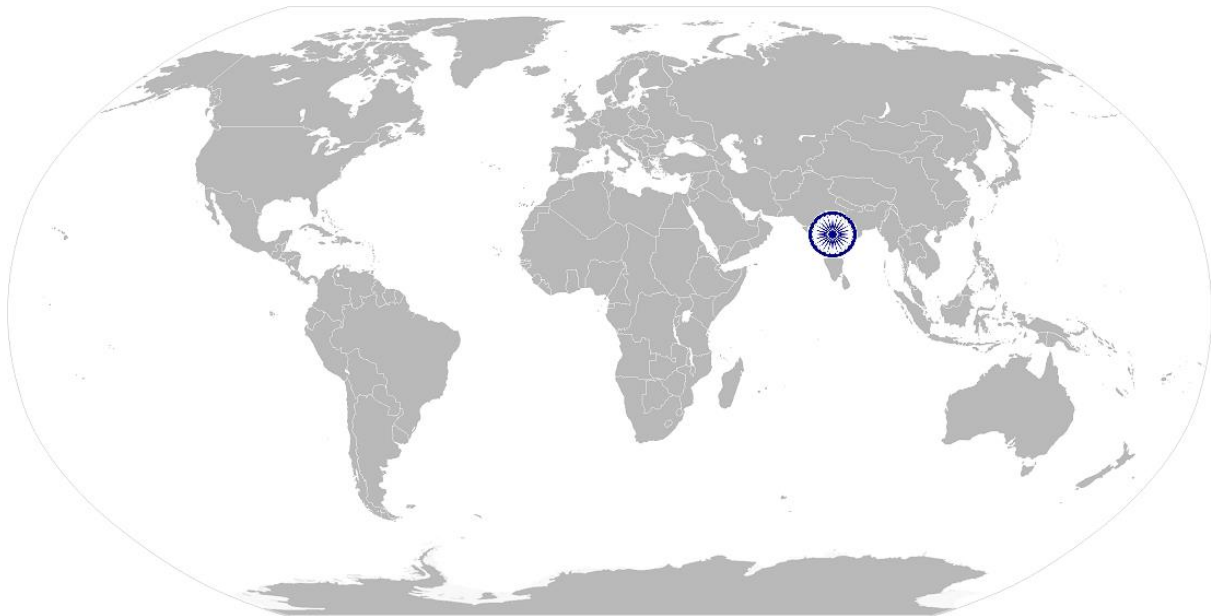
	<p>table; magnetic chucks; in a bench vice; collets</p> <p>KB32. various mechanical fastening devices that are used Fastening devices: nuts; bolts; machine screws; cap screws; clips; pins; locking and retaining devices; rivets</p> <p>KB33. techniques of taking trial cuts and checking dimensional accuracy</p> <p>KB34. application of cutting fluids and compounds with regard to a range of different materials, and why some materials do not require cutting fluids to be used</p> <p>KB35. how to check the workpiece and the measuring equipment that is used</p> <p>KB36. need to check that the measuring equipment is within current calibration dates, and that the instruments are correctly zeroed</p> <p>KB37. when to act on their own initiative and when to seek help and advice from others</p> <p>KB38. importance of leaving the work area and equipment in a safe and clean condition on completion of the machining and fitting activities</p>
Skills (S) [Optional]	
A. Core Skills/ Generic Skills	Communication (Reading, Writing, Listening and Speaking)
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read and interpret information correctly from various job specification documents, manuals, health and safety instructions, memos, etc. applicable to the job in English and/or local language</p> <p>SA2. check and clarify task-related information</p> <p>SA3. liaise with appropriate authorities using correct protocol</p> <p>SA4. convey and share technical information clearly using appropriate language</p> <p>SA5. fill up appropriate technical forms, process charts, activity logs as per organizational format in English and/or local language</p> <p>SA6. communicate with people in respectful form and manner in line with organizational protocol</p>
	Numerical and computational skills
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. undertake basic numerical computations and calculations Numerical computations: addition, subtraction, multiplication, division, fractions and decimals, percentages and proportions, simple ratios and averages</p> <p>SA8. identify and draw various basic, compound and solid shapes as per dimensions given Basic shapes: square, rectangle, triangle, circle, quadrilaterals Compound shapes: involving squares, rectangles, triangles, circles, semi-circles, quadrants of a circle Solid shapes: cube, rectangular prism, cylinder</p> <p>SA9. use appropriate measuring techniques and units of measurement</p> <p>SA10. use appropriate units and number systems to express degree of accuracy Units and number systems representing degree of accuracy: decimals places, significant figures, fractions as a decimal quantity</p> <p>SA11. calculations related to force and pressure relevant to operating/testing the machines to be maintained</p>

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	Critical Thinking
	The user/individual on the job needs to know and understand how to: SA12. participate in on-the-job and other learning, training and development interventions and assessments SA13. clarify task related information with appropriate personnel or technical adviser SA14. seek to improve and modify own work practices SA15. maintain current knowledge of application standards, legislation, codes of practice and product/process developments
	Problem Solving and Decision Making
	The user/individual on the job needs to know and understand how to: SB1. identify problems with work planning, procedures, output and behavior and their implications SB2. prioritize and plan for problem solving SB3. communicate problems appropriately to others SB4. identify sources of information and support for problem solving SB5. seek assistance and support from other sources to solve problems SB6. identify effective resolution techniques SB7. select and apply resolution techniques SB8. seek evidence for problem resolution
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB9. plan, prioritize and sequence work operations as per job requirements SB10. organize and analyze information relevant to work SB11. basic concepts of shop-floor work productivity including waste reduction, efficient material usage and optimization of time
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB12. undertake and express new ideas and initiatives to others SB13. modify work plan to overcome unforeseen difficulties or developments that occur as work progresses SB14. participate in improvement procedures including process, quality and internal/external customer/supplier relationships SB15. one's competencies in new and different situations and contexts to achieve more
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB16. exercise restraint while expressing dissent and during conflict situations SB17. avoid and manage distractions to be disciplined at work SB18. Manage own time for achieving better results
Teamwork	
The user/individual on the job needs to know and understand how to: SB19. work in a team in order to achieve better results SB20. identify and clarify work roles within a team	

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	SB21. communicate and cooperate with others in the team for better results SB22. seek assistance from fellow team members
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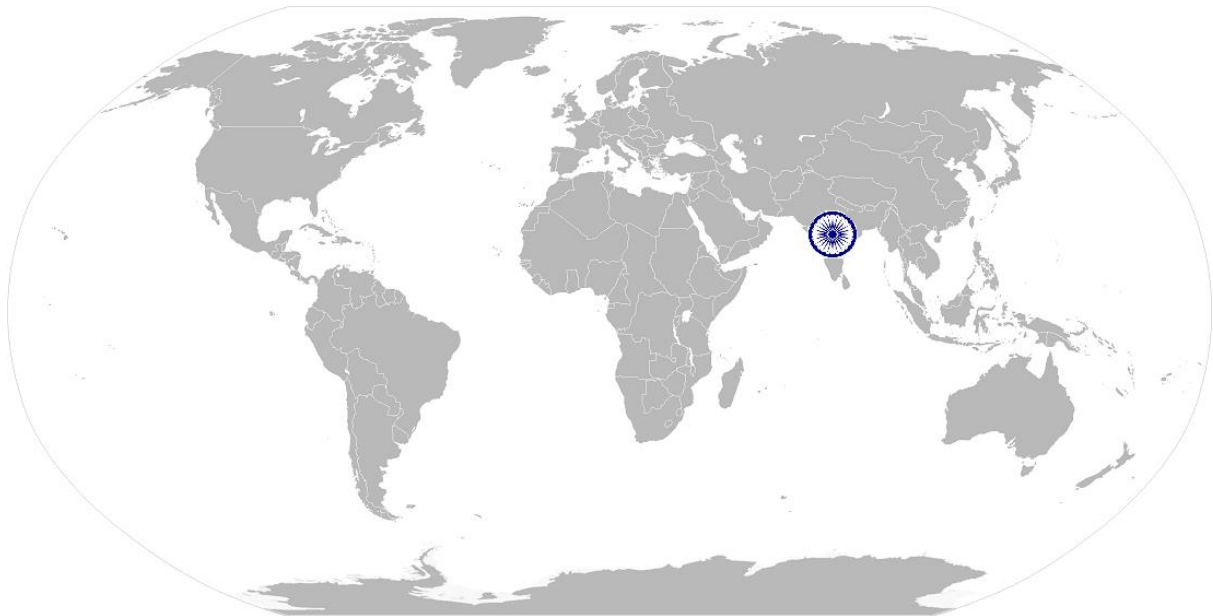
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NOS Version Control

NOS Code	CSC/ N 0901		
Credits NSQF	TBD	Version number	1.0
Industry	Capital Goods	Drafted on	10/04/14
Industry Sub-sector	<ol style="list-style-type: none"> 1. Machine Tools 2. Dies, Moulds And Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering Goods 	Last reviewed on	18/03/15
Occupation	Maintenance	Next review date	30/08/16

CSC/ N 1335: Use basic health and safety practices at the workplace

National Occupational Standard



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.

CSC/ N 1335: Use basic health and safety practices at the workplace

National Occupational Standard	Unit Code	CSC / N 1335
	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> <p>It covers knowledge of fire safety, common first aid applications, safe practices and emergency procedures.</p>
	Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Health and safety • Fire safety • Emergencies, rescue and first-aid procedures
Performance Criteria(PC) w.r.t. the Scope		
Element	Performance Criteria	
Health and safety	<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: leather or asbestos gloves, flame proof aprons, flame proof overalls buttoned to neck, cuffless (without folds), trousers, reinforced footwear, helmets/hard hats, cap and shoulder covers, ear defenders/plugs, safety boots, knee pads, particle masks, glasses/goggles/visors</p> <p>Equipment: hand shields, machine guards, residual current devices, shields, dust sheets, respirator</p> <p>PC2. state the name and location of people responsible for health and safety in the workplace</p> <p>PC3. state the names and location of documents that refer to health and safety in the workplace</p> <p>PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace</p> <p>Hazards: sharp edged and heavy tools; heated metals; oxyfuel and gas cylinders; welding radiation; hazardous surfaces(sharp, slippery, uneven, chipped, broken, etc.); hazardous substances(chemicals, gas, oxy-fuel, fumes, dust, etc.); physical hazards(working at heights, large and heavy objects and machines, sharp and piercing objects, tolls and machines, intense light, load noise, obstructions in corridors, by doors, blind turns, noise, over stacked shelves and packages, etc.) electrical hazards (power supply and points, loose and naked cables and wires, electrical machines and appliances, etc.)</p> <p>Possible causes of risk and accident: physical actions; reading;</p>	

CSC/ N 1335: Use basic health and safety practices at the workplace

	<p>listening to and giving instructions; inattention; sickness and incapacity (such as drunkenness); health hazards (such as untreated injuries and contagious illness)</p> <p>PC5. carry out safe working practices while dealing with hazards to ensure the safety of self and others Safe working practices: 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.</p> <p>PC6. state methods of accident prevention in the work environment of the job role Methods of accident prevention: 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> <p>PC7. state location of general health and safety equipment in the workplace General health and safety equipment: fire extinguishers; first aid equipment; safety instruments and clothing; safety installations(eg fire exits, exhaust fans)</p> <p>PC8. inspect for faults, set up and safely use steps and ladders in general use Ladder faults: corrosion of metal components, deterioration, splits and cracks timber components, imbalance, loose rungs, missing/unfixed nuts or bolts, etc. Ladders set up: firm/level base, clip/lash down, leaning at the correct angle, etc.</p> <p>PC9. work safely in and around trenches, elevated places and confined areas</p> <p>PC10. lift heavy objects safely using correct procedures</p> <p>PC11. apply good housekeeping practices at all times Good housekeeping practices: clean/tidy work areas, removal/disposal of waste products, protect surfaces</p> <p>PC12. identify common hazard signs displayed in various areas Various areas: on chemical containers; equipment; packages; inside buildings; in open areas and public spaces, etc.</p> <p>PC13. retrieve and/or point out documents that refer to health and safety in the workplace Documents: fire notices, accident reports, safety instructions for</p>
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CSC/ N 1335: Use basic health and safety practices at the workplace

	<p>equipment and procedures, company notices and documents, legal documents (eg government notices)</p>
<p>Fire safety</p>	<p>The user/individual on the job should be able to:</p> <p>PC14. use the various appropriate fire extinguishers on different types of fires correctly</p> <p>Types of fires: Class A: eg. ordinary solid combustibles, such as wood, paper, cloth, plastic, charcoal, etc.; Class B: flammable liquids and gases, such as gasoline, propane, diesel fuel, tar, cooking oil, and similar substances; Class C: eg. electrical equipment such as 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> <p>PC15. demonstrate rescue techniques applied during fire hazard</p> <p>PC16. demonstrate good housekeeping in order to prevent fire hazards</p> <p>PC17. 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>PC18. demonstrate how to free a person from electrocution</p> <p>PC19. administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc.</p> <p>PC20. demonstrate basic techniques of bandaging</p> <p>PC21. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments</p> <p>PC22. perform and organize loss minimization or rescue activity during an accident in real or simulated environments</p> <p>PC23. 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>PC24. demonstrate the artificial respiration and the CPR Process</p> <p>PC25. participate in emergency procedures</p> <p>Emergency procedures: raising alarm, safe/efficient, evacuation, correct means of escape, correct assembly point, roll call, correct return to work</p> <p>PC26. complete a written accident/incident report or dictate a report to another person, and send report to person responsible</p> <p>Incident Report includes details of: 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> <p>PC27. demonstrate correct method to move injured people and others during an emergency</p>
<p>Knowledge and Understanding (K)</p>	

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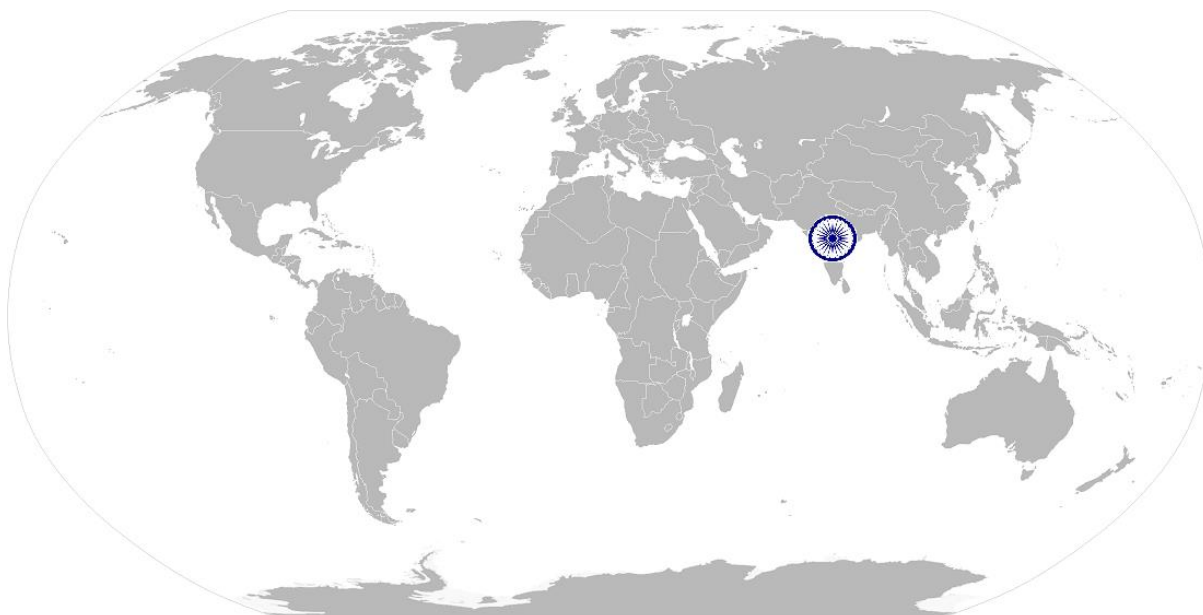
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. names (and job titles if applicable), and where to find, all the people responsible for health and safety in a workplace.</p> <p>KA2. names and location of documents that refer to health and safety in the workplace.</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. meaning of “hazards” and “risks”</p> <p>KB2. health and safety hazards commonly present in the work environment and related precautions</p> <p>KB3. possible causes of risk, hazard or accident in the workplace and why risk and/or accidents are possible</p> <p>KB4. possible causes of risk and accident Possible causes of risk and accident: physical actions; reading; listening to and giving instructions; inattention; sickness and incapacity (such as drunkenness); health hazards (such as untreated injuries and contagious illness)</p> <p>KB5. methods of accident prevention Methods of accident prevention: 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> <p>KB6. safe working practices when working with tools and machines</p> <p>KB7. safe working practices while working at various hazardous sites</p> <p>KB8. where to find all the general health and safety equipment in the workplace</p> <p>KB9. various dangers associated with the use of electrical equipment</p> <p>KB10. preventative and remedial actions to be taken in the case of exposure to toxic materials Exposure: ingested, contact with skin, inhaled Preventative action: ventilation, masks, protective clothing/ equipment); Remedial action: immediate first aid, report to supervisor Toxic materials: solvents, flux, lead</p> <p>KB11. importance of using protective clothing/equipment while working</p> <p>KB12. precautionary activities to prevent the fire accident</p> <p>KB13. various causes of fire Causes of fires: heating of metal; spontaneous ignition; sparking; electrical heating; loose fires (smoking, welding, etc.); chemical fires; etc.</p> <p>KB14. techniques of using the different fire extinguishers</p> <p>KB15. different methods of extinguishing fire</p> <p>KB16. different materials used for extinguishing fire Materials: sand, water, foam, CO₂, dry powder</p> <p>KB17. rescue techniques applied during a fire hazard</p> <p>KB18. various types of safety signs and what they mean</p>

CSC/ N 1335: Use basic health and safety practices at the workplace

	<p>KB19. appropriate basic first aid treatment relevant to the condition eg. shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries</p> <p>KB20. content of written accident report</p> <p>KB21. potential injuries and ill health associated with incorrect manual handling</p> <p>KB22. safe lifting and carrying practices</p> <p>KB23. personal safety, health and dignity issues relating to the movement of a person by others</p> <p>KB24. potential impact to a person who is moved incorrectly</p>
Skills (S) [Optional]	
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 coworkers appropriately in order to clarify instructions and other issues	
SA5. give clear instructions to coworkers, 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 how to:
	SB1. plan and organize their own work schedule, work area, tools, equipment and materials to maintain decorum and for improved productivity
	Working with others
	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 coworkers for any assistance received	
SB6. offer appropriate respect based on mutuality and respect for fellow workmanship and authority	
Problem Solving	

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	<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)</p> <p>SB8. identify immediate or temporary solutions to resolve delays</p> <p>SB9. identify sources of support that can be availed of for problem solving for various kind of problems</p> <p>SB10. seek appropriate assistance from other sources to resolve problems</p> <p>SB11. report problems that you cannot resolve to appropriate authority</p>
	<p>Analytical Thinking</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</p> <p>SB13. use cause and effect relations to anticipate potential problems and their solution</p>



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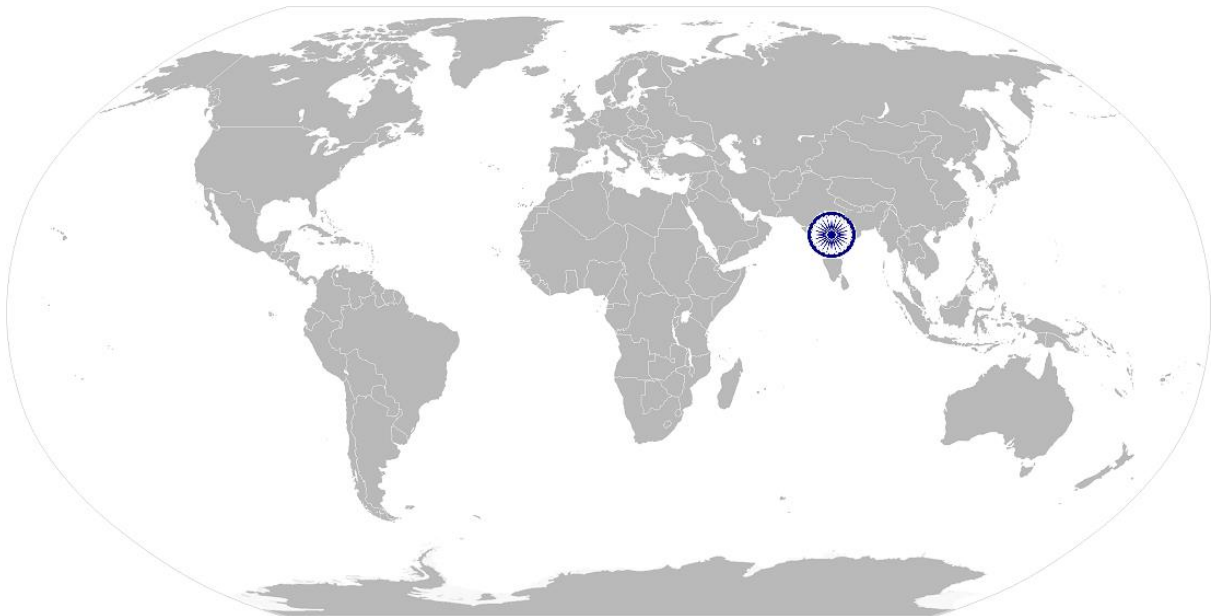
NOS Version Control

NOS Code	CSC / N 1335		
Credits (NSQF)	TBD	Version number	1.0
Industry	Capital Goods	Drafted on	10/04/14
Industry Sub-sector	<ol style="list-style-type: none"> 1. Machine Tools 2. Dies, Moulds And Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Generation Machinery 7. Light Engineering Goods 	Last reviewed on	18/03/15
Occupation	Maintenance	Next review date	30/08/16

CSC/ N 1336:

Work effectively with others

National Occupational Standard



Overview

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

CSC/ N 1336:

Work effectively with others

National Occupational Standard

Unit Code	CSC / N 1336
Unit Title (Task)	Work effectively with others
Description	<p>This unit covers basic etiquette and competencies that a candidate is required to possess and demonstrate in their behavior and interactions with others at the workplace.</p> <p>These cover areas such as communication etiquette, discipline, listening, handling conflict and grievances.</p>
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Working with others
Performance Criteria (PC) w.r.t. the Scope	
Element	Performance Criteria
Working with others	<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. give information to others clearly, at a pace and in a manner that helps them to understand</p> <p>PC4. display helpful behavior 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>Communication etiquette: do not use abusive language; use appropriate titles and terms of respect; do not eat or chew while talking (vice versa)etc.</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 behaviors at the workplace</p> <p>Disciplined behaviors: e.g. punctuality; completing tasks as per given time and standards; not gossiping and idling time; eliminating waste, honesty, etc.</p> <p>PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization 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>

CSC/ N 1336:

Work effectively with others

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
- 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 behavior 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

Skills (S) [Optional]



CSC/ N 1336:

Work effectively with others

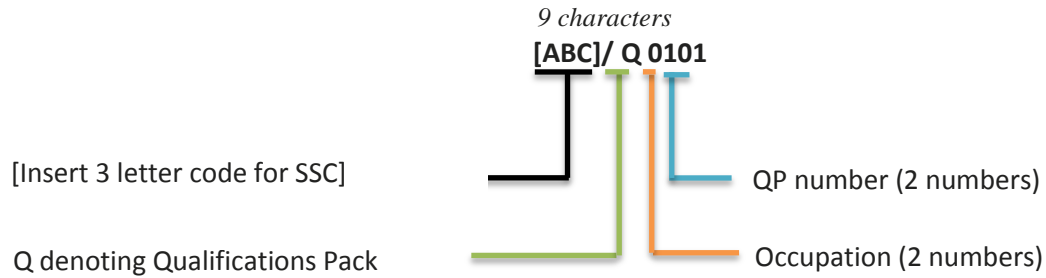
NOS Version Control

NOS Code	CSC / N 1336		
Credits(NSQF)	TBD	Version number	1.0
Industry	Capital Goods	Drafted on	10/04/14
Industry Sub-sector	<ol style="list-style-type: none"> 1. Machine Tools 2. Dies, Moulds And Press Tools 3. Plastics Manufacturing Machinery 4. Textile Manufacturing Machinery 5. Process Plant Machinery 6. Electrical and Power Machinery 7. Light Engineering Goods 	Last reviewed on	18/03/15
Occupation	Maintenance	Next review date	30/08/16

Annexure

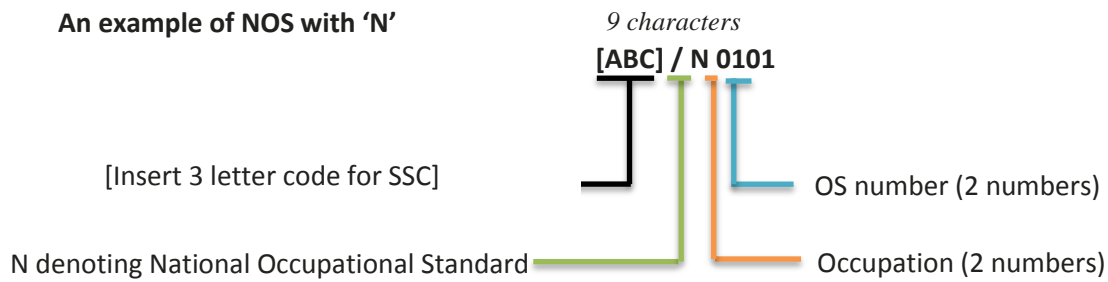
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Machine Tools	01-13
Dies, Moulds and Press Tools	01-13
Plastics Manufacturing Machinery	01-13
Textile Manufacturing Machinery	01-13
Process Plant Machinery	01-13
Electrical and Power Machinery	01-13
Light Engineering Goods	01-13

Sequence	Description	Example
Three letters	Capital Goods	CSC
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Maintenance Fitter- Mechanical
Qualification Pack CSC/ Q 0901
Sector Skill Council Capital Goods Sector Skills 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 centre (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on this criteria
5. To pass the Qualification Pack , every trainee should score a minimum of 70% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.

Assessment outcomes	Assessment Criteria	Total Marks	Out of	Theory	Practical Skill
CSC / N 0901 Perform maintenance activities on mechanical equipment	PC1. comply with health and safety, environmental and other relevant regulations and guidelines at work		3	1	2
	PC2. adhere to procedures and guidelines for personal protective equipment (PPE) and other relevant safety regulations while performing fabrication and fitting operations		4	1	3
	PC3. work following laid down procedures and instructions		3	1	2
	PC4. ensure work area is clean and safe from hazards		2	0	2
	PC5. ensure that all tools, equipment, power tool cables, extension leads are in a safe and usable condition		2	0	2
	PC6. follow all relevant setting up and operating specifications for the products or mechanical equipment being commissioned		3	1	2
	PC7. follow the defined procedures and set up the equipment correctly ensuring		3	1	2

	that all operating parameters are achieved			
	PC8. obtain job specifications and requirements from valid sources and find out the fault	2	0	2
	PC9. obtain and interpret drawings, specifications, manufacturers' manuals and other documents needed in the maintenance process	3	1	2
	PC10. follow the procedure to be adopted to establish the background of the fault	3	1	2
	PC11. evaluate various types of information available for fault diagnosis	3	0	3
	PC12. evaluate sensory information	3	0	3
	PC13. collect evidence regarding the fault from the sources using a range of diagnostic equipment and techniques	3	0	3
	PC14. apply monitoring or testing procedures to help in the fault diagnosis using a range of test equipment	4	1	3
	PC15. relate previous reports/records of similar fault conditions	2	0	2
	PC16. evaluate the likely risk of running the equipment with the displayed fault, and the effects the fault could have on health and safety, and on the overall process or system	3	0	3
	PC17. carry out the maintenance activities in the specified sequence and in an agreed timescale	5	1	4
	PC18. carry out maintenance activities on various equipment	4	0	4
	PC19. perform dismantle mechanical equipment in order to replace defective components (eg. release of pressures/force, proofmarking of components, removal of components by	4	0	4

extraction or pressing, etc.)			
PC20. re-assemble the components, and adjust them to meet the operating specification	5	1	4
PC21. carry out servicing and maintenance techniques as applicable	5	1	4
PC22. replace or refit basic hydraulic and pneumatic components	4	0	4
PC23. identify requirements for welding, machining, electric or electronic repair and handover to the relevant personal after following due process	3	0	3
PC24. conduct a trial run of the equipment at full power/speed/flow	3	0	3
PC25. confirm that the final product/process outcomes meet specifications	3	0	3
PC26. monitor and record measurements and observations	3	0	3
PC27. review and update maintenance procedures and plans	3	0	3
PC28. deal with equipment malfunction and rectify faults during the breakdown servicing process as appropriate	4	1	3
PC29. identify areas of improvements in the various maintenance services and implement the improvement activities agreed upon by the relevant authorities	3	0	3
PC30. deal promptly and effectively with problems within their control, and seek help and guidance from the relevant people if they have problems that they cannot resolve	3	0	3
PC31. leave the work area in a safe and tidy condition on completion of the manufacturing activities	2	0	2

		Total	100	12	88
CSC/ N 1335: (Use basic health and safety practices at the workplace)	PC1. use protective clothing/equipment for specific tasks and work conditions	100	5	2	3
	PC2. state the name and location of people responsible for health and safety in the workplace		3	1	2
	PC3. state the names and location of documents that refer to health and safety in the workplace		3	1	2
	PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace		5	2	3
	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		4	2	2
	PC6. state location of general health and safety equipment in the workplace		3	2	1
	PC7. inspect for faults, set up and safely use steps and ladders in general use		5	2	3
	PC8. work safely in and around trenches, elevated places and confined areas		5	2	3
	PC9. lift heavy objects safely using correct procedures		5	2	3
	PC10. apply good housekeeping practices at all times		4	2	2
	PC11. identify common hazard signs displayed in various areas		5	2	3
	PC12. retrieve and/or point out documents that refer to health and safety in the workplace		3	1	2
	PC13. use the various appropriate fire extinguishers on different types of fires correctly		4	1	3
	PC14. demonstrate rescue techniques applied during fire hazard		4	1	3
	PC15. demonstrate good housekeeping in order to prevent		3	1	2

	fire hazards				
	PC16. demonstrate the correct use of a fire extinguisher	4	1	3	
	PC17. demonstrate how to free a person from electrocution	4	1	3	
	PC18. administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc.	4	1	3	
	PC19. demonstrate basic techniques of bandaging	3	1	2	
	PC20. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments	4	1	3	
	PC21. perform and organize loss minimization or rescue activity during an accident in real or simulated environments	3	1	2	
	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	3	1	2	
	PC23. demonstrate the artificial respiration and the CPR Process	3	1	2	
	PC24. participate in emergency procedures	3	2	1	
	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	4	1	3	
	Total	100	36	64	
CSC/ N 1336: (Work effectively with others)	PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	10	3	7	
	PC2. accurately pass on information to authorized persons who require it and within	10	3	7	

	agreed timescale and confirm its receipt			
	PC3. give information to others clearly, at a pace and in a manner that helps them to understand	10	3	7
	PC4. display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible	10	3	7
	PC5. consult with and assist others to maximize effectiveness and efficiency in carrying out tasks	10	3	7
	PC6. display appropriate communication etiquette while working	10	3	7
	PC7. display active listening skills while interacting with others at work	10	3	7
	PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism	10	3	7
	PC9. demonstrate responsible and disciplined behaviors at the workplace	10	3	7
	PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict	10	3	7
	Total	100	30	70