

## 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: Production Engineer

**SECTOR:** CAPITAL GOODS

**SUB-SECTOR:**

- |                                 |                                     |
|---------------------------------|-------------------------------------|
| 1. Machine Tools                | 3. Plastics Manufacturing Machinery |
| 2. Dies, Moulds and Press Tools | 4. Textile Manufacturing Machinery  |

**OCCUPATION:** Shop Floor Management

**REFERENCE ID:** CSC/ Q 1201

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

**Production Engineer:** Plan and organise workplace, resources and processes required for the production and assembly of machinery and components in accordance with approved procedures.

**Brief Job Description:** It involves the application of skills and knowledge at a specialist level. The range of production processes could include manufacturing operations such as machining, fabrication, welding, material finishing or manufacture, assembly, joining or other activities, such as performance and process improvement.

**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

<b>Job Details</b>	<b>Qualifications Pack Code</b>	<b>CSC/ Q 1201</b>		
	<b>Job Role</b>	<b>Production Engineer</b>		
	<b>Credits (NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>1.0</b>
	<b>Sector</b>	<b>CAPITAL GOODS</b>	<b>Drafted on</b>	<b>24/04/14</b>
	<b>Sub-sector</b>	<ol style="list-style-type: none"> <li>1. Machine Tools</li> <li>2. Dies, Moulds And Press Tools</li> <li>3. Plastics Manufacturing Machinery</li> <li>4. Textile Manufacturing Machinery</li> </ol>	<b>Last reviewed on</b>	<b>18/03/15</b>
	<b>Occupation</b>	<b>SHOP FLOOR MANAGEMENT</b>	<b>Next review date</b>	<b>30/08/16</b>
	<b>NSQC Clearance on</b>	<b>18/06/2015</b>		

Job Role	Production Engineer
Role Description	Plan and organise workplace, resources and processes required for the production and assembly of machinery and components in accordance with approved procedures.
NSQF level	5
Minimum Educational Qualifications	Diploma – Mechanical/Production, Degree preferred
Maximum Educational Qualifications	N.A.
Training (Suggested but not mandatory)	No Previous Training Required
Minimum Job Entry Age	18 Years Old
Experience	Minimum 1 year work/apprenticeship in production
Applicable National Occupational Standards (NOS)	<p><b>Compulsory:</b></p> <ol style="list-style-type: none"> <li><a href="#">CSC/ N 1201 (Plan and organize machinery production and assembly processes)</a></li> <li><a href="#">CSC/ N 1335 (Use basic health and safety practices at the workplace)</a></li> <li><a href="#">CSC/ N 1336 (Work effectively with others)</a></li> </ol> <p><b>Optional:</b> N.A.</p>
Performance Criteria	As described in the relevant OS units

Keywords /Terms	Description
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Organisational Context	Organisational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
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.

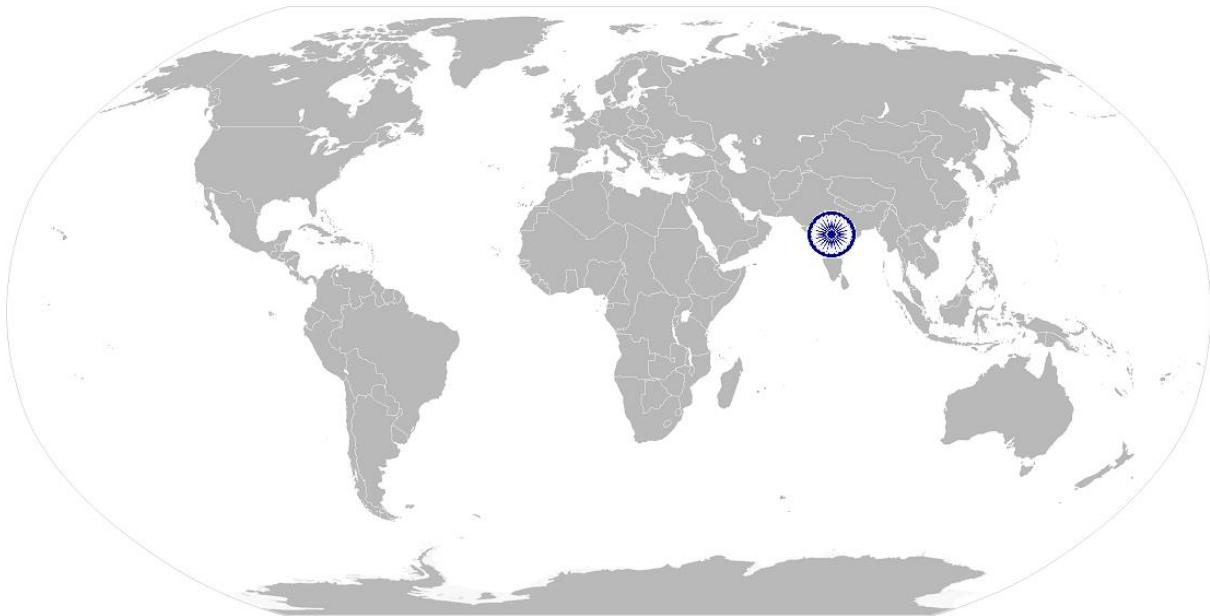
Acronyms

Keywords /Terms	Description
CO2	Carbon dioxide
CPR	Cardiac pulmonary resuscitation
PPE	Personal protective equipment

**CSC/ N 1201: Plan and organize machinery production and assembly processes**

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# National Occupational Standard



## Overview

This unit covers the planning and organizing of workplace, resources and processes required for the production and assembly of machinery and components in accordance with approved procedures. It involves the application of skills and knowledge at a specialist level. The range of production processes could include manufacturing operations such as machining, fabrication, welding, material finishing or manufacture, assembly, joining and performance and process improvement.

## CSC/ N 1201: Plan and organize machinery production and assembly processes

National Occupational Standard	<b>Unit Code</b>	CSC / N 1201
	<b>Unit Title (Task)</b>	Plan and organize machinery production and assembly processes
	<b>Description</b>	<p>This unit covers the planning and organizing of workplace, resources and processes required for the production and assembly of machinery and components, in accordance with approved procedures. The range of production processes could include manufacturing operations such as machining, fabrication, welding, material finishing or manufacture, assembly, joining or other activities, such as productivity, performance and process improvement.</p> <p>The candidate will be expected to work unsupervised, either on their own or as part of a team, which they may lead or direct, taking full responsibility for their actions, and possibly for the work of colleagues or subordinates.</p>
	<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Preparation for production and assembly</li> <li>• Resourcing</li> <li>• Developing production plan, schedule and job cards</li> <li>• Confirming that conditions are suitable for production</li> <li>• Implement production processes and activities</li> <li>• Monitor and review the plan</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>		
<b>Element</b>	<b>Performance Criteria</b>	
<b>Preparation for production and assembly</b>	<p>The user/individual on the job should be able to:</p> <p>PC1. obtain specification of the product to be produced from an appropriate authority</p> <p>PC2. obtain details of the required production and assembly activities</p> <p>PC3. review the critical production requirements and quality criteria for each production and assembly activity</p> <p><b>Critical production requirements:</b> specifications of the product to be produced, manpower requirements, material requirement, processes to be run, outsourcing requirements, equipment/component/system performance &amp; life cycle, maintenance and repair, product or process quality</p> <p>PC4. obtain clarification from relevant people on any aspects of the activities that are unclear</p> <p>PC5. discuss and facilitate any changes needed to suit the operational requirements with the relevant people</p> <p>PC6. ensure that methods and procedures used meet relevant regulations and guidelines</p> <p>PC7. define the production requirements and communicate them to the relevant people</p> <p>PC8. record the requirements in the appropriate information systems</p>	



## CSC/ N 1201: Plan and organize machinery production and assembly processes

<p><b>Resourcing</b></p>	<p>The user/individual on the job should be able to:</p> <p>PC9. identify production team personnel and contractors required and check for their availability</p> <p>PC10. obtain the resources, based on required skills, using the appropriate organizational procedures and authorizations</p> <p><b>Resources:</b> materials, equipment, information, costing, people, facilities</p> <p>PC11. identify materials, tools, equipment, jigs and other resources required using workplace job information</p> <p>PC12. resolve any resource supply or control issues</p> <p><b>Issues:</b> e.g. availability (materials, equipment, information, finance, people, facilities); quality (materials, equipment, information, facilities); skills (personnel); time; budgets; safety &amp; environment; etc.</p> <p>PC13. inspect and prepare the materials, tools, equipment, jigs for safe operation</p> <p>PC14. Identify and report faulty material, tools, equipment and jigs to appropriate personnel</p> <p>PC15. record all resource data on the appropriate company information system</p>
<p><b>Developing production plan, schedule and job cards</b></p>	<p>The user/individual on the job should be able to:</p> <p>PC16. develop job cards showing personnel, consumables and resource costs</p> <p>PC17. develop production schedules showing job sequence and estimated start and completion dates</p> <p>PC18. submit job cards and production schedules to the appropriate personnel for approval</p>
<p><b>Confirming that conditions are suitable for production</b></p>	<p>The user/individual on the job should be able to:</p> <p>PC19. confirm that appropriate authorization is obtained</p> <p>PC20. confirm the availability of resources to relevant team members</p> <p>PC21. confirm to appropriate personnel that materials, processes and the site are duly prepared</p> <p>PC22. confirm that the health, safety and environmental requirements applicable to the production activities are being adhered to</p>
<p><b>Implement production processes and activities</b></p>	<p>The user/individual on the job should be able to:</p> <p>PC23. provide clear and accurate instructions to all the relevant people</p> <p>PC24. listen to and provide information to answer queries and doubts with respect to work related processes, operations as well as materials and equipment</p> <p>PC25. ensure that all support and control systems operate effectively</p> <p><b>Support and control systems:</b> quality assurance systems; transport; logistics; procurement; supervision or leadership structures; utilities; resource supply (such as materials, equipment, personnel); other technical support requirements</p> <p>PC26. ensure that quality assurance systems are correctly implemented</p> <p>PC27. ensure that engineering support systems are operating correctly</p> <p>PC28. control the use of resources to achieve the most effective results</p> <p>PC29. implement production processes that comply with organizational guidelines and procedures, customer standards and requirements or national and international standards or directives</p> <p><b>Production processes:</b> procurement and production planning; raw material processing (cleaning, greasing, heat treatment, etc.); fitting and fabrication of components; subassembly; assembly; trial and testing; finishing; coordination</p>



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	<p>with design, planning, procurement, vendors, quality, industrial engineering and customer interface</p> <p>PC30. identify opportunities to improve the production processes and activities and forward to relevant authorities</p> <p>PC31. report and communicate production processes and activities implemented through various company media</p> <p><b>Media for reporting and communication:</b> e.g. verbal report, electronic mail, computer generated report, specific company form, visual display system, etc.</p> <p>PC32. record the implementation process on appropriate company media</p> <p><b>Media for recording the process:</b> e.g. verbal report, electronic mail, computer generated report, specific company forms, visual display system, etc.</p> <p>PC33. conduct an evaluation of the effectiveness of the implementation process</p> <p>PC34. identify and record any deviations from specifications of the implemented activity</p> <p>PC35. ensure that the implementation of production processes and activities complies with all relevant regulations, directives and guidelines</p>
<p><b>Monitor and review the plan</b></p>	<p>The user/individual on the job should be able to:</p> <p>PC36. inspect personnel, resources and timelines for production and confirm according to workplace procedures and requirements</p> <p>PC37. identify potential production problems and action required to resolve the problems according to workplace procedures</p> <p>PC38. put permanent corrective action in place to resolve production problems as per organizational procedure</p> <p>PC39. enhance productivity by adopting a number of appropriate measures (eg. automation, motivation, process planning, resource planning)</p> <p>PC40. inform appropriate personnel of production progress in a timely manner</p> <p>PC41. monitor production for quality, budget and time schedule</p> <p>PC42. ensure that work area and tools are cleaned and inspected according to workplace procedures</p> <p>PC43. complete job documentation according to workplace procedures</p>
<p><b>Knowledge and Understanding (K)</b></p>	
<p><b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. health, safety and environmental requirements applicable to the engineering activities to be carried out</p> <p>KA2. type of impact the implementation could have on the organization</p> <p>KA3. company information systems, the importance of using them and how to record data to the system</p> <p>KA4. documentation to be completed</p> <p>KA5. responsibilities with regard to the reporting lines and procedures in the working area</p> <p>KA6. how to obtain and interpret legislative and regulatory documentation</p> <p>KA7. how to obtain and interpret company policy and procedures</p> <p>KA8. relevant reporting procedures, documentation and their application</p> <p>KA9. extent of their own authority, and to whom they should report to if they have problems that they cannot resolve</p>

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<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. quality assurance systems that are being used</p> <p>KB2. how to determine the necessary resources</p> <p>KB3. procedures for obtaining and issuance of resources</p> <p>KB4. types of issue that could occur when obtaining resources, and how to resolve them</p> <p>KB5. how to obtain details of the production processes and activities being implemented</p> <p><b>Production processes:</b> procurement and production planning; raw material processing (cleaning, greasing, heat treatment, etc.); fitting and fabrication of components; subassembly; assembly; trial and testing; finishing; coordination with design, planning, procurement, vendors, quality, industrial engineering and customer interface</p> <p>KB6. methods and procedures that could be used for different types of production processes and activities</p> <p>KB7. conditions that are suitable and unsuitable for different types of production processes and activities</p> <p>KB8. quality assurance systems that are being used</p> <p>KB9. engineering support systems that are operating</p> <p>KB10. different and most appropriate ways of instructing people on the engineering process or processes</p> <p>KB11. types of recommendation that could emerge from evaluation of the implemented engineering process</p> <p>KB12. how to obtain and interpret information on regulations, directives and guidelines</p> <p>KB13. difference between the abbreviations and notation used on various standard engineering drawings, circuit diagrams or piping layouts</p> <p>KB14. interpret and use the information that can be extracted from reference charts, tables, graphs and standards applicable</p> <p>KB15. use of databases and spreadsheets to display information</p> <p>KB16. basic principles of document control</p> <p>KB17. interpret drawings, dimensioning and labelling</p> <p>KB18. how to use engineering drawings to assess material requirements for the job and their quality requirements</p> <p>KB19. critically compare materials from a range found in fabrication engineering</p> <p>KB20. forms of supply of materials available</p> <p>KB21. criteria used for the selection of materials for a given application</p> <p>KB22. different material structures and variation in properties that result from the same</p> <p>KB23. requirements for the heat treatment of metals</p> <p>KB24. difference between characteristics of metallic and non-metallic materials used in engineering</p> <p>KB25. how carbon and alloying elements affect the properties of carbon and low alloy steels</p> <p>KB26. how heat treatments can affect the properties of carbon and low alloy steels</p> <p>KB27. causes of defects that can occur in materials/products and the importance of controlling them</p> <p>KB28. how to select materials to meet specification requirements in a typical</p>
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	<p>engineering environment</p> <p>KB29. classification of bolting methods from a range found in fabrication engineering</p> <p>KB30. classification of mechanical fastenings applied to thin plate fabrication engineering</p> <p>KB31. reasons for and the methods available to protect metal surfaces prior to and after assembly</p> <p>KB32. classification of joint configurations from a range found in fabrication engineering</p> <p>KB33. benefits of using jigs and fixtures</p> <p>KB34. use of adhesive bonding in the joining of fabricated assemblies</p> <p>KB35. calculate joining allowances</p> <p>KB36. difference between features of welded joints</p> <p>KB37. how to apply weld dimensions to weld symbols</p> <p>KB38. reasons for types of distortion due to welding</p> <p>KB39. methods of distortion control and rectification</p> <p>KB40. explain the residual stress effects of welding</p> <p>KB41. range of machine tools available in terms of size, capacity, accuracy and production capability</p> <p>KB42. structural requirements of a range of common machine tools</p> <p>KB43. common methods of mounting machine tools</p> <p>KB44. importance of alignment in machine tools and methods to achieve it</p> <p>KB45. operating principles of computer numerically controlled machine tools</p> <p>KB46. basic CAD/CAM design concepts</p> <p>KB47. how to produce a part-programme to demonstrate the relative work/tool movement of a CNC machine tool</p> <p>KB48. how to prove the part-programme using simulation software</p> <p>KB49. critically compare CNC machine tools against non-CNC machine tools</p> <p>KB50. how to evaluate cutting tools materials for given applications (CNC and non-CNC)</p> <p>KB51. differences between types of maintenance carried out on machine tools</p> <p>KB52. maintenance programme for a typical machine tool</p> <p>KB53. what would be included in a lubrication chart for a typical machine tool workshop</p> <p>KB54. classification of coolants and lubricants applicable to machine tool systems</p> <p>KB55. classification of methods of application for common surface coatings</p> <p>KB56. commissioning/maintenance procedures carried out on machine tools</p> <p>KB57. define the term quality and apply quality to contexts/perceptions</p> <p>KB58. define the terms inspection and quality control</p> <p>KB59. principles of quality control and inspection</p> <p>KB60. need for materials and components, inward inspection and correct documentation</p> <p>KB61. function of an incoming raw materials inspection department</p> <p>KB62. need for validating and calibrating test and measuring equipment</p> <p>KB63. how to check equipment is approved for use and how to take appropriate action to return/report equipment that has passed its approval date</p> <p>KB64. use of engineering standards in determining the fitness of purpose of items/equipment used in engineering production, construction and</p>
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	<p>maintenance</p> <p>KB65. appropriate action to take when required standards of performance are not met</p> <p>KB66. limits of authority in respect of re-working, adjusting or scrapping a component/product</p> <p>KB67. need to inform a responsible person of the variation from the stated standard</p> <p>KB68. need to document all actions agreed upon and taken</p> <p>KB69. importance of quality records and the type of inspection records needed</p> <p>KB70. purpose of the ISO 9000 series of standards</p> <p>KB71. how to complete quality documents/records of work carried out and record test/inspection results</p> <p>KB72. interpret results from quality measurements and compare them with stated parameters</p> <p>KB73. make recommendations whether to re-work, adjust or scrap items/components that do not meet required standards</p> <p>KB74. material handling equipment e.g. crane, lifts, etc.</p>
<b>Skills (S) [Optional]</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Communication</b>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read, interpret, follow and communicate information on written job instructions, specifications, standard operating procedures, charts, lists, drawings and other applicable reference documents</p> <p>SA2. produce sketches, diagrams, charts or graphs</p> <p>SA3. check and clarify task-related information</p> <p>SA4. recognize and use common mechanical engineering terminology and symbols</p> <p>SA5. liaise with appropriate authorities</p> <p>SA6. convey information in a clear, precise manner</p> <p>SA7. organizational protocols for communication between and with different personnel</p>
	<b>Numerical and Computational Ability</b>
	<p>SA8. undertake numerical operations, geometry and calculations/ formulae</p> <p><b>Arithmetic:</b> addition, subtraction, multiplication, division, fractions and decimals, percentages and proportions, simple ratios and averages</p> <p>SA9. use appropriate measuring techniques</p> <p>SA10. express numerical solutions to a degree of accuracy that is appropriate to the value being calculated</p> <p><b>Degree of accuracy:</b> correct to three significant figures, correct to two decimal places, express a decimal fraction in standard form, express tolerance in terms of limits of size</p> <p>SA11. use a calculator to raise a number to a power and determine square roots</p> <p>SA12. use formulae to complete transpositions and solve problems</p> <p><b>Transpositions:</b> involving addition, subtraction, multiplication and division in any combination using a maximum of three terms, for example Ohm's Law, substitution of known values</p> <p>SA13. use algebraic expressions to solve linear equations</p> <p>SA14. plot and interpret straight line graphs</p> <p>SA15. apply Pythagoras' theorem to perform calculations</p>

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	<p>SA16. explain how to use sine, cosine and tangent to solve typical engineering problems <b>Sine, Cosine and Tangent:</b> state their ratios for angles up to 90°, determine their values for given angles up to 90°, solve simple problems</p> <p>SA17. define density and relative density and solve related problems using formula</p> <p>SA18. define moments of a force and solve related problems using formula <b>Moments of a force:</b> define and apply the 'Principle of Moments', define the meanings of the terms 'torque' &amp; 'couple'</p> <p>SA19. define work, power and energy and solve related problems using formula <b>Work, Power and Energy:</b> explain what is meant by energy; state that the unit of energy is the joule (J), the unit of power is the watt (W) and the unit of work is the joule (J); define power in terms of voltage/current and work done per second, perform calculations for work, power and energy, levers and couples work, power and energy, define work done in terms of force and distance moved</p> <p>SA20. define friction and solve related problems using formula <b>Friction:</b> definition, explain coefficient of friction, explain how friction can be reduced, select materials that will rotate, or slide together with low frictional value, perform calculations for friction</p> <p>SA21. describe the relationship between temperature changes and changes in length <b>Temperature:</b> define coefficient of expansion, solve numerical problems to determine the change in length due to temperature</p> <p>SA22. define types of heat and solve related problems using formula <b>Heat:</b> define specific heat capacity, specific latent heat (fusion, evaporation) solve numerical problems associated with specific heat capacity, specific latent heat of fusion, specific latent heat of evaporation</p>
	<b>Learning</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA23. check and clarify task related information with appropriate personnel or technical adviser</p> <p>SA24. identify customers' requirements with respect to the operation or quality of the product or service</p> <p>SA25. assess and modify own work practices</p> <p>SA26. use manuals, online help and other reference materials such as catalogues/lists as required</p> <p>SA27. maintain current knowledge of applicable standards, legislation, codes of practice and product/process developments</p> <p>SA28. assist with on the job training and assessment</p>
	<b>Computer Basics</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA29. perform basic operations in a computer like switching it on/off, using the mouse and keyboard, accessing files, opening, closing, creating and deleting folders, etc.</p> <p>SA30. use basic office applications like spread sheet, word processor, presentations</p> <p>SA31. use ERP software and other organizational software specific to quality function</p>

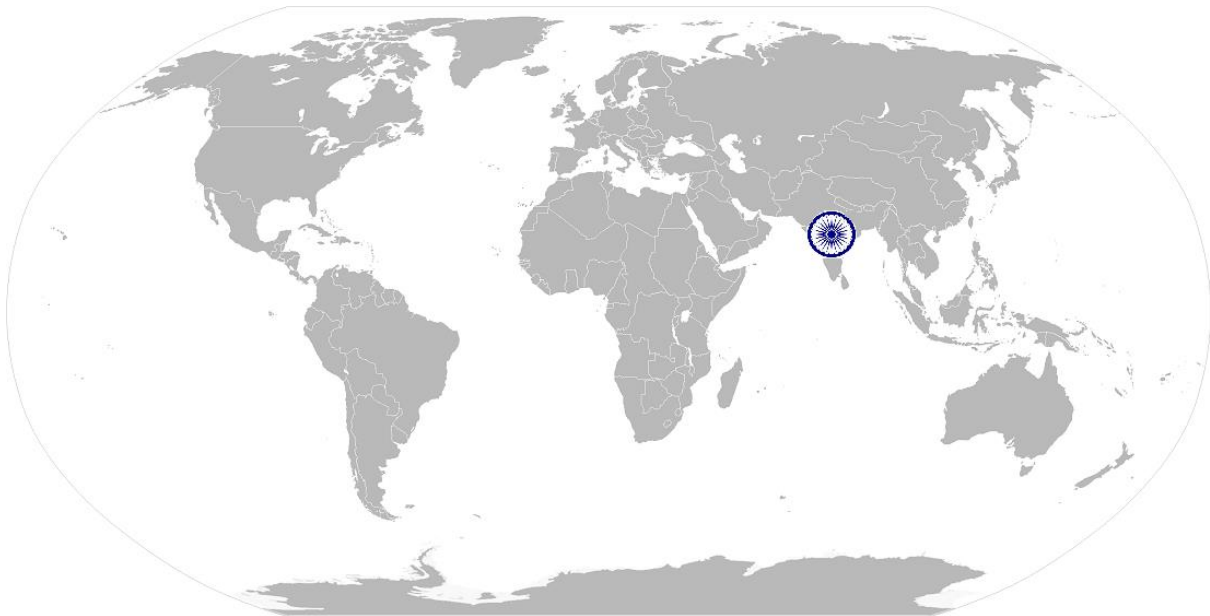


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	<p>SA32. use email to communicate within the organization as per organization guidelines</p> <p>SA33. retrieve and enter data using standard system forms and templates</p> <p>SA34. take printouts of documents</p>
<b>B. Professional Skills</b>	<b>Problem Solving</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. inspect quality of own or other employee's work</p> <p>SB2. analyze information according to enterprise and work requirements</p> <p>SB3. assess operation and condition of components against specifications or manufacturer's requirements</p> <p>SB4. use diagnostic skills and tests to identify and determine causes of faults, including interpretation of in-built fault indicators and error codes</p> <p>SB5. develop, implement and evaluate solutions to problems</p> <p>SB6. translate designs into practical outcomes</p>
	<b>Plan and Organize</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB7. plan, prioritize and sequence work operations/ complete activities/ scheduled production</p> <p>SB8. allocate and agree responsibilities with team members</p> <p>SB9. monitor the progress and quality of work in own area of responsibility and provide feedback</p> <p>SB10. review and amend plans of work for own area of responsibility and communicate changes</p>
	<b>Performance Management</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB11. obtain information about legal requirements, industry regulations, organisational policies, professional codes concerning performance and standards of performance required for team members</p> <p>SB12. identify performance problems of team members</p> <p>SB13. communicate and address the performance development needs for the individual</p> <p>SB14. use available options to support an individual in meeting desired standards of performance</p> <p>SB15. work with an individual to create a development plan</p> <p>SB16. monitor and evaluate an individual's progress against their development plan</p> <p>SB17. incorporate feedback to make development plan revisions</p> <p>SB18. encourage individuals to take responsibility for continuing their performance development</p>
	<b>Compliance and Risk Management</b>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB19. monitor the operational compliance of procedures in meeting legal, regulatory, ethical and social requirements</p> <p>SB20. identify areas of non-compliance with legal, regulatory, ethical and social procedures</p> <p>SB21. examine reasons for non-compliance with procedures</p> <p>SB22. make recommendations for corrections to ensure compliance with</p>	

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	<p>procedures</p> <p>SB23. identify information from own area of responsibility to review the risk management process</p> <p>SB24. assess the effectiveness of the risk management process</p> <p>SB25. implement changes to the risk management process where</p> <p>SB26. potential improvements have been identified</p>
	<p><b>Team Building</b></p>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB27. understand the purpose and required attributes of a team and select those that match the team’s requirements</p> <p>SB28. be able to induct team members and communicate their roles and responsibilities</p> <p>SB29. understand how to support team development</p> <p>SB30. manage team performance using a range of methods</p>





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**NOS Version Control**

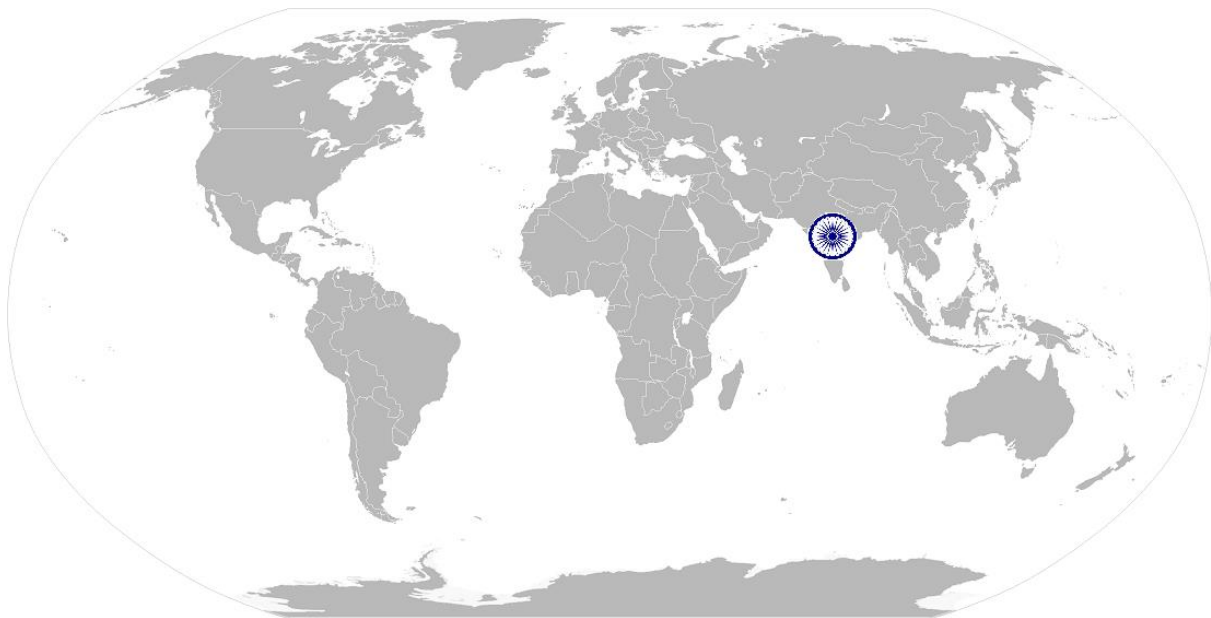
<b>NOS Code</b>	<b>CSC / N 1201</b>		
<b>Credits (NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	<b>Capital Goods</b>	<b>Drafted on</b>	<b>14/04/14</b>
<b>Industry Sub-sector</b>	<ol style="list-style-type: none"> <li>1. Machine Tools</li> <li>2. Dies, Moulds And Press Tools</li> <li>3. Plastics Manufacturing Machinery</li> <li>4. Textile Manufacturing Machinery</li> </ol>	<b>Last reviewed on</b>	<b>18/03/15</b>
<b>Occupation</b>	<b>Shop Floor Management</b>	<b>Next review date</b>	<b>30/08/16</b>



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

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# 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	<b>Unit Code</b>	CSC / N 1335
	<b>Unit Title (Task)</b>	Use basic health and safety practices at the workplace
	<b>Description</b>	<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>
	<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>• Health and safety</li> <li>• Fire safety</li> <li>• Emergencies, rescue and first-aid procedures</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>		
<b>Element</b>	<b>Performance Criteria</b>	
<b>Health and safety</b>	<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><b>Protective clothing:</b> 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><b>Equipment:</b> 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><b>Hazards:</b> 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>	

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

	<p><b>Possible causes of risk and accident:</b> 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>PC5. carry out safe working practices while dealing with hazards to ensure the safety of self and others</p> <p><b>Safe working practices:</b> 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</p> <p><b>Methods of accident prevention:</b> 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</p> <p><b>General health and safety equipment:</b> 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</p> <p><b>Ladder faults:</b> corrosion of metal components, deterioration, splits and cracks timber components, imbalance, loose rungs, missing/unfixed nuts or bolts, etc.</p> <p><b>Ladders set up:</b> 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</p> <p><b>Good housekeeping practices:</b> clean/tidy work areas, removal/disposal of waste products, protect surfaces</p> <p>PC12. identify common hazard signs displayed in various areas</p> <p><b>Various areas:</b> 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</p>
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## CSC/ N 1335: Use basic health and safety practices at the workplace

	<p><b>Documents:</b> fire notices, accident reports, safety instructions for equipment and procedures, company notices and documents, legal documents (eg government notices)</p>
<p><b>Fire safety</b></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><b>Types of fires:</b> 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><b>Emergencies, rescue and first-aid procedures</b></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><b>Emergency procedures:</b> 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><b>Incident Report includes details of:</b> 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><b>Knowledge and Understanding (K)</b></p>	



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

<p><b>A. Organizational Context</b> (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>B. Technical Knowledge</b></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 <b>Possible causes of risk and accident:</b> 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 <b>Methods of accident prevention:</b> 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 <b>Exposure:</b> ingested, contact with skin, inhaled <b>Preventative action:</b> ventilation, masks, protective clothing/ equipment); <b>Remedial action:</b> immediate first aid, report to supervisor <b>Toxic materials:</b> 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 <b>Causes of fires:</b> 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 <b>Materials:</b> sand, water, foam, CO<sub>2</sub>, 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>

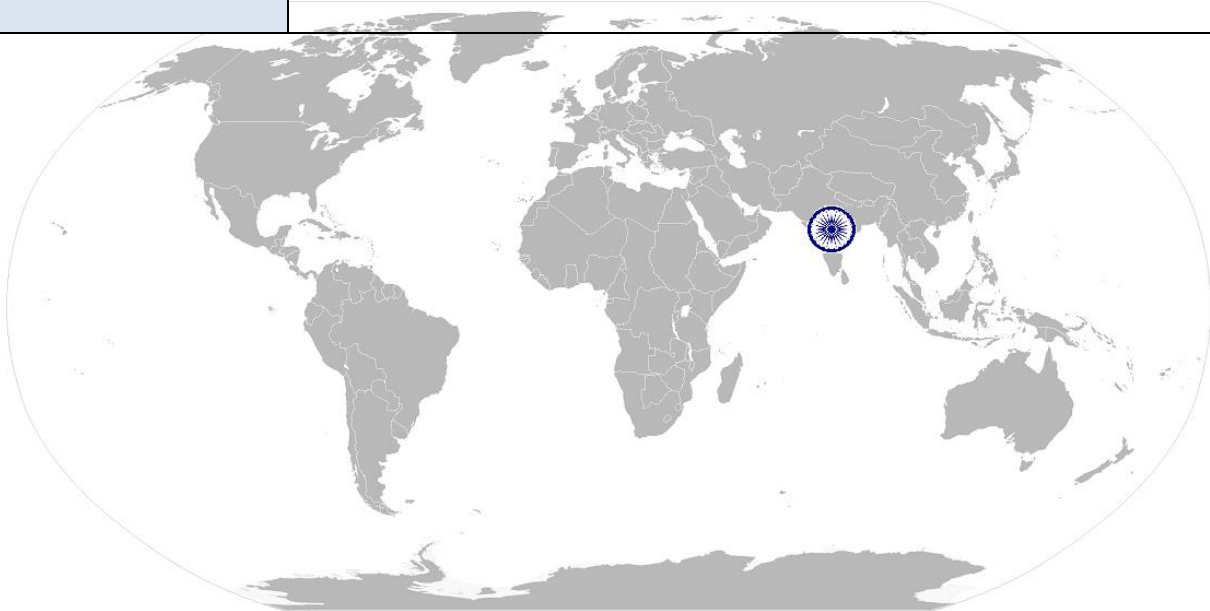
**CSC/ N 1335: Use basic health and safety practices at the workplace**

	<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>
<b>Skills (S) [Optional]</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Reading and Writing Skills</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA1. read and comprehend basic content to read labels, charts, signages</p> <p>SA2. read and comprehend basic English to read manuals of operations</p> <p>SA3. read and write an accident/incident report in local language or English</p>
	<b>Oral Communication (Listening and Speaking skills)</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. question coworkers appropriately in order to clarify instructions and other issues</p> <p>SA5. give clear instructions to coworkers, subordinates others</p>
	<b>Decision Making</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SA6. make appropriate decisions pertaining to the concerned area of work with respect to intended work objective, span of authority, responsibility, laid down procedure and guidelines</p>
<b>B. Professional Skills</b>	<b>Plan and Organize</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. plan and organize their own work schedule, work area, tools, equipment and materials to maintain decorum and for improved productivity</p>
	<b>Working with others</b>
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. remain congenial while discussing and debating issues with co-workers</p> <p>SB3. follow appropriate protocols for communication based on situation, hierarchy, organizational culture and practice</p> <p>SB4. ask for, provide and receive required assistance where possible to ensure achievement of work related objectives</p> <p>SB5. thank coworkers for any assistance received</p> <p>SB6. offer appropriate respect based on mutuality and respect for fellow workmanship and authority</p>	



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

	<b>Problem Solving</b>
	The user/individual on the job needs to know and understand how to: SB7. think through the problem, evaluate the possible solution(s) and suggest an optimum /best possible solution(s) SB8. identify immediate or temporary solutions to resolve delays SB9. identify sources of support that can be availed of for problem solving for various kind of problems SB10. seek appropriate assistance from other sources to resolve problems SB11. report problems that you cannot resolve to appropriate authority
	<b>Analytical Thinking</b>
	The user/individual on the job needs to know and understand how to: SB12. identify cause and effect relations in their area of work SB13. use cause and effect relations to anticipate potential problems and their solution



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

## NOS Version Control

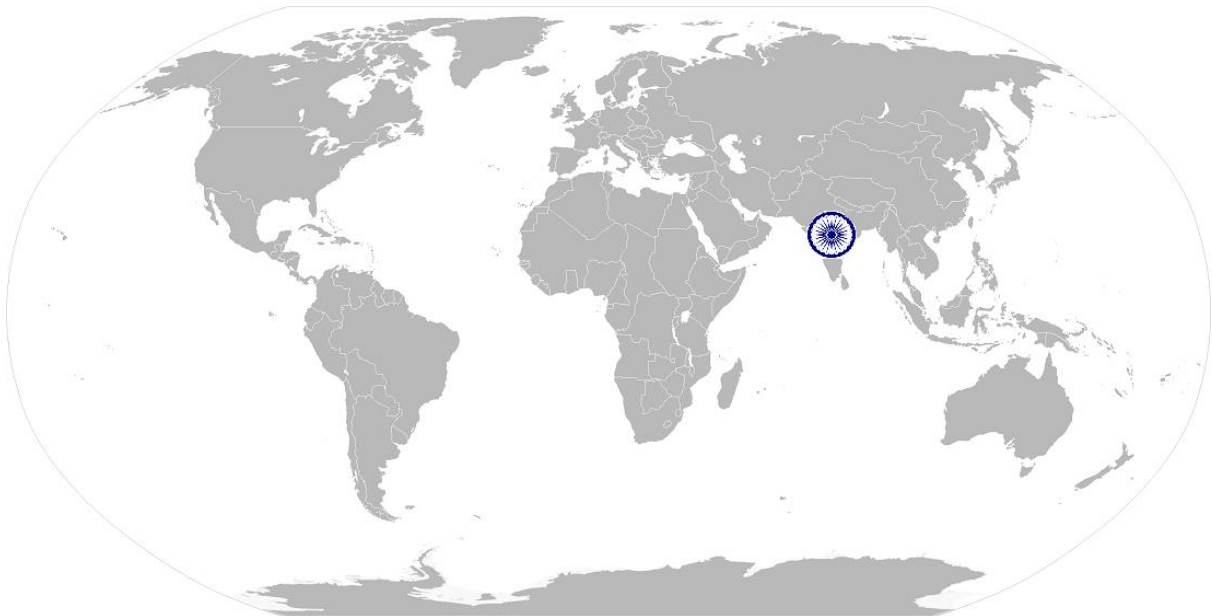
<b>NOS Code</b>	<b>CSC / N 1335</b>		
<b>Credits (NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	<b>Capital Goods</b>	<b>Drafted on</b>	<b>10/04/14</b>
<b>Industry Sub-sector</b>	<ol style="list-style-type: none"> <li>1. Machine Tools</li> <li>2. Dies, Moulds And Press Tools</li>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

CSC/ N 1336:

Work effectively with others

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# 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

<b>Unit Code</b>	<b>CSC / N 1336</b>
<b>Unit Title (Task)</b>	<b>Work effectively with others</b>
<b>Description</b>	<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>
<b>Scope</b>	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> <li>Working with others</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Working with others</b>	<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><b>Communication etiquette:</b> 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><b>Disciplined behaviors:</b> 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>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (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

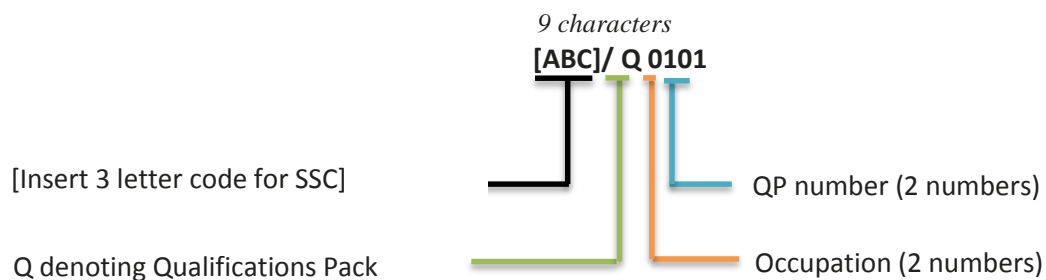
**NOS Version Control**

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

## Annexure

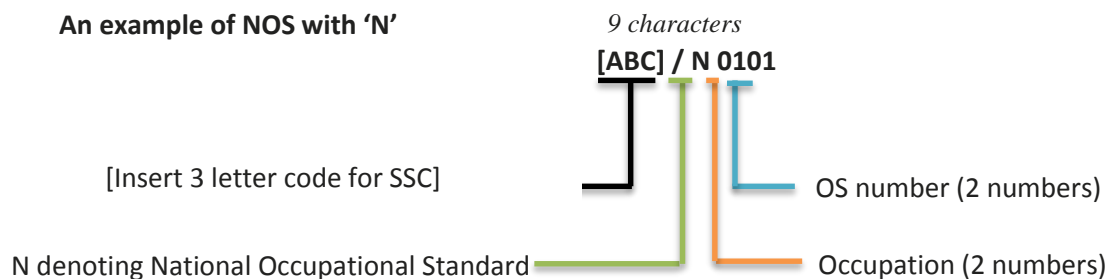
### Nomenclature for QP and NOS

#### 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	01-12
Dies, Moulds and Press Tools	01-12
Plastics Manufacturing Machinery	01-12
Textile Manufacturing Machinery	01-12

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 : Production Engineer**

**Qualification Pack : CSC/ Q 1201**

**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 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 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.

Assessable Outcomes	Assessment Criteria	Total Marks (300)	Out Of	Theory	Skills Practical
<b>CSC/ N 1201 : Plan and organize machinery production and assembly processes</b>	PC1. obtain specification of the product to be produced from an appropriate authority	<b>100</b>	1	0	1
	PC2. obtain details of the required production and assembly activities		1	0	1
	PC3. review the critical requirements and quality criteria for each production and assembly activity		2	0	2
	PC4. obtain clarification from relevant people on any aspects of the activities that are unclear		1	0	1
	PC5. discuss and facilitate any changes needed to suit the operational requirements with the relevant people		4	1	3
	PC6. ensure that methods and procedures used meet relevant regulations and guidelines		3	1	2
	PC7. define the production requirements and communicate them to the relevant people		2	0	2
	PC8. record the requirements in the appropriate information systems		2	0	2
	PC9. identify production team personnel and contractors required and check for their availability		2	0	2

PC10. obtain the resources, based on required skills, using the appropriate organizational procedures and authorizations	3	1	2
PC11. identify materials, tools, equipment, jigs and other resources required using workplace job information	2	0	2
PC12. resolve any resource supply or quality issues	2	0	2
PC13. inspect and prepare the materials, tools, equipment, jigs for safe operation	3	0	3
PC14. report faulty material, tools, equipment and jigs to appropriate personnel	2	0	2
PC15. record all resource data on the appropriate company information system	2	1	1
PC16. develop job cards showing personnel, consumables and resource costs	2	0	2
PC17. develop production schedules showing job sequence and estimated start and completion dates	3	1	2
PC18. submit job cards and production schedules to the appropriate personnel for approval	2	0	2
PC19. confirm that appropriate authorization is obtained	2	0	2
PC20. confirm the availability of resources to relevant team members	2	0	2
PC21. confirm to appropriate personnel that materials, processes and the site are duly prepared	2	0	2
PC22. confirm that the health, safety and environmental requirements applicable to the production activities are being adhered to	3	1	2
PC23. provide clear and accurate instructions to all the relevant people	3	1	2
PC24. ensure that all support and control systems operate effectively	2	0	2
PC25. ensure that quality assurance systems are correctly implemented	2	0	2
PC26. ensure that engineering support systems are operating correctly	2	0	2
PC27. control the use of resources to achieve the most effective results	2	0	2
PC28. implement production processes that comply with organizational guidelines and procedures, customer standards and requirements or national and international standards or directives	2	1	1

	PC29. identify opportunities to improve the production processes and activities and forward to relevant authorities		2	0	2
	PC30. report and communicate production processes and activities implemented through various company media		2	0	2
	PC31. record the implementation process on appropriate company media		3	1	2
	PC32. conduct an evaluation of the effectiveness of the implementation process		2	0	2
	PC33. identify and record any deviations from specifications of the implemented activity		3	1	2
	PC34. ensure that the implementation of production processes and activities complies with all relevant regulations, directives and guidelines		2	1	1
	PC35. inspect personnel, resources and timelines for production and confirm according to workplace procedures and requirements		4	1	3
	PC36. identify potential production problems and action according to workplace procedures		4	1	3
	PC37. put permanent corrective action in place to resolve production problems as per organizational procedure		4	1	3
	PC38. enhance productivity by adopting a number of appropriate measures (eg. automation, motivation, process planning, resource planning)		4	1	3
	PC39. inform appropriate personnel of production progress in a timely manner		2	0	2
	PC40. monitor production for quality, budget and time schedule		2	0	2
	PC41. ensure that work area and tools are cleaned and inspected according to workplace procedures		2	1	1
	PC42. complete job documentation according to workplace procedures		3	1	2
		<b>Total</b>	<b>100</b>	<b>17</b>	<b>83</b>
<b>CSC/ N 1335 : Use basic health and safety practices at the workplace</b>	PC1. use protective clothing/equipment for specific tasks and work conditions	<b>100</b>	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 fire hazards	3	1	2
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
		<b>Total</b>	<b>100</b>	<b>36</b>	<b>64</b>
<b>CSC/ N 1336 : Work effectively with others</b>	PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	<b>100</b>	10	3	7
	PC2. accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	3	7
	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
		<b>Total</b>	<b>100</b>	<b>30</b>	<b>70</b>