

### 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- Manager Maintenance Mechanical & Electrical Level 5

**SECTOR:** AUTOMOTIVE

**SUB-SECTOR:** MANUFACTURING SUPPORT

**OCCUPATION:** MAINTENANCE

**JOB ROLE:** MANAGER MAINTENANCE –MECH & ELECT.

**REFERENCE ID:** ASC/Q6801

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

**Brief Job Description:** Individuals at this job are responsible for maintaining status of continuous running of equipment and machinery. They use computerized systems to oversee routine maintenance and organize repairs. They are also involved in control and monitoring devices and occasionally in the manufacture of items that will help in maintenance.

**Personal Attributes:** This job requires the individual to work independently and be judicious in making decisions pertaining to one's area of work. The individual should be result oriented. The individual should also be able to demonstrate skills for information ordering, oral expression, mathematical and deductive reasoning, artistic and spatial skills along with comprehension. The individual must be physically fit to be able to maintain unusual working hours .

|             |                          |   |                  |          |
|-------------|--------------------------|---|------------------|----------|
| Job Details | Qualifications Pack Code | ASC/Q 6801                                  |                  |          |
|             | Job Role                 | Manager Maintenance Mechanical & Electrical |                  |          |
|             | Credits(NSQF) [OPTIONAL] | TBD   | Version number   | 1.1      |
|             | Sector                   | Automotive                                  | Drafted on       | 13.08.13 |
|             | Sub-sector               | Manufacturing Support                       | Last reviewed on | 14.04.14 |
|             | Occupation               | Maintenance                                 | Next review date | 30.09.15 |

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|--|--|
| Job Role   | Manager Maintenance Mechanical & Electrical  |
| Role Description                                 | Plays a vital role in the efficiency, development and progress in continuous running of equipment and machinery  |
| NSQF level                                       | 6  |
| Minimum Educational Qualifications*              | B. Tech/ BE in Industrial / Production / Mechanical Engineer   |
| Maximum Educational Qualifications*              | Not Applicable   |
| Training<br>(Suggested but not mandatory)        | Basic fundamentals training courses on working of equipments and machinery<br>TPM , Predictive maintenance Techniques,<br>Automation, Robotics   |
| Experience                                       | Min 10-12 years in Maintenance/Manufacturing   |
| Applicable National Occupational Standards (NOS) | <p><b>Compulsory:</b></p> <p>ASC/N6801. <a href="#">Develop strategies to improve overall reliability and safety of plant, personnel and production processes</a></p> <p>ASC/N0002. <a href="#">Work effectively in a team</a></p> <p>ASC/N0006. <a href="#">Maintain a safe , secure and clean working environment</a></p> <p>ASC/N0022 <a href="#">Ensure implementation of 5S activities at the shop floor &amp; the office area</a></p> <p><b>Optional:</b><br/>N.A.</p> |
| Performance Criteria                             | As described in the relevant OS units  |

| Key terms                            | Description   |
|--------------------------------------|---|
| Sector                               | Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.   |
| Sub-sector                           | Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.  |
| Occupation                           | Occupation is a set of job roles, which perform similar/ related set of functions in an industry.   |
| Function                             | Function is an activity necessary for achieving the key purpose of the sector, occupation, or an 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 OS.                                   |
| Sub-function                         | Sub-functions are sub-activities essential to fulfill the achieving the objectives of the function.   |
| Job role                             | Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.   |
| Occupational Standards (OS)          | OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts. |
| Performance Criteria                 | Performance criteria are statements that together specify the standard of performance required when carrying out a task.  |
| National Occupational Standards (OS) | NOS are occupational standards which apply uniquely in the Indian context.  |
| Qualifications Pack (QP)             | QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.  |
| Unit Code                            | Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'   |
| Unit Title                           | Unit title gives a clear overall statement about what the incumbent should be able to do.   |
| Description                          | Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.  |
| Scope                                | Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.   |
| Knowledge and Understanding          | Knowledge and understanding are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.   |
| Organisational Context               | Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.  |

Acronyms

| Technical Knowledge         | Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.  |
|-----------------------------|---|
| Core Skills/ Generic Skills | Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles. |
| Keywords /Terms             | Description   |
| NOS                         | National Occupational Standard(s)   |
| NVQF                        | National Vocational Qualifications Framework  |
| NSQF                        | National Skills Qualifications Framework  |
| NVEQF                       | National Vocational Education Qualifications Framework  |
| QP                          | Qualifications Pack   |
| BO                          | Bought Out (Parts)  |
| BOM                         | Bills of Material   |
| SCM                         | Supply Chain Management   |
| SAP                         | System Application and Products   |
| CRM                         | Customer Relationship Management  |
| SRM                         | Supplier Relationship Management  |
| MRP                         | Material Requirement Planning   |
| PPC                         | Production Planning and Control   |
| SS                          | Strategic Sourcing  |
| RFQ                         | Request for Quotation   |
| HSE                         | Health , Safety and Environment   |
| ECN/PCN                     | Engineering Change Note/ Process Change Note  |
| PPAP                        | Production Part Approval Process  |
| PO                          | Purchase Order  |
| HIRA                        | Hazard Identification and Risk Assessment   |
| TS                          | TS 16949 Quality Management system  |
| APQP                        | Advanced Product Quality Planning   |
| TPM                         | Total Productive Maintenance  |
| SPC                         | Statistical Process Control   |
| NPD                         | New Product Development   |

**ASC/N6801. Develop strategies to improve overall reliability and safety of plant, personnel and production processes**

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# National Occupational Standards



## Overview

This unit is about in depth analysis of the reasons for failure in machines and equipments; take measures to develop strategies to improve overall reliability and safety of plant, personnel and production processes.

**ASC/N6801. Develop strategies to improve overall reliability and safety of plant, personnel and production processes**

National Occupational Standard

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| <b>Unit Code</b>  | <b>ASC/N6801</b>   |
| <b>Unit Title (Task)</b>                                  | <b>Develop strategies to improve overall reliability and safety of plant, personnel and production processes</b>   |
| <b>Description</b>  | This OS unit is about the study and analysis of the various equipments and machinery used in the production process and also ensuring safety of manpower using those equipments and machinery.   |
| <b>Scope</b>  | <p>The unit/ task covers the following:</p> <ul style="list-style-type: none"> <li>planning and scheduling planned and unplanned work</li> <li>diagnosing breakdown problems</li> <li>carrying out quality inspections on jobs</li> <li>arranging specialist procurement of fixtures, fittings or components</li> <li>controlling maintenance tools, stores and equipment</li> <li>monitoring and controlling maintenance costs</li> <li>dealing with emergency and breakdown problems resolution</li> <li>laying down maintenance strategies to help with installation and commissioning guidelines</li> </ul>  |
| <b>Performance Criteria(PC) w.r.t. the Scope</b>          |  |
| <b>Element</b>  | <b>Performance Criteria</b>  |
| <b>Planning and scheduling planned and unplanned work</b> | <p>To be competent , the user/individual on the job must:</p> <p>PC1. understand the usage cycle of existing equipments and machinery that exist in the plant and any changes in the same owing to customer orders/ NPD to be launched.</p> <p>PC2. Lay down the system for the maintenance cycle of each equipment by sticking appropriate stickers or recording maintenance schedules</p> <ul style="list-style-type: none"> <li>for routine activities by operator/ M/c technician</li> <li>special periodic by maintenance technician</li> </ul> <p>PC3. based on the breakdown frequency of machines and equipments divide the manpower into planned and unplanned work</p> <p>PC4. Plan for contingency against major breakdowns, natural / manmade emergencies</p> <p>To be competent , the user/individual on the job must:</p> <p>PC5. based on the nature of equipment preview and decide if any predictive technique can be applied on the equipment viz. vibration, stress analysis , oil analysis, wiring life assessment etc. If so plan the calendar for 2-3 years for this activity for the equipments in the plant.</p> <p>PC6. at capacity expansion stage /NPD ensure standardization of critical spares e.g. sensors, PLC's, bearings etc.</p> |

**ASC/N6801. Develop strategies to improve overall reliability and safety of plant, personnel and production processes**

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|   | <p>PC7. Strategize to plan improvements in key performance parameters viz. mean time between breakdown, cost of maintenance, reduce power, water consumption etc.</p>   |
| <p><b>Diagnosing breakdown problems</b></p>   | <p>To be competent , the user/individual on the job must:</p> <p>PC8. immediately report to the spot where breakdown has taken place</p> <p>PC9. understand the reason for breakdown</p> <p>PC10. Identify problems quickly by performing root cause analysis to devise a solution to fix the same. Use CFT approach , TOPS 8D , Fault trees , equipment manual as necessary</p> <p>PC11. take immediate / permanent corrective actions so that the problem is contained &amp; is not repeated. Deploy horizontally if applicable</p> <p>PC12. make changes if any , as required in the preventive maintenance schedules based on findings in the breakdown maintenance actions.</p> <p>PC13. Collect all the information related to the problem and document the same in equipment history sheets in organization ERP / records in order to refer in future</p>  |
| <p><b>carrying out quality inspections on jobs</b></p> <p><b>Maintenance Spares, store, special fixtures etc,</b></p> <p><b>Manpower deployment</b></p> | <p>To be competent , the user/individual on the job must:</p> <p>PC14. carry out readings of important parameters e.g. geometrical accuracies etc with help of in-plant specialists/ Standards Room staff as necessary.</p> <p>PC15. equipment to be run after ensuring</p> <ul style="list-style-type: none"> <li>• all parts are assembled including protective guards</li> <li>• Fluids / lubricants taken care of for replacement, quantity</li> <li>• Electrical connections, wiring as per the diagram connected/ clamped and taped.</li> </ul> <p>PC16. carry maintenance spares stock based on the equipment manufacturer’s recommendations</p> <p>PC17. classify special fixtures, fittings, electronic items, PLC ‘s etc in such a way that vendor selection, ordering is organized and distributed amongst the manpower available as per their capabilities.</p> <p>PC18. investigate possibilities to review spares stock that can be kept at equipment suppliers end to reduce inventory holding costs.</p> <p>PC19. plan the manpower in consultation with Plant management according to the schedules for</p> <ul style="list-style-type: none"> <li>• routine- preventive , breakdown , Predictive activities and</li> <li>• expertise required based on the equipments in the plant for mechanical, Electrical, Electronic</li> <li>• co-ordination with external experts and equipment manufacturers</li> <li>• installation of new equipment</li> <li>• re- layout requirements</li> </ul> |

**ASC/N6801. Develop strategies to improve overall reliability and safety of plant, personnel and production processes**

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|   | PC 19. plan and deploy manpower on the basis of employed & outsourced experts as per the policies of the organization  |
| <b>Knowledge and Understanding (K)</b>  |  |
| <b>A. Organizational Context</b><br>(Knowledge of the company / organization and its processes) | The user/individual on the job needs to know and understand:<br>KA1. company manufacturing processes<br>KA2. existing layout for the processes<br>KA3. sequence of operations for each process<br>KA4. facility planning methodology being followed in the company<br>KA5. future capacity expansions plans (if any) of the company  |
| <b>B. Technical Knowledge</b>   | The individual on the job needs to have knowledge of:<br><br>KB1. complete knowledge of the process in consideration<br>KB2. dimensions and type of the existing facility being used for the process<br>KB3. engineering drawings of existing layout<br>KB4. operation of machinery and equipments being used for the process<br>KB5. manpower deployment plan for process<br>KB6. material and information flow of the process<br>KB7. capacity utilization levels and the cost of manufacturing being incurred<br>KB8. media of information flow like SAP , ERP etc. |
| <b>Skills (S) [Optional]</b>  |  |
| <b>A. Core Skills/ Generic Skills</b>   | <b>Basic reading and writing skills</b>  |
|   | The user/ individual on the job needs to know and understand how to:<br>SB1. read the information displayed at the workplace<br>SB2. draft a pictorial representation of the existing layout for better comprehension<br>SB3. compile all the data related to study of existing facility in form of presentations and reports  |
|   | <b>Communication skills</b>  |
|   | The user/individual on the job needs to know and understand how to:<br>SB4. communicate with shop floor workers gathering inputs/requirements<br>SB5. spell out effectively the findings of the study to the higher management in meetings   |
|   | <b>Teamwork and multitasking</b>   |
|   | The user/individual on the job needs to know and understand how to:<br>SB6. interact with workers and gather all the information related to process requirements<br>SB7. share operation knowledge with co-workers<br>SB8. coordinate with the facility planning department team and ensure timely analysis for layout designing<br>SB9. collate data from various third parties involved (if any) in existing facility design   |

**ASC/N6801. Develop strategies to improve overall reliability and safety of plant, personnel and production processes**

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|                               | and development  |
| <b>B. Professional Skills</b> | <b>Plan and Organize</b>   |
|                               | The user/individual on the job needs to know and understand how to:<br>SB1. plan the execution of requirements study for layout design in a effective manner and on timely basis<br>SB2. Plan Improvements in carbon credits, consumption of resources |
|                               | <b>Critical thinking</b>   |
|                               | The user/individual on the job needs to know and understand how to:<br>SB3. analyze the way in which the existing facility layout is in operation and think of more economic and feasible measures for existing layout modification/redesigning        |

**ASC/N6801. Develop strategies to improve overall reliability and safety of plant, personnel and production processes**

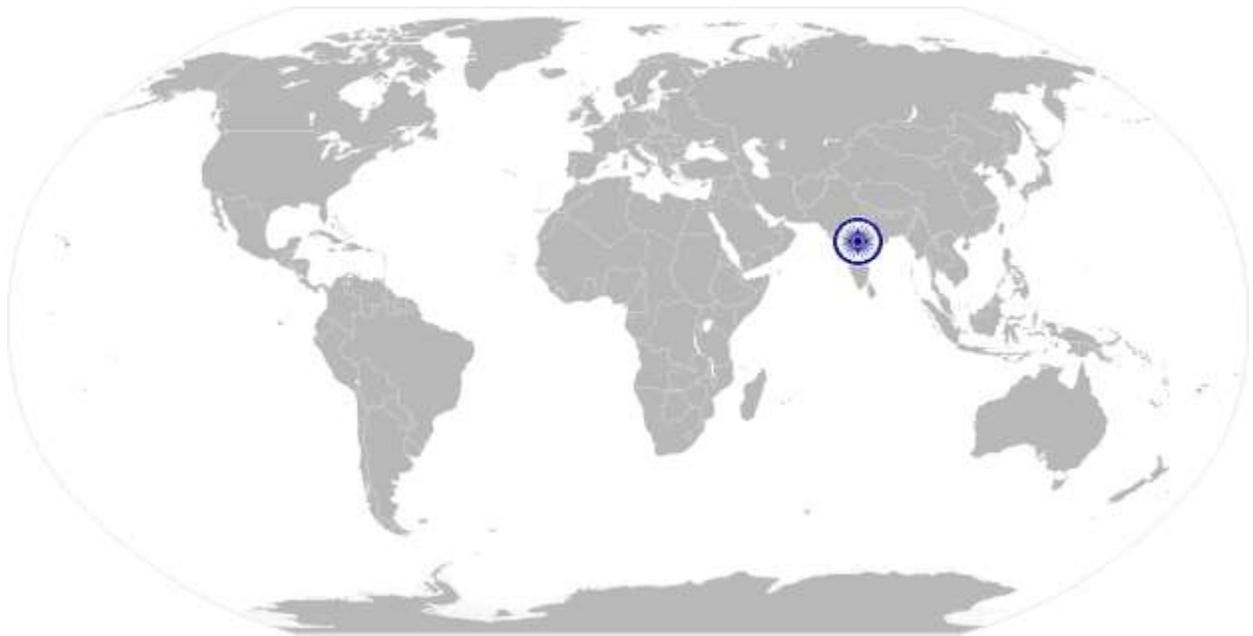
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|-------------------------------------|-----------------------|-------------------------|----------|
| <b>NOS Code</b>                     | ASC/N6801             |                         |          |
| <b>Credits(NSQF)<br/>[OPTIONAL]</b> | TBD                   | <b>Version number</b>   | 1.0      |
| <b>Industry</b>                     | Automotive            | <b>Drafted on</b>       | 13.08.13 |
| <b>Industry Sub-sector</b>          | Manufacturing Support | <b>Last reviewed on</b> | 23.09.13 |
| <b>Occupation</b>                   | Maintenance           | <b>Next review date</b> | 30.09.15 |

**NOS Version Control**

ASC/N0002. Work effectively in a team

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# National Occupational Standards



## Overview

This unit is about working effectively with colleagues, either in own work group or in other work groups within organization.

**ASC/N0002. Work effectively in a team**

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| National Occupational Standard   | <b>Unit Code</b>   | ASC/ N 0002  |
|  | <b>Unit Title (Task)</b>   | Work effectively in a team   |
|  | <b>Description</b>   | This NOS unit is about working effectively within a team, either in individual's own work group or in other work groups outside the organisation.  |
|  | <b>Scope</b>   | This unit/task covers the following:<br>Colleagues: <ul style="list-style-type: none"> <li>• Superiors</li> <li>• Members of own work group</li> <li>• People in other work groups within or outside the organisation</li> </ul> Communicate: <ul style="list-style-type: none"> <li>• Face-to-face</li> <li>• By telephone</li> <li>• In writing</li> </ul>   |
|  | <b>Performance Criteria (PC) w.r.t. the Scope</b>  |  |
|  | <b>Element</b>   | <b>Performance Criteria</b>  |
|  | <b>A. Compulsory</b>   | To be competent, the user/individual on the job must be able to: <ul style="list-style-type: none"> <li>PC1. Maintain clear communication with colleagues</li> <li>PC2. Work with colleagues</li> <li>PC3. Pass on information to colleagues in line with organisational requirements</li> <li>PC4. Work in ways that show respect for colleagues</li> <li>PC5. Carry out commitments made to colleagues</li> <li>PC6. Let colleagues know in good time if cannot carry out commitments, explaining the reasons</li> <li>PC7. Identify problems in working with colleagues and take the initiative to solve these problems</li> <li>PC8. Follow the organisation's policies and procedures for working with colleagues</li> <li>PC9. Ability to share resources with other members as per priority of tasks</li> </ul> |
|  | <b>B. Optional</b>   | N.A.   |
|  | <b>Knowledge and Understanding (K)w.r.t. the scope</b>   |  |
|  | <b>Element</b>   | <b>Knowledge and Understanding</b>   |
| <b>A. Organisational Context (Knowledge of the Company/Organisation and its processes)</b> | The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KA1. The organisation's policies and procedures for working with colleagues, role and responsibilities in relation to this</li> <li>KA2. The importance of effective communication and establishing good working relationships with colleagues</li> <li>KA3. Different methods of communication and the circumstances in which it is appropriate to use these</li> </ul> |  |

**ASC/N0002. Work effectively in a team**

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|   | <p>KA4. The importance of creating an environment of trust and mutual respect</p> <p>KA5. The implications of own work on the work and schedule of others</p>  |  |
| <b>B. Technical Knowledge</b>             | <p>The user/individual on the job needs to know and understand:</p> <p>KB1. Different types of information that colleagues might need and the importance of providing this information when it is required</p> <p>KB2. The importance of helping colleagues with problems, in order to meet quality and time standards as a team</p> |  |
| <b>Skills (S)w.r.t. the scope</b>         |  |  |
| <b>Element</b>                            | <b>Skills</b>  |  |
| <b>A. Core Skills/<br/>Generic Skills</b> | <p><b>Writing Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA1. Complete written work with attention to detail</p>   |  |
|   | <p><b>Reading Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA2. Read instructions, guidelines/procedures</p>   |  |
|   | <p><b>Oral Communication (Listening and Speaking skills)</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. Listen effectively and orally communicate information</p> <p>SA4. Ask for clarification and advice from the concerned person</p>   |  |
|   | <p><b>Decision Making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. Make decisions on a suitable course of action or response keeping in view resource utilization while meeting commitments</p>  |  |
|   | <p><b>Plan and Organise</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. Plan and organise work to achieve targets and deadlines</p>   |  |
| <b>B. Professional Skills</b>             | <p><b>CustomerCentricity</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. Check that the work meets customer requirements</p> <p>SB4. Deliver consistent and reliable service to customers</p>   |  |
|   | <p><b>Problem Solving</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB5. Apply problem solving approaches in different situations</p>  |  |
|   | <p><b>Critical Thinking</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB6. Apply balanced judgements to different situations</p>   |  |
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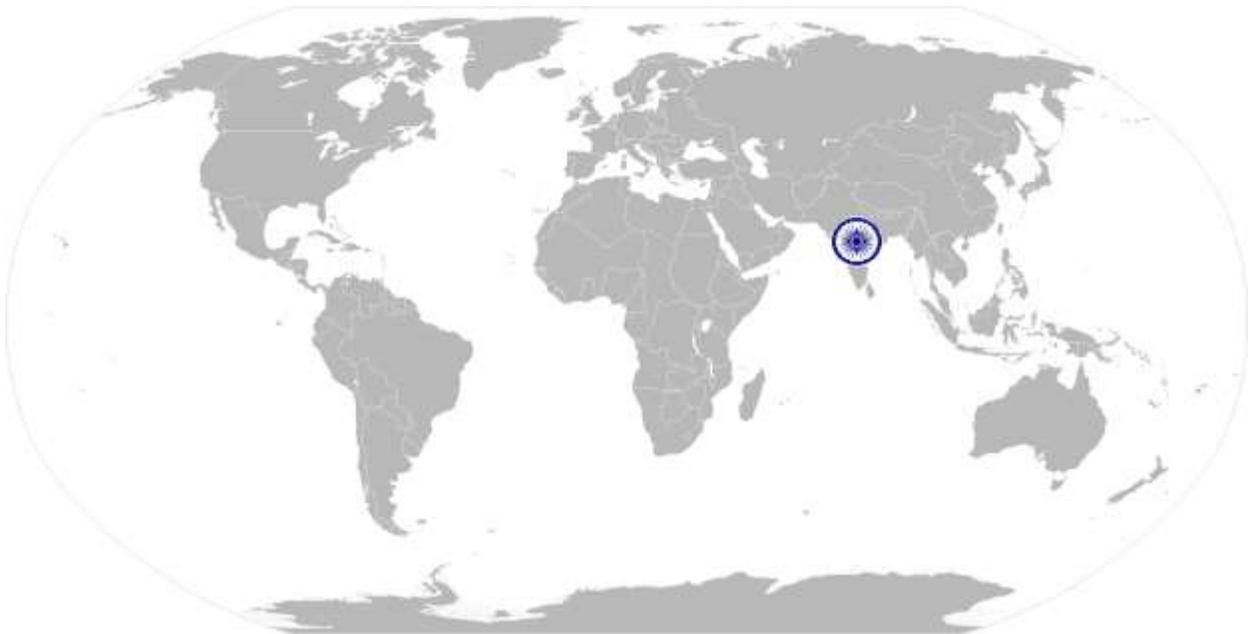
**ASC/N0002. Work effectively in a team**

**ASC/N0002. Work effectively in a team**

**NOS Version Control**

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|----------------------------|-----------------------|-------------------------|----------|
| <b>NOS Code</b>            | ASC/ N 0002           |                         |          |
| <b>Credits(NSQF)</b>       | TBD                   | <b>Version number</b>   | 1.0      |
| <b>Industry</b>            | Automotive            | <b>Drafted on</b>       | 13/08/13 |
| <b>Industry Sub-sector</b> | Manufacturing Support | <b>Last reviewed on</b> | 23/09/13 |
| <b>Occupation</b>          | Maintenance           | <b>Next review date</b> | 30/09/15 |

# National Occupational Standards



## Overview

This unit is about establishing a Safe, Healthy and Environment friendly workplace at the organization shop floor

## Maintain a healthy, safe and secure working environment

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|---|---|---|
| National Occupational Standard                    | <b>Unit Code</b>  | ASC/N0006   |
|   | <b>Unit Title (Task)</b>  | <b>Maintain a healthy , safe and secure working environment</b>   |
|   | <b>Description</b>  | This OS unit is about creating a Safe and Healthy work place, adhering to the safety guidelines in the working area of the organization and vendor’s shop floor, following practices which are not impacting the environment in a negative manner   |
|   | <b>Scope</b>  | <p>This unit/task covers the following:</p> <p>Types of processes:</p> <ul style="list-style-type: none"> <li>• Mechanical and electrical maintenance processes</li> <li>• Manufacturing processes</li> </ul> <p>Types of products</p> <ul style="list-style-type: none"> <li>• individual child parts</li> <li>• part assemblies</li> <li>• mechanical equipments</li> <li>• electrical equipments</li> </ul>  |
| <b>Performance Criteria (PC) w.r.t. the Scope</b> |   |   |
|   | <b>Element</b>  | <b>Performance Criteria</b>   |
|   | <b>Identify and report the risks identified</b>                             | <p>To be competent , the user/individual on the job must be able to :</p> <p>PC1. identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals ,loud noise</p> <p>PC2. inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc</p> <p>PC3. inform the concerned authorities about damages which can potentially harm man/ machine during operations</p> <p>PC4. create awareness amongst other by sharing information on the identified risks</p>                 |
|   | <b>Create and sustain a Safe, clean and environment friendly work place</b> | <p>PC5. follow the instructions given on the equipment manual describing the operating process of the equipments</p> <p>PC6. follow the Safety, Health and Environment related practices developed by the organization</p> <p>PC7. operate the machine using the recommended Personal Protective Equipments (PPE)</p> <p>PC8. maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc</p> <p>PC9. maintain high standards of personal hygiene at the work place</p> <p>PC10. ensure that the waste disposal takes place in the designated</p> |

### Maintain a healthy, safe and secure working environment

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|  | <p>area as per organization SOP</p> <p>PC11. inform appropriately the medical officer/ HR in case of self or an employee's illness of contagious nature so that preventive actions can be planned for others</p>  |
| <b>Knowledge and Understanding (K) w.r.t. the scope</b>                                      |   |
| <b>Element</b>   | <b>Knowledge and Understanding</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. relevant standards, procedures and policies related to Health, Safety and Environment followed in the company</p>   |
| <b>A. Technical Knowledge</b>  | <p>The user/individual on the job needs to know and understand:</p> <p>KB1. basic knowledge of Safety procedures( fire fighting, first aid) within the organization</p> <p>KB2. basic knowledge of various types of PPEs and their usage</p> <p>KB3. basic knowledge of risks associated with each occupation in the organization</p> <p>KB4. knowledge of personal hygiene and how an individual can contribute towards creating a highly safe and clean working environment</p>                     |
| <b>Skills (S) w.r.t. the scope</b>   |   |
| <b>Element</b>   | <b>Skills</b>   |
| <b>A. Core Skills/ Generic Skills</b>  | <b>Writing Skills</b>   |
|  | The user/ individual on the job needs to know and understand how to:<br>SA1. write basic level notes and observations   |
|  | <b>Reading Skills</b>   |
|  | The user/individual on the job needs to know and understand how to:<br>SA2. read safety instructions put up across the plant premises<br>SA3. read safety precautions mentioned in equipment manuals and panels to understand the potential risks associate with the equipment  |
|  | <b>Oral Communication (Listening and Speaking skills)</b>   |
|  | The user/individual on the job needs to know and understand how to:<br>SA4. effectively communicate information to team members and Inform employees in the plant and concerned functions about potentials Safety, Health and Environment related risks observed<br>SA5. question operator/ supervisor in order to understand the safety related issues<br>SA6. attentively listen with full attention and comprehend the information given by the speaker during safety drills and training programs |
| <b>B. Professional Skills</b>  | <b>Judgmental Thinking</b>  |
|  | The user/individual on the job needs to know and understand how to:   |

**Maintain a healthy, safe and secure working environment**

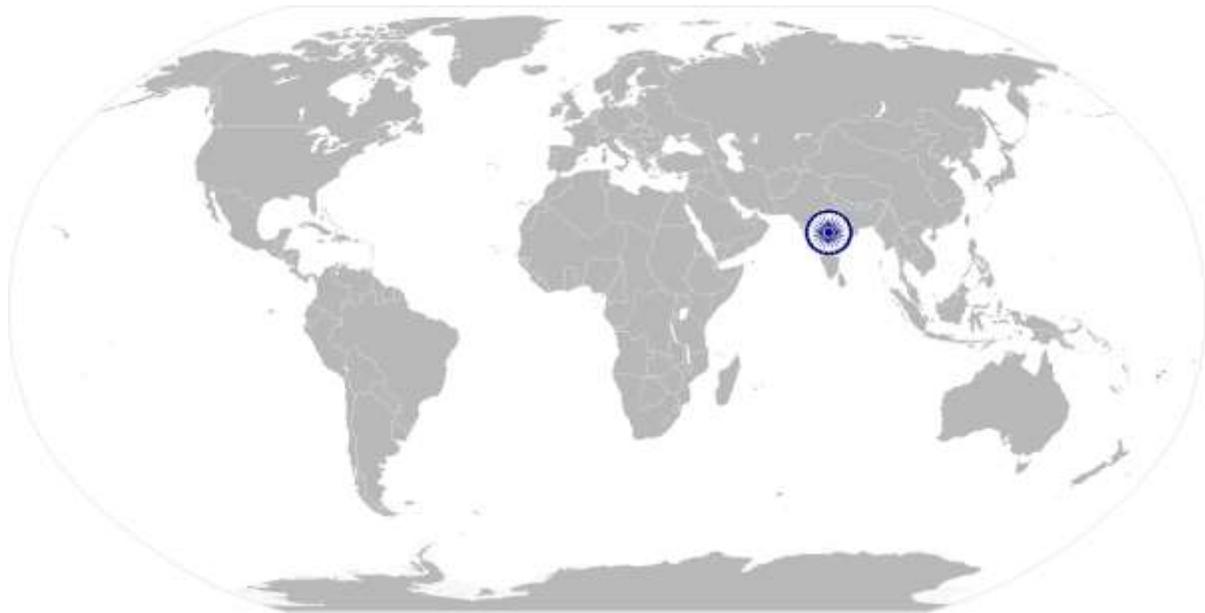
|  |   |
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|  | <p>SB1. use common sense and make judgments during day to day basis</p> <p>SB2. use reasoning skills to identify and resolve basic problems</p> |
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## **NOS Version Control**

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| <b>NOS Code</b>            | ASC/N0006             |                         |          |
| <b>Credits(NSQF)</b>       | TBD                   | <b>Version number</b>   | 1.0      |
| <b>Industry</b>            | Automotive            | <b>Drafted on</b>       | 13/08/13 |
| <b>Industry Sub-sector</b> | Manufacturing Support | <b>Last reviewed on</b> | 23/09/13 |
| <b>Occupation</b>          | Maintenance           | <b>Next review date</b> | 30/09/15 |

ASC/N0022. Ensure Implementation of 5S Activities at the work premises

# National Occupational Standard



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## Overview

This unit is about the implementing the various principles of 5S and ensure that the given guidelines are followed to ensure a clean and efficient working environment in the organization

### Ensure implementation of 5 S activities at the work premises

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| National Occupational Standard | <b>Unit Code</b>   | ASC/N0022   |
|                                | <b>Unit Title (Task)</b>   | <b>Ensure implementation of 5S activities at the work premises</b>  |
|                                | <b>Description</b>   | This NOS is about overseeing the implementation of all 5 S activities both at the shop floor and the office area by the team members and training the team in implementation of the 5S principles   |
|                                | <b>Scope</b>   | The individual needs to <ul style="list-style-type: none"> <li>Ensure sorting, streamlining/ organizing, storage and documentation, systematic cleaning, standardization and sustenance across the plant and office premises of the organization as given in the organization guidelines</li> </ul>   |
|                                | <b>Performance Criteria (PC) w.r.t. the Scope</b>  |   |
|                                | <b>Element</b>   | <b>Performance Criteria</b>   |
|                                | <b>Ensure proper sorting of items at the work place</b>                                      | PC1. Ensure all recyclable materials are put in designated containers<br>PC2. Ensure no Tools, fixtures & jigs are lying on workstations unless in use and no un-necessary items is lying on workbenches or work surfaces unless in use<br>PC3. Ensure that the operators and other team members are segregating the waste in hazardous/ Non Hazardous waste as per the sorting work instructions<br>PC4. Ensure that all the operators are following the technique of waste disposal and waste storage in the designated bins<br>PC5. Segregate the items which are labelled at red tag items for the process area and keep them in the correct places<br>PC6. Ensure that all the tools/ equipment/ fasteners/ spare parts are arranged as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions<br>PC7. Check for return of any type of extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area<br>PC8. Oversee removal of unnecessary equipment, storage, furniture, unneeded inventory, supplies, parts and material<br>PC9. Ensure that areas of material storage areas are not overflowing<br>PC10. Ensure proper stacking and storage of the various types of boxes and containers as per the size/ utility to avoid any fall of items/ breakage and also enable easy sorting when required |
|                                | <b>Ensure proper documentation and storage – streamlining &amp; organizing the workplace</b> | PC11. Ensure that the team follows the given instructions and checks for labelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.<br>PC12. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions<br>PC13. Ensure that organizing the workplace takes place with due considerations to the principles of wasted motions, ergonomics,  |

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|  | work & method study .   |
| <b>Ensure cleaning of self and the work place</b>  | <p>PC14. Ensure that the area has floors swept, machinery clean and is generally neat and tidy. In case of cleaning, ensure that correct displays are maintained on the floor which indicate potential safety hazards</p> <p>PC15. Ensure workbenches and work surfaces are clean and in good condition</p> <p>PC16. Ensure adherence to the cleaning schedule for the lighting system to ensure proper illumination</p> <p>PC17. Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene</p>   |
| <b>Ensure standardization</b>  | <p>PC18. Ensure that daily cleaning standards and schedules to create a clean working environment are followed across the plant</p> <p>PC19. Oversee that various cleaning and organizing tasks have been developed and assigned for the work area</p> <p>PC20. Ensure logical and user friendly documentation and file management for all activities across the plant and create guidelines around standardization of processes</p> <p>PC21. Ensure timely creation and sharing of the 5S checklists</p> <p>PC22. Ensure that the 5S manual are available as per the timelines</p>   |
| <b>Ensure sustenance</b>   | <p>PC23. Ensure team cooperation during the audit of 5 S activities</p> <p>PC24. Ensure that workmen are periodically trained to address challenges related to 5S</p> <p>PC25. Participate actively in employee work groups on 5S and encourage team members for active participation</p> <p>PC26. Oversee that the staff/operators are trained and fully understand 5s procedures</p> <p>PC27. Ensure that all the guidelines for What to do and What not to do to build sustainability in 5S are mentioned in the 5S check lists/ work instructions and are easily searchable</p> <p>PC28. Ensure continuous training of the team members on 5S in order to increase their awareness and support implementation</p> <p>PC29. Ensure that all visual controls, notice boards, symbols etc. at the manufacturing place are created, working and are put up as per the requirement</p> |
| <b>Knowledge and Understanding (K) w.r.t. the scope</b>                                      |   |
| <b>Element</b>   | <b>Knowledge and Understanding</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. relevant standards, procedures and policies related to 5S followed in the company</p>   |

**Ensure implementation of 5 S activities at the work premises**

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| <b>B. Technical Knowledge</b>         | <p>The user/individual on the job needs to :</p> <p>KB5. have basic knowledge of 5S procedures</p> <p>KB6. know various types 5s practices followed in various areas</p> <p>KB7. understand the 5S checklists provided in the department/ team</p> <p>KB8. have skills to identify useful &amp; non useful items</p> <p>KB9. have knowledge of labels , signs &amp; colours used as indicators</p> <p>KB10. Have knowledge on how to sort and store various types of tools, equipment, material etc.</p> <p>KB11. know , how to identify various types of waste products</p> <p>KB12. understand the impact of waste/ dirt/ dust/unwanted substances on the process/ environment/ machinery/ human body</p> <p>KB13. have knowledge of best and environment protective ways of cleaning &amp; waste disposal</p> <p>KB14. understand the importance of standardization in processes</p> <p>KB15. understand the importance of sustainability in 5S</p> <p>KB16. have knowledge of TQM process</p> <p>KB17. have knowledge of various materials and storage norms</p> <p>KB18. understand visual controls, symbols, graphs etc.</p> |
| <b>Skills (S)w.r.t. the scope</b>     |  |
| <b>Element</b>                        | <b>Skills</b>  |
| <b>A. Core Skills/ Generic Skills</b> | <b>Writing Skills</b>  |
|                                       | <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA7. write basic level notes and observations</p> <p>SA8. note down observations (if any) related to the process</p> <p>SA9. write information documents to internal departments/ internal teams</p>  |
|                                       | <b>Reading Skills</b>  |
|                                       | <p>The user/individual on the job needs to know and understand how to:</p> <p>SA10. read 5S instructions put up across the plant premises</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>SA11. effectively communicate information to team members inform employees in the plant and concerned functions about 5S</p> <p>SA12. question the process head in order to understand the 5S related issues</p> <p>SA13. attentively listen with full attention and comprehend the information given by the speaker during 5S training programs</p>   |
| <b>B. Professional Skills</b>         | <b>Judgmental Thinking</b>   |
|                                       | <p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. use common sense and make judgments during day to day basis</p> <p>SB4. use reasoning skills to identify and resolve basic problems using 5S</p>  |

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|  | <p><b>Persuasion</b></p> <p>The user/ individual on the jobs needs to know and understand how to:</p> <p>SB5. persuade team members to follow 5 S</p> <p>SB6. ensure that the team members understand the importance of using 5 S tool</p>   |
|  | <p><b>Creativity</b></p> <p>The user/individual on the job needs to know and understand how to :</p> <p>SB7. use innovative skills to perform and manage 5 S activities at the work desk and the shop floor</p> <p>SB8. exhibit inquisitive behaviour to seek feedback and question on the existing set patterns of work emerge, techniques in CA/CI around 5 S work practices</p>   |
|  | <p><b>Self -Discipline</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB9. do what is right, not what is a popular practice</p> <p>SB10. follow shop floor rules&amp; regulations and avoid deviations</p> <p>SB11. lead by example in the plant premises while performing activities related to 5S</p> <p>SB12. ensure self-cleanliness on a daily basis</p> <p>SB13. demonstrate the will to keep the work area in a clean and orderly manner</p> |
|  | <p><b>Ownership</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB14. accept additional responsibility for self and the team</p> <p>SB15. encourage self and other to take greater responsibilities for managing 5S</p> <p>SB16. identify obstacles and bottlenecks in the process and find basic level solutions for removing these obstacles</p>   |
|  | <p><b>Decision making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB17. use previous experience in resolving problems and taking decisions</p> <p>SB18. make timely and independent decisions on the line/ shift within the boundaries of the delegation matrix of the organization</p>  |

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| <b>NOS Code</b>            | ASC/N0022          |                         |            |
| <b>Credits(NSQF)</b>       | TBD                | <b>Version number</b>   | 1          |
| <b>Industry</b>            | Automotive         | <b>Drafted on</b>       | 1/03/2014  |
| <b>Industry Sub-sector</b> | Manufacturing/ R&D | <b>Last reviewed on</b> | 15/03/2014 |
| <b>Occupation</b>          | All                | <b>Next review date</b> | 15/03/2016 |

## NOS Version Control