

## QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR AUTOMOTIVE INDUSTRY

### What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding



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### Introduction

## Qualifications Pack- Maintenance Technician Electrical Level 4

**SECTOR:** AUTOMOTIVE

**SUB-SECTOR:** MANUFACTURING SUPPORT

**OCCUPATION:** MAINTENANCE

**JOB ROLE:** MAINTENANCE TECHNICIAN –ELECTRICAL L4

**REFERENCE ID:** ASC/Q6803

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

**Brief Job Description:** Individuals at this job are responsible for maintaining the Electrical/ electronic systems of equipment and machinery. They use laid down procedures, and knowledge of the equipment to conduct 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 & be able to demonstrate skills for information ordering, oral expression skills along with comprehension. The individual must be physically fit as to be able to maintain unusual working hours.

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Job Details	<b>Qualifications Pack Code</b>	ASC/Q 6803		
	<b>Job Role</b>	Maintenance Technician -Electrical		
	<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	1.0
	<b>Sector</b>	Automotive	<b>Drafted on</b>	13.08.13
	<b>Sub-sector</b>	Manufacturing Support	<b>Last reviewed on</b>	23.09.13
	<b>Occupation</b>	Maintenance	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15
	<b>NSQC Clearance on</b>	20/07/15		

<b>Job Role</b>	Maintenance Technician Electrical
<b>Role Description</b>	Plays a vital role in the efficiency, development and progress in continuous running of equipment and machinery
<b>NSQF level</b>	4
<b>Minimum Educational Qualifications*</b>	Diploma /B. Tech/ BE in Industrial / Electrical / Electronics Engineering
<b>Maximum Educational Qualifications*</b>	Not Applicable
<b>Training</b> (Suggested but not mandatory)	Basic fundamentals training courses on working of equipment and machinery TPM , Predictive maintenance Techniques, Automation, Robotics
<b>Minimum Job Entry Age</b>	1 ASDC recommends that candidates should seek full employment not before attaining an age of 18 years. 2 However, as per Factories Act1948 : - No one can be employed before attaining the age of 14 3 Please note that under the Factories Act 1948, different States may have slightly varying provision which need to be adhered to.
<b>Experience</b>	Min 5 years in Maintenance/Manufacturing
<b>Applicable National Occupational Standards (NOS)</b>	<p><b>Compulsory:</b></p> <p>ASC/N/6804 Develop understanding of the electrical/electronic equipment in the plant</p> <p>ASC /N6805 Carry out preventive/ breakdown maintenance of the electrical/electronic systems of the equipment</p> <p>ASC/N0002 Work effectively in a team</p> <p>ASC/N0006 Maintain a safe and healthy working environment</p> <p>ASC /N0021 Maintain 5S at the work premises</p>
<b>Performance Criteria</b>	As described in the relevant OS units

Keywords /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 organization.
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 organizational specific knowledge that an individual needs in order to perform to the required standard.
Organizational Context	Organizational 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.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.

Acronyms

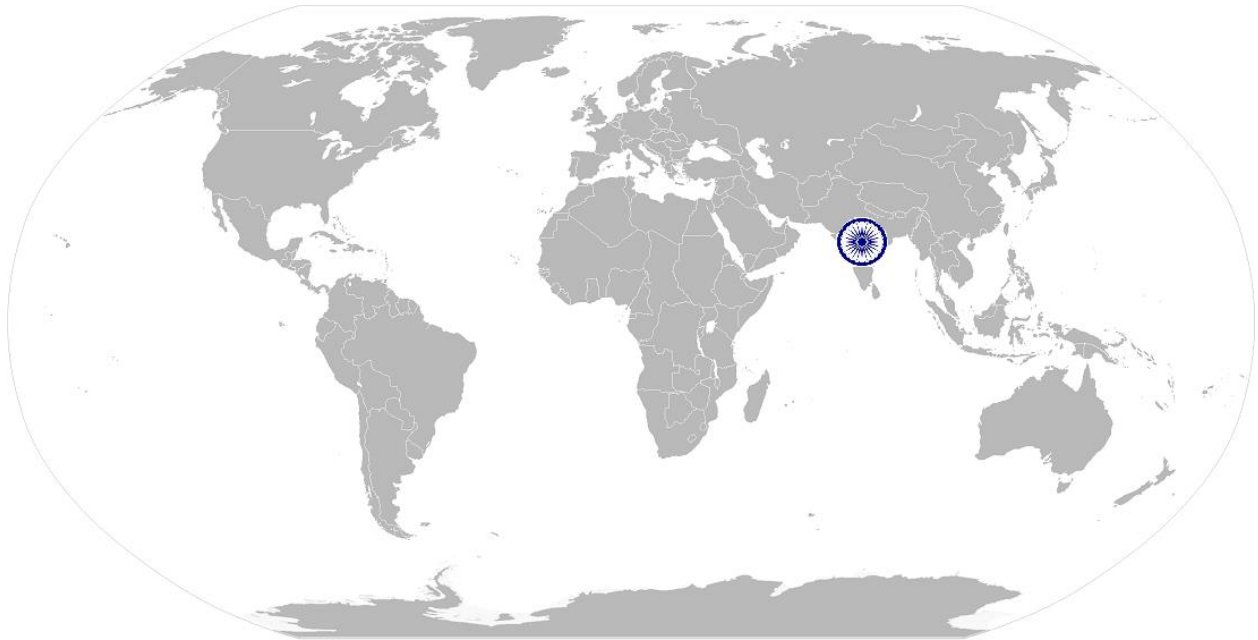
Core Skills/ Generic Skills	Core skills or generic skills are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Keywords /Terms	Description
NOS	National Occupational Standard(s)
NSQF	National Standards 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/N6804

Develop understanding of the electrical/electronic equipment in the  
plant

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# National Occupational Standards



## Overview

This unit is about developing an in depth analysis and understanding of the systems, mechanisms in machines and equipments; to be able to plan the maintenance systems to have continuity of the production processes.

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## Develop understanding of the electrical/electronic equipment in the plant

National Occupational Standard

<b>Unit Code</b>	<b>ASC/N6804</b>
<b>Unit Title (Task)</b>	<b>Develop understanding of the electrical/electronic equipment in the plant</b>
<b>Description</b>	This OS unit is about the study and analysis of the various equipment and machinery used in the production process and also ensuring safety of manpower using those equipment and machinery.
<b>Scope</b>	The unit/ task covers the following: <ul style="list-style-type: none"> <li>Studying the manual , other information received for the equipment</li> <li>Understanding the manufacturing Process</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Studying the Operating Manual &amp; other information and activities related to the equipment</b>	To be competent , the user/individual on the job must: <p>PC1. Understand the following from the equipment manual</p> <ul style="list-style-type: none"> <li>Assembly sub systems, sequence</li> <li>Electrical Motors, controls, sensors, fuses, PLC's used</li> <li>Mechanisms &amp; operation including controls, automation</li> <li>Standard parts &amp; ones specific to the machine</li> <li>Wiring / control systems/ circuit diagrams</li> <li>Motherboard</li> <li>Standard recommended spares</li> <li>Consumables required to be used.</li> <li>Precautions, fault detection guidelines</li> <li>Frequency recommended for maintenance vis-a vis operating loads</li> </ul> <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 the maintenance team</li> </ul> <p>PC3. Keep the special / standard tool kits ready for usage at short notice.</p> <p>PC4. For special purpose equipment made for the organization ensure that the drawings &amp; other information matches with the current status of the equipment.</p> <p>PC5. Learn new points and update the troubleshooting check sheets available with the manual.</p> <p>PC6. Learn while giving support to seniors/ external experts in predictive / breakdown maintenance activity.</p>

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**Develop understanding of the electrical/electronic equipment in the plant**

<p><b>Planning the maintenance activity</b></p>	<p>To be competent , the user/individual on the job must:</p> <p>PC7. Plan the time and schedule for preventive maintenance cycle based on the equipment manufacturer’s recommendations and the history of similar equipment handled, used in the plant.</p> <p>PC8. Plan the installation/ shifting activity in totality considering special experts/ external support and material and tools required for the civil, material handling activity , consumables, wiring, soldering connections, testing cycles and everything mentioned in the Equipment Manual.</p> <p>PC9. Discuss with seniors in manufacturing, maintenance for planning activity prior to the schedule to ensure all points are adequately considered.</p> <p>PC10. — Plan as much as possible standardization of electrical elements such as wires, fuses, PLC’s etc. while new lines/ shifting activities are being planned</p> <p>PC11. Plan for support from Production , other specialist teams in maintenance based on their schedules.</p> <p>PC12. Plan support from outside experts for special techniques.</p>
<p><b>Manpower deployment</b></p>	
<p><b>Understanding the manufacturing process</b></p>	<p>To be competent , the user/individual on the job must:</p> <p>PC13. Study the process cycle while the equipment is working to completely understand the duty conditions and working principles etc.</p> <p>PC14. Study the standard working , running schedule for the equipment to find slots for maintenance activities</p> <p>PC15. Study the critical areas to find out possibilities of impending breakdowns, Fuse blow-outs, failures, life cycles of electrical units etc.</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. company manufacturing processes&amp; the equipment in use</p> <p>KA2. existing layout for the processes</p> <p>KA3. sequence of operations for each process</p> <p>KA4. facility planning methodology being followed in the company</p> <p>KA5. future capacity expansions plans (if any) of the company</p>

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## Develop understanding of the electrical/electronic equipment in the plant

<b>B. Technical Knowledge</b>	<p>The individual on the job needs to have knowledge of:</p> <ul style="list-style-type: none"> <li>KB1. complete knowledge of the process in consideration</li> <li>KB2. Soldering connections</li> <li>KB3. engineering drawings of existing layout/ equipment</li> <li>KB4. operation of machinery and equipment being used for the process</li> <li>KB5. manpower deployment plan for process</li> <li>KB6. material and information flow of the process</li> <li>KB7. Electrical / electronic standard parts vendor infrastructure</li> </ul>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<b>Basic reading and writing skills</b>
	<p>The user/ individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB1. read the information displayed at the workplace</li> <li>SB2. draft a pictorial representation of the existing layout for better comprehension</li> <li>SB3. compile all the data related to study of existing facility in form of presentations and reports</li> </ul>
	<b>Communication skills</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB4. communicate with shop floor workers gathering inputs/requirements</li> <li>SB5. Enter the information related to maintenance activities in ERP, History sheets.</li> <li>SB6. spell out effectively the findings of the study to the higher management in meetings</li> </ul>
	<b>Teamwork and multitasking</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB7. interact with workers and gather all the information related to process requirements</li> <li>SB8. share operation knowledge with co-workers</li> <li>SB9. coordinate with the facility planning department team and ensure timely analysis for layout designing</li> <li>SB10. collate data from various third parties involved (if any) in existing facility design and development</li> </ul>
<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> <ul style="list-style-type: none"> <li>SB1. plan the execution of requirements study for layout design in a effective manner and on timely basis</li> </ul>
	<b>Critical thinking</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB2. analyze the way in which the existing facility layout is in operation and think of</li> </ul>



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**Develop understanding of the electrical/electronic equipment in the plant**

	more economic and feasible measures for existing layout modification/redesigning
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## NOS Version Control

<b>NOS Code</b>	ASC/N6804		
<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>	Under revision expected date of revised version 31-Dec-15

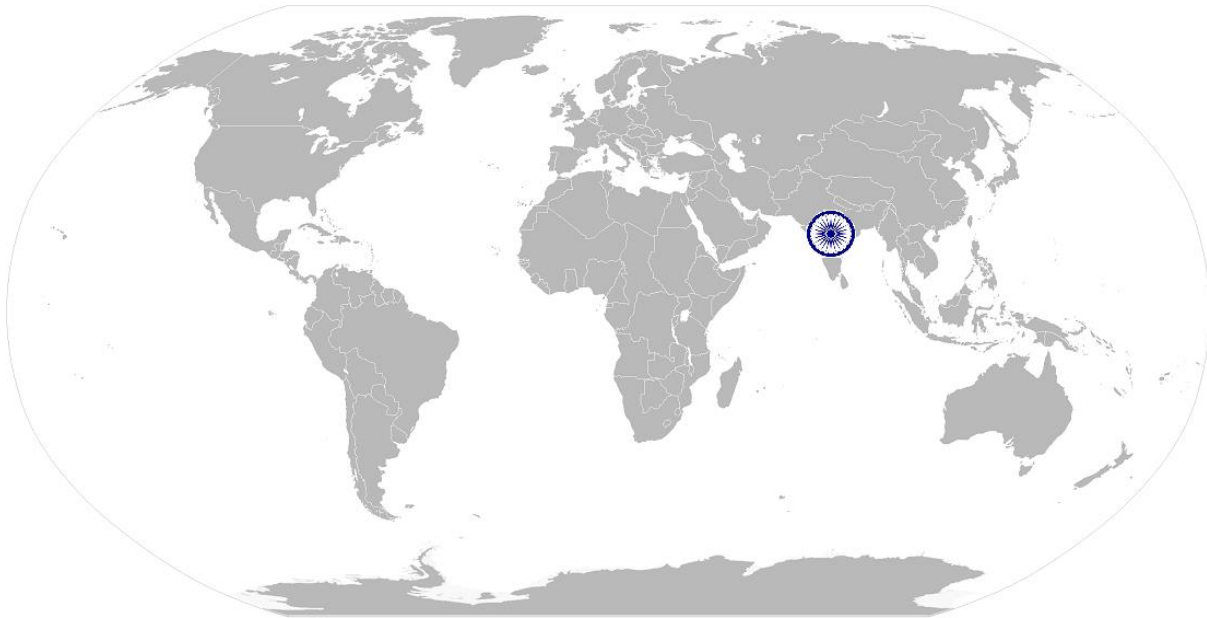


ASC/N6805

Carry out preventive/ breakdown maintenance of the electrical/electronic systems of the equipment

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# National Occupational Standards



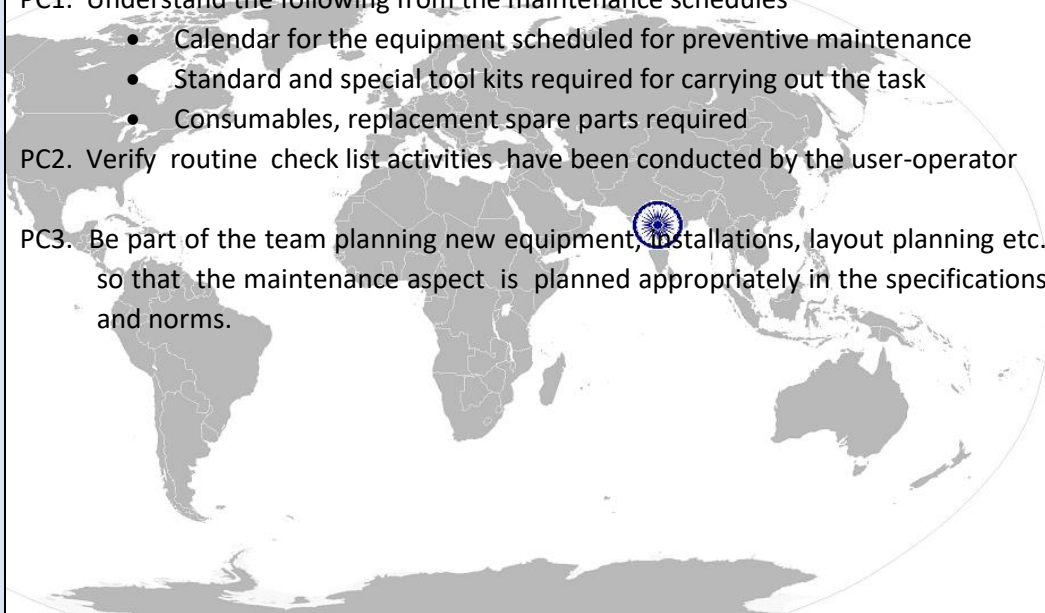
## Overview

This unit is about carrying out the preventive & breakdown maintenance activities as per laid down systems to have continuity of the production processes and improve the activities and working of the function.

ASC/N6805

## Carry out preventive/ breakdown maintenance of the electrical/electronic systems of the equipment

National Occupational Standard

<b>Unit Code</b>	ASC/N6805
<b>Unit Title (Task)</b>	Carry out preventive/ breakdown maintenance of the electrical/electronic systems of the equipment
<b>Description</b>	This OS unit is about the carrying out the preventive / breakdown maintenance of the electrical systems of the equipment in the plant .
<b>Scope</b>	The unit/ task covers the following: <ul style="list-style-type: none"> <li>Preparing for the maintenance activity</li> <li>Carrying out the maintenance for the equipment</li> <li>Taking trials and handing over the equipment to the user</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Preparing for the maintenance activity</b>	To be competent , the user/individual on the job must: <p>PC1. Understand the following from the maintenance schedules</p> <ul style="list-style-type: none"> <li>Calendar for the equipment scheduled for preventive maintenance</li> <li>Standard and special tool kits required for carrying out the task</li> <li>Consumables, replacement spare parts required</li> </ul> <p>PC2. Verify routine check list activities have been conducted by the user-operator</p> <p>PC3. Be part of the team planning new equipment, installations, layout planning etc. so that the maintenance aspect is planned appropriately in the specifications and norms.</p> 
<b>Carrying out the maintenance activity</b>	To be competent , the user/individual on the job must be able to: <p>PC4 . Open the equipment and replace the scheduled spare parts as per the schedule</p> <p>PC5. Check / confirm internal conditions of wiring , motherboards etc. to verify</p>

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**Carry out preventive/ breakdown maintenance of the electrical/electronic systems of the equipment**

	<p>working status to expected conditions. Discuss with the user/ operator to learn about problems /unusual phenomenon noticed on the equipment.</p> <p>PC6. Assemble back, covers , guards, clamps, insulation etc.&amp; prepare for taking the trials.</p> <p>PC6. Change the Maintenance due / status sticker on the equipment.</p> <p>PC7. To attend the breakdown maintenance verify in appropriate sequence for the equipment</p> <ul style="list-style-type: none"> <li>• Charge leakage/ short circuit from parts</li> <li>• Breakage of wires, clamps</li> <li>• Unusual contacts of electrical wires with moving parts</li> <li>• Erratic / problematic performance</li> <li>• Any problem condition as reported in the complaint</li> </ul> <p>PC8. Plan sequence of activities for changing, correcting the situation after opening, verifying contact/ insulation conditions, failure of internal wires etc. and ensure the circuit elements, consumables are available at the work place.</p> <p>PC9. Use appropriate PPE, material handling equipment and tools and carry out the task . Use recommended methods, consumables, tools for</p> <ul style="list-style-type: none"> <li>• Electrical / electronic connections</li> <li>• Verification of continuity</li> <li>• joints, including soldered</li> </ul> <p>PC10. Take support from experts, user , team members from maintenance during the activity if required.</p> <p>PC11. Clock the time for the task so that the scheduling and planning can be improved in future.</p> <p>PC12. When carrying out the installation/ shifting activity record the time and unplanned tasks encountered in the activity.</p> <p>PC13. Discuss with seniors in manufacturing, maintenance for improving the activity to ensure all points are adequately considered.</p>
<p><b>Taking the trials &amp; hand over the equipment for manufacturing process</b></p>	<p>To be competent , the user/individual on the job must:</p> <p>PC14. Take trials of running step by step increasing duty conditions gradually and verify specified parameters are attained and no abnormalities achieved,</p> <p>PC15. Study the standard working , running for a few cycles of the equipment to ascertain normal working in presence of the user .</p> <p>PC16. Handover the equipment to the user.</p>

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<b>Documentation &amp; Records</b>	<p>PC17. Update the history sheet with the replacement details .</p> <p>PC18 .Discuss with seniors and decide if any change is necessary for preventive schedules based on the breakdown activity.</p>
<b>Knowledge and Understanding (K)</b>	
<b>B. 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>KA6. company manufacturing processes &amp; the equipment in use</p> <p>KA7. existing layout for the processes</p> <p>KA8. sequence of operations for each process</p> <p>KA9. facility planning methodology being followed in the company</p> <p>KA10. future capacity expansions plans (if any) of the company</p>
<b>B. Technical Knowledge</b>	<p>The individual on the job needs to have knowledge of:</p> <p>KB8. complete knowledge of the process in consideration</p> <p>KB9. dimensions and type of the existing facility being used for the process</p> <p>KB10. Electrical -wiring drawings of existing layout/ equipment</p> <p>KB11. Operation of electrical equipment viz motors etc . being used for the process</p> <p>KB12. PLC , SCADA , &amp; electrical elements operation ,testing ,</p> <p>KB13. material and information flow of the process</p>
<b>Skills (S)</b>	
<b>C. Core Skills/ Generic Skills</b>	<b>Basic reading and writing skills</b>
	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SB14. read the information displayed at the workplace</p> <p>SB15. draft a pictorial representation of the existing layout for better comprehension</p> <p>SB16. compile all the data related to study of existing facility in form of presentations and reports</p>
	<b>Communication skills</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB17. communicate with shop floor workers gathering inputs/requirements</p> <p>SB18. Enter the information related to maintenance activities in ERP, History sheets.</p>

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	SB19. 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:
	SB20. interact with workers and gather all the information related to process requirements SB21. share operation knowledge with co-workers SB22. coordinate with the facility planning department team and ensure timely analysis for layout designing SB23. collate data from various third parties involved (if any) in existing facility design and development
<b>D. Professional Skills</b>	<b>Plan and Organize</b>
	The user/individual on the job needs to know and understand how to:
	SB24. plan the execution of requirements study for layout design in a effective manner and on timely basis
	<b>Critical thinking</b>
	The user/individual on the job needs to know and understand how to:
	SB25. 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

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Carry out preventive/ breakdown maintenance of the electrical/electronic systems of the equipment

## NOS Version Control

NOS Code	ASC/N6805		
Credits(NSQF)	TBD	Version number	1.0
Industry	Automotive	Drafted on	13.08.13
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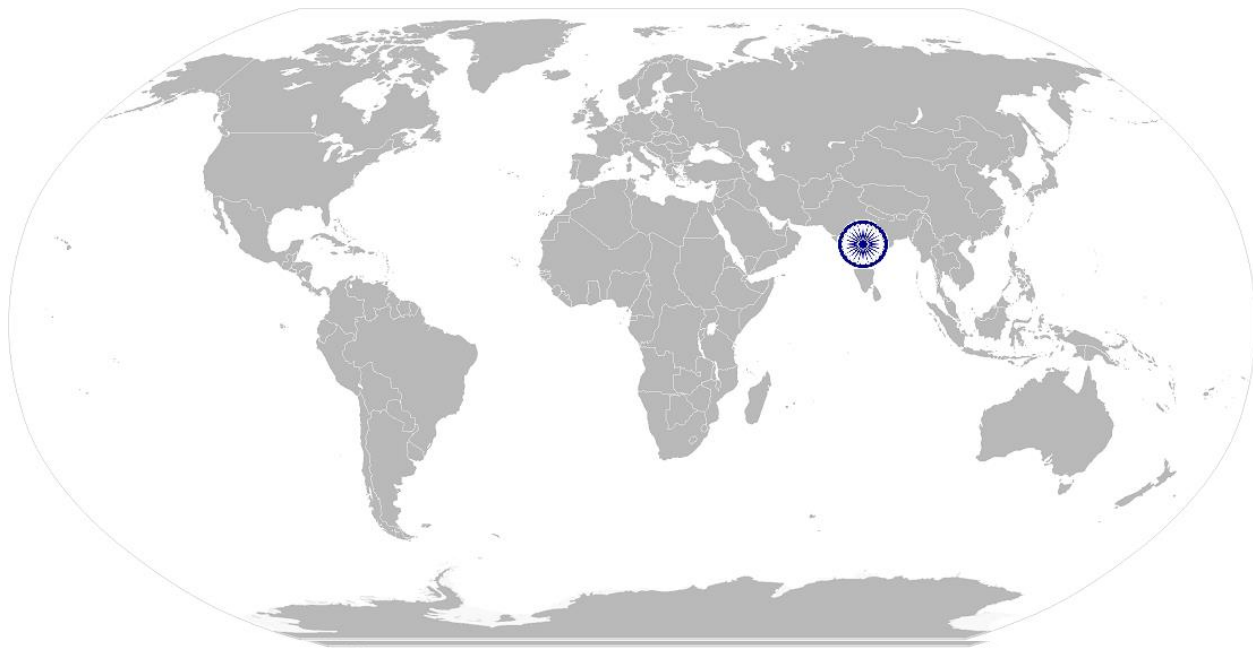


ASC/N0002

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**

National Occupational Standard

<b>Unit Code</b>	ASC/ N 0002
<b>Unit Title (Task)</b>	<b>Work effectively in a team</b>
<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 organization.
<b>Scope</b>	This unit/task covers the following: 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 organization'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</li> </ul>

ASC/N0002

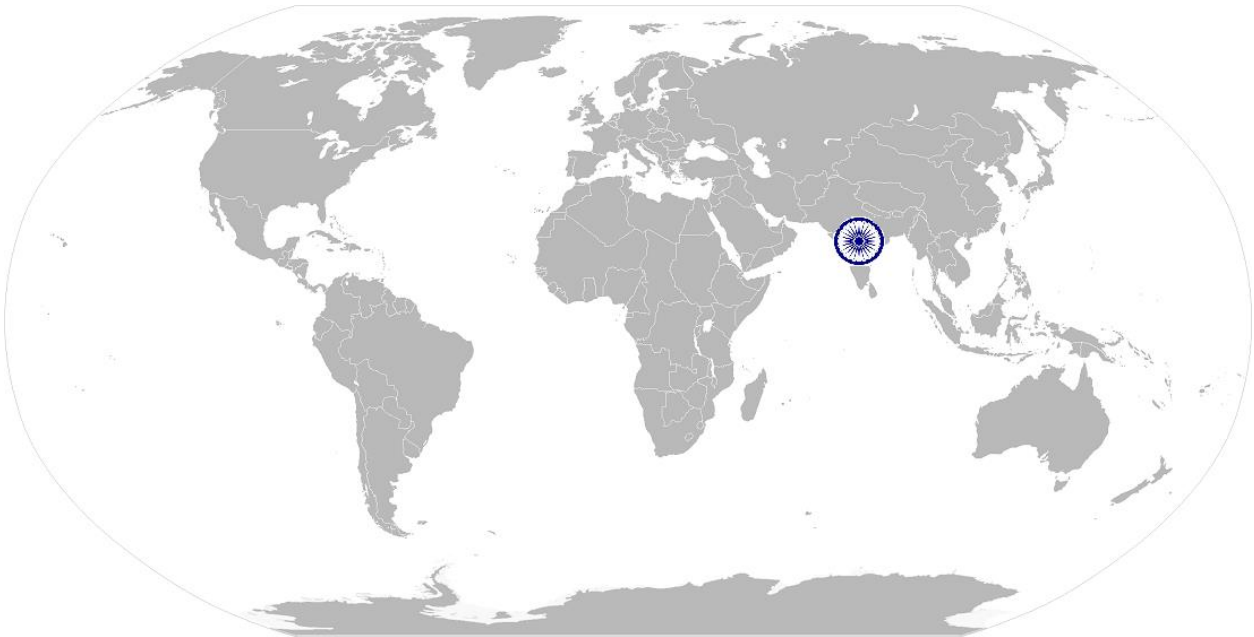
**Work effectively in a team**

	<p>which it is appropriate to use these</p> <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/ Generic Skills</b>	<p style="background-color: #e6f2ff;"><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 style="background-color: #e6f2ff;"><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 style="background-color: #e6f2ff;"><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>
<b>B. Professional Skills</b>	<p style="background-color: #e6f2ff;"><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 style="background-color: #e6f2ff;"><b>Plan and Organize</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB2. Plan and organize work to achieve targets and deadlines</p> <p style="background-color: #e6f2ff;"><b>Customer Centricity</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 style="background-color: #e6f2ff;"><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 style="background-color: #e6f2ff;"><b>Critical Thinking</b></p> <p>The user/individual on the job needs to know and understand how to:</p>

ASC/N0002

Work effectively in a team

	SB6. Apply balanced judgment to different situations
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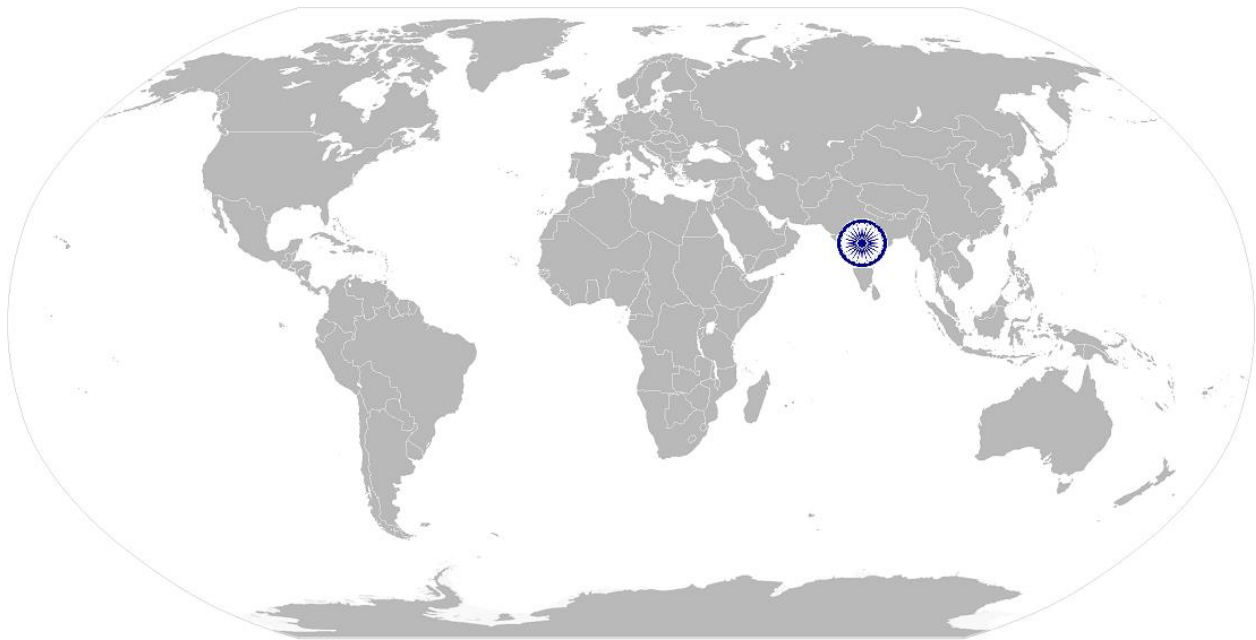


ASC/N0002

Work effectively in a team

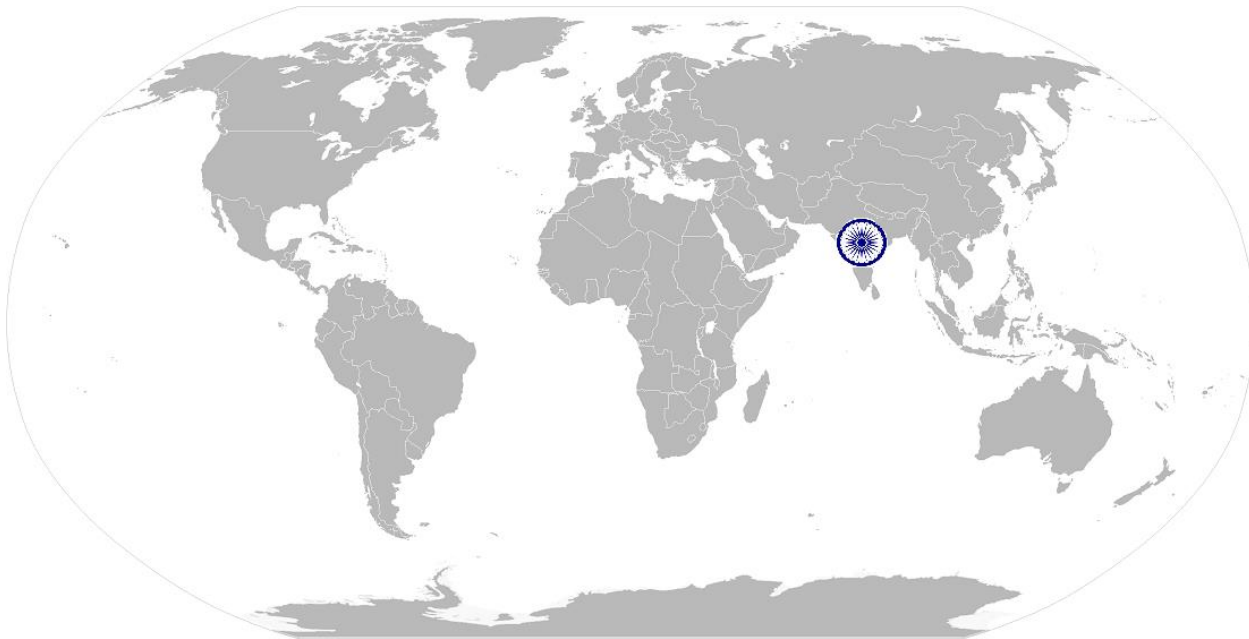
## NOS Version Control

<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>	Under revision expected date of revised version 31-Dec-15



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# National Occupational Standards



## Overview

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

ASC/N0021

**Maintain 5S at the work premises**

National Occupational Standard	<b>Unit Code</b>	ASC/N0006
	<b>Unit Title (Task)</b>	<b>Maintain a safe and healthy 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 equipment</li> <li>• electrical equipment</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 equipment</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 Equipment (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 area as per organization SOP</p> <p>PC11. inform appropriately the medical officer/ HR in case of self or an</p>	

ASC/N0021

**Maintain 5S at the work premises**

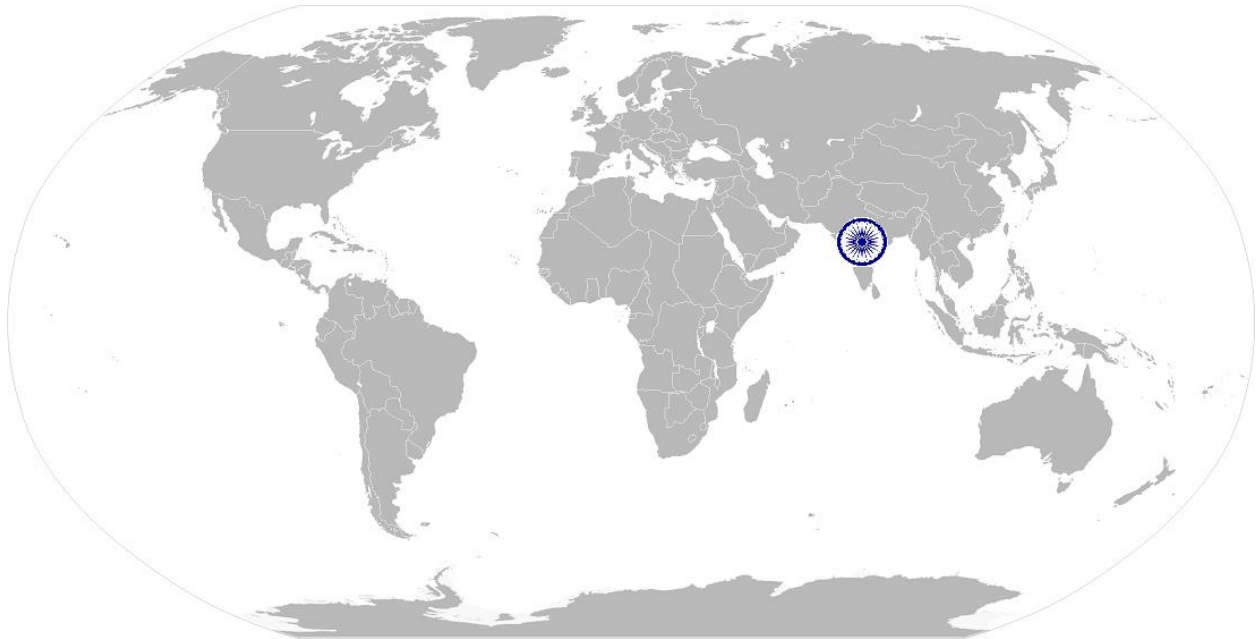
	employee's illness of contagious nature so that preventive actions can be planned for others
<b>Knowledge and Understanding (K) w.r.t. the scope</b>	
<b>Element</b>	<b>Knowledge and Understanding</b>
<b>A. Organizational Context</b> (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. relevant standards, procedures and policies related to Health, Safety and Environment followed in the company
<b>A. Technical Knowledge</b>	The user/individual on the job needs to know and understand: KB1. basic knowledge of Safety procedures( fire fighting, first aid) within the organization KB2. basic knowledge of various types of PPEs and their usage KB3. basic knowledge of risks associated with each occupation in the organization KB4. knowledge of personal hygiene and how an individual can contribute towards creating a highly safe and clean working environment
<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: SA1. write basic level notes and observations
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA2. read safety instructions put up across the plant premises 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: 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 SA5. question operator/ supervisor in order to understand the safety related issues 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: SB1. use common sense and make judgments during day to day basis SB2. use reasoning skills to identify and resolve basic problems

ASC/N0021

**Maintain 5S at the work premises**

## NOS Version Control

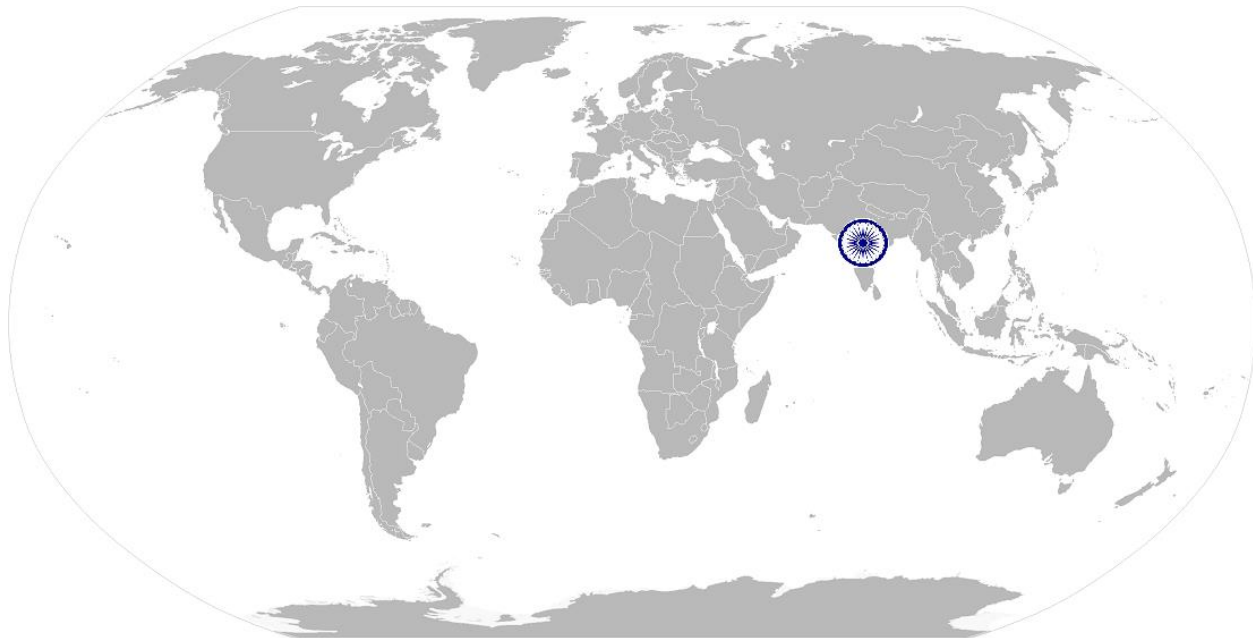
<b>NOS Code</b>	ASC/N0006		
<b>Credits(NSQF)</b>	TBD	<b>Version number</b>	1.0
<b>Industry</b>	Automotive	<b>Drafted on</b>	13/08/13
<b>Industry Sub-sector</b>	Manufacturing Support	<b>Last reviewed on</b>	23/09/13
<b>Occupation</b>	Maintenance	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15





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# National Occupational Standard



## Overview

This unit is about the understanding all principles of 5S and follow the given guidelines to ensure a clean and efficient working environment in the organization

ASC/N0021

**Maintain 5S at the work premises**

National Occupational Standard

<b>Unit Code</b>	ASC/N0021
<b>Unit Title (Task)</b>	<b>Maintain 5S at the work premises</b>
<b>Description</b>	This NOS is about ensuring all 5 S activities both at the shop floor and the office area to facilitate increase in work productivity
<b>Scope</b>	The individual needs to <ul style="list-style-type: none"> <li>Ensure sorting, streamlining &amp; organizing, storage and documentation, cleaning, standardization and sustenance across the plant and office premises of the organization</li> </ul>
<b>Performance Criteria (PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Ensure sorting</b>	PC1. Follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un-necessary items are not cluttering the workbenches or work surfaces. PC2. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions PC3. Follow the technique of waste disposal and waste storage in the proper bins as per SOP PC4. Segregate the items which are labeled as red tag items for the process area and keep them in the correct places PC5. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions PC6. Ensure that areas of material storage areas are not overflowing PC7. Properly stack 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 PC8. Return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area PC9. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards
<b>Ensure proper documentation and storage (organizing , streamlining)</b>	PC10. Follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists PC11. Check that the items in the respective areas have been identified as broken or damaged PC12. Follow the given instructions and check for labeling of fluids, oils. lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc. PC13. Make sure that all material and tools are stored in the designated

ASC/N0021

### Maintain 5S at the work premises

	places and in the manner indicated in the 5S instructions
<b>Ensure cleaning of self and the work place</b>	<p>PC14. Check whether safety glasses are clean and in good condition</p> <p>PC15. Keep all outside surfaces of recycling containers are clean</p> <p>PC16. Ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards</p> <p>PC17. Check whether all hoses, cabling &amp; wires are clean, in good condition and clamped to avoid any mishap or mix up</p> <p>PC18. Ensure workbenches and work surfaces are clean and in good condition</p> <p>PC19. Follow the cleaning schedule for the lighting system to ensure proper illumination</p> <p>PC20. Store the cleaning material and equipment in the correct location and in good condition</p> <p>PC21. Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene</p>
<b>Ensure sustenance</b>	<p>PC22. Follow the daily cleaning standards and schedules to create a clean working environment</p> <p>PC23. Attend all training programs for employees on 5 S</p> <p>PC24. Support the team during the audit of 5 S</p> <p>PC25. Participate actively in employee work groups on 5S and encourage team members for active participation</p> <p>PC26. Follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions</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>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to :</p> <p>KB1. have basic knowledge of 5S procedures</p> <p>KB2. know various types 5s practices followed in various areas</p> <p>KB3. understand the 5S checklists provided in the department/ team</p> <p>KB4. have skills to identify useful &amp; non useful items</p> <p>KB5. have knowledge of labels , signs &amp; colours used as indicators</p> <p>KB6. Have knowledge on how to sort and store various types of tools, equipment, material etc.</p> <p>KB7. know , how to identify various types of waste products</p> <p>KB8. understand the impact of waste/ dirt/ dust/unwanted substances on the process/ environment/ machinery/ human body</p>

ASC/N0021

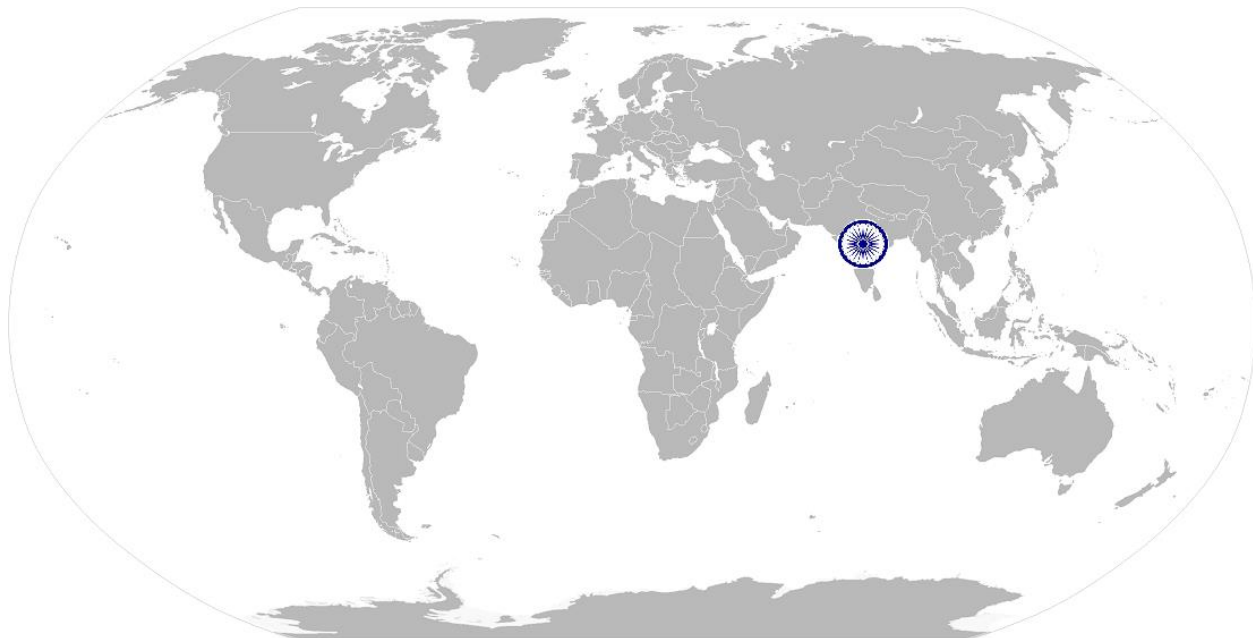
**Maintain 5S at the work premises**

	KB9. have knowledge of best ways of cleaning & waste disposal KB10. understand the importance of standardization in processes KB11. understand the importance of sustainability in 5S KB12. have knowledge of TQM process KB13. have knowledge of various materials and storage norms KB14. understand visual controls, symbols, graphs etc.
<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: SA1. write basic level notes and observations SA2. note down observations (if any) related to the process SA3. write information documents to internal departments/ internal teams
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA4. read 5S instructions put up across the plant premises
	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/individual on the job needs to know and understand how to: SA5. effectively communicate information to team members inform employees in the plant and concerned functions about 5S SA6. question the process head in order to understand the 5S related issues SA7. attentively listen with full attention and comprehend the information given by the speaker during 5S training programs
<b>B. Professional Skills</b>	<b>Judgmental Thinking</b>
	The user/individual on the job needs to know and understand how to: SB1. use common sense and make judgments during day to day basis SB2. use reasoning skills to identify and resolve basic problems using 5S
	<b>Persuasion</b>
	The user/ individual on the jobs needs to know and understand how to: SB3. persuade co team members to follow 5 S SB4. ensure that the co team members understand the importance of using 5 S tool
	<b>Creativity</b>
The user/individual on the job needs to know and understand how to : SB5. use innovative skills to perform and manage 5 S activities at the work desk and the shop floor SB6. exhibit inquisitive behavior to seek feedback and question on the existing set patterns of work	

ASC/N0021

**Maintain 5S at the work premises**

	<b>Self –Discipline</b>
	<p>The user/individual on the job needs to know and understand how to:</p> <ul style="list-style-type: none"> <li>SB7. do what is right, not what is a popular practices</li> <li>SB8. follow shop floor rules&amp; regulations and avoid deviations; make 5S an integral way of life</li> <li>SB9. ensure self-cleanliness on a daily basis</li> <li>SB10. demonstrate the will to keep the work area in a clean and orderly manner</li> </ul>

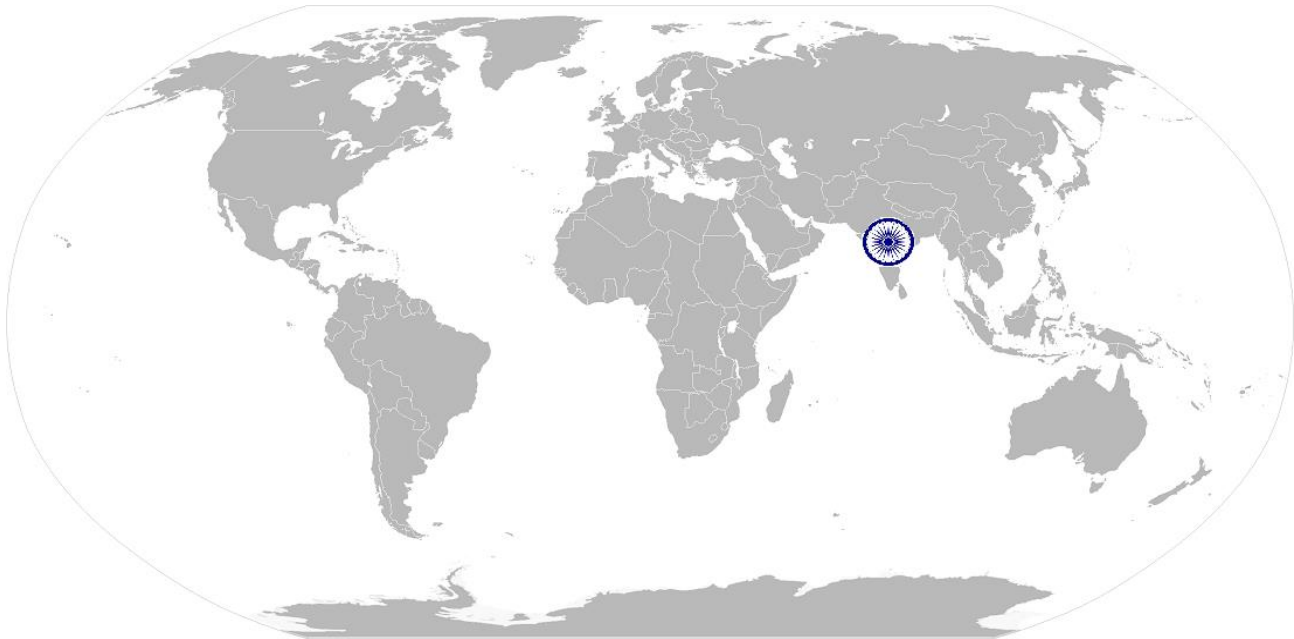


ASC/N0021

**Maintain 5S at the work premises**

### NOS Version Control

<b>NOS Code</b>	ASC/N0021		
<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/ R&D	<b>Last reviewed on</b>	23.09.13
<b>Occupation</b>	Maintenance	<b>Next review date</b>	Under revision expected date of revised version 31-Dec-15

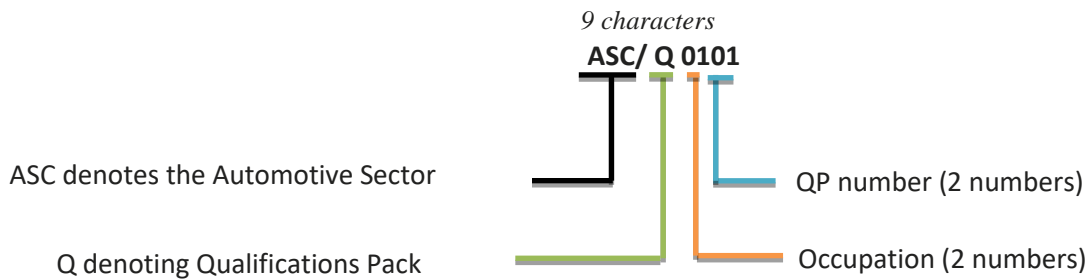


## Qualification Pack for Maintenance Technician –Electrical L4

### Annexure

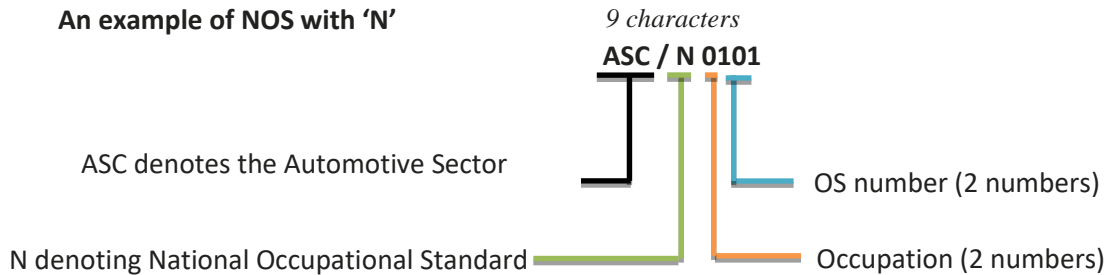
#### Nomenclature for QP and NOS

##### Qualifications Pack



##### Occupational Standard

###### An example of NOS with 'N'



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### Qualification Pack for Maintenance Technician –Electrical L4

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

Sub-sector	Range of Occupation numbers
Manufacturing	31 - 45 & 61 - 68
Research & Development	81 - 84
Sales & Service	01 - 21
Road Transportation	96 - 97

Sequence	Description	Example
Three letters	Automotive	ASC
Slash	/	/
Next letter	Whether QP or NOS	N
Next two numbers	Occupation code	10
Next two numbers	OS number	12



### Qualification Pack for Maintenance Technician –Electrical L4

#### Criteria for assessment of Trainees

JOB ROLE	Maintenance Technician -Electrical L4
Qualification Pack	ASC/Q 6803
No. Of NOS	2 Role specific ,3 generic

#### Guidelines for Assessment:

- Assessment to be conducted by ASDC as per competency output defined in the NOS/QP and the assessment criteria provided in the NOS/QP.
- Assessment to be carried out by a third-party Assessment Body duly affiliated to the SSC.
- ASDC assessments will be comprehensive and cover all aspects of acquired knowledge, practical skills and also basic ability to communicate. Accordingly, evaluation process would include:
  - Theory/Knowledge test
  - Practical demonstration test
  - Face to Face
- Theory/Knowledge assessment will be carried out on line through a link provided for each assessment that generates a random paper from a bank of questions available at the back end.
  - On line test would be conducted in the presence of an ASDC assessor till web enabled proctoring is deployed.
- ASDC assessor would be conducting Practical and Viva as per the criteria provided in the NOS/QP.
- Cut off criteria for certification (Marks obtained in %):70%

Assessable Outcome	Assessment Criteria	Total Mark	Out of	Marks allocation	
				Theory	Practical
1. <b>ASC/N6804</b> <b>Develop Understanding of the equipment</b>	PC1. Understand the following from the equipment manual <ul style="list-style-type: none"> <li>Assembly sub systems, sequence</li> <li>Electrical Motors, controls, sensors, fuses, PLC's used</li> <li>Mechanisms &amp; operation including controls, automation</li> <li>Standard parts &amp; ones specific to the machine</li> <li>Wiring / control systems/ circuit diagrams</li> <li>Motherboard</li> <li>Standard recommended spares</li> <li>Consumables required to be used.</li> <li>Precautions, fault detection guidelines</li> <li>Frequency recommended for maintenance vis-a visoperating loads</li> <li>Frequency recommended for</li> </ul>	100	7	3	4

### Qualification Pack for Maintenance Technician –Electrical L4

	maintenance vis-a vis operating loads			
	<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 the maintenance team</li> </ul>	9	3	6
	PC3. Keep the special / standard tool kits ready for usage at short notice.	5	1	4
	PC4. For special purpose equipment made for the organization ensure that the drawings & other information matches with the current status of the equipment.	5	1	4
	PC5. Learn new points and update the troubleshooting check sheets available with the manual.	5	1	4
	PC6. Learn while giving support to seniors/ external experts in predictive / breakdown maintenance activity.	5	1	4
	PC7. Plan the time and schedule for preventive maintenance cycle based on the equipment manufacturer's recommendations and the history of similar equipment handled, used in the plant.	8	3	5
	PC8. Plan the installation/ shifting activity in totality considering special experts/ external support and material and tools required for the civil, material handling activity, consumables, wiring, soldering connections, testing cycles and everything mentioned in the equipment manual.	8	3	5
	PC9. Discuss with seniors in manufacturing, maintenance for planning activity prior to the schedule to ensure all points are adequately considered.	6	2	4
	PC10. Plan as much as possible standardization of electrical elements such as wires, fuses, PLC's etc. while new lines/shifting activities are being planned.	7	2	5
	PC11. Plan for support from production, other specialist teams in maintenance based on their schedules.	7	2	5

### Qualification Pack for Maintenance Technician –Electrical L4

	PC12. Plan support from outside experts for special techniques.		7	2	5
	PC13. Study the process cycle while the equipment is working to completely understand the duty conditions and working principles etc.		7	2	5
	PC14. Study the standard working , running schedule for the equipment to find slots for maintenance activities		7	2	5
	PC15. Study the critical areas to find out possibilities of impending breakdowns, fuse blow-outs, failures, life cycles of electrical units etc.		7	2	5
	<b>Total</b>		<b>100</b>	<b>30</b>	<b>70</b>
<b>2. ASC/N6805 Carrying out the preventive &amp; breakdown maintenance activities</b>	PC1. Understand the following from the maintenance schedules <ul style="list-style-type: none"> <li>Calendar for the equipment scheduled for preventive maintenance</li> <li>Standard and special tool kits required for carrying out the task</li> <li>Consumables, replacement spare parts required</li> </ul>	100	6	2	4
	PC2. Verify routine check list activities have been conducted by the user-operator		5	1	4
	PC3. Be part of the team planning new equipment, installations, layout planning etc. so that the maintenance aspect is planned appropriately in the specifications and norms.		5	1	4
	PC4. Open the equipment and replace the scheduled spare parts as per the schedule		4	1	3
	PC5. Check / confirm internal conditions of wiring, motherboards etc. to verify working status to expected conditions. Discuss with the user/ operator to learn about problems /unusual phenomenon noticed on the equipment.		7	2	5
	PC6. Assemble back, covers, guards, clamps & prepare for taking the trials.		6	2	4
	PC7. Change the maintenance due / status sticker on the equipment.		4	1	3
	PC8. To attend the breakdown maintenance verify in appropriate sequence for the equipment <ul style="list-style-type: none"> <li>Charge leakage / short circuit from parts</li> <li>Breakage of wires, clamps</li> <li>Unusual contacts of electrical wires with moving parts</li> </ul>		7	2	5

### Qualification Pack for Maintenance Technician –Electrical L4

	<ul style="list-style-type: none"> <li>Erratic / problematic performance</li> <li>Any problem condition as reported in the complaint</li> </ul>				
	PC9. Plan sequence of activities for changing, correcting the situation after opening, verifying contact/ insulation conditions, failure of internal wires etc. and ensure the circuit elements, consumables are available at the workplace.		7	2	5
	PC10. Use appropriate PPE, material handling equipment and tools and carry out the task. Use recommended methods, consumables, tools for <ul style="list-style-type: none"> <li>Electrical / electronic connections</li> <li>Verification of continuity</li> <li>joints, including soldered</li> </ul>		5	1	4
	PC11. Take support from experts, user, team members from maintenance during the activity if required.		4	1	3
	PC12. Clock the time for the task so that the scheduling and planning can be improved in future.		4	1	3
	PC13. When carrying out the installation/ shifting activity record the time and unplanned tasks encountered in the activity.		6	2	4
	PC14. Discuss with seniors in manufacturing, maintenance for improving the activity to ensure all points are adequately considered.		4	1	3
	PC15. Take trials of running step by step increasing duty conditions gradually and verify specified parameters are attained and no abnormalities achieved		7	2	5
	PC16. Study the standard working, running for a few cycles of the equipment to as certain normal working in presence of the user.		7	3	4
	PC17. Handover the equipment to the user.		4	1	3
	PC18. Update the history sheet with the replacement details.		4	1	3
	PC19. Discuss with seniors and decide if any change is necessary for preventive schedules based on the breakdown activity.		4	1	3
	<b>Total</b>		<b>100</b>	<b>28</b>	<b>72</b>
<b>3. ASC/N0002 Work effectively</b>	PC1. Maintain clear communication with colleagues	100	14	4	10
	PC2. Work with colleagues		9	2	7

### Qualification Pack for Maintenance Technician –Electrical L4

in a team	PC3. Pass on information to colleagues in line with organisational requirements		11	3	8
	PC4. Work in ways that show respect for colleagues		11	3	8
	PC5. Carry out commitments made to colleagues		10	2	8
	PC6. Let colleagues know in good time if cannot carry out commitments, explaining the reasons		10	2	8
	PC7. Identify problems in working with colleagues and take the initiative to solve these problems		13	4	9
	PC8. Follow the organisation's policies and procedures for working with colleagues		12	3	9
	PC9. Ability to share resources with other members as per priority of tasks		10	2	8
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
4. ASC/N0006 Maintain safe , healthy environment friendly workplace	PC1. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise		9	3	6
	PC2. Inform the concerned authorities about the potential risks identified in the processes, workplace area/ layout, materials used etc.		8	2	6
	PC3. Inform the concerned authorities about machine breakdowns, damages which can potentially harm man/machine during operations		8	2	6
	PC4. Create awareness amongst other by sharing information on the identified risks.		6	1	5
	PC5. Follow the instructions given on the equipment manual describing the operating process of the equipment	100	10	3	7
	PC6. Follow the Safety, Health and Environment related practices developed by the organization		11	3	8
	PC7. Operate the machine using the recommended Personal Protective Equipment (PPE)		11	3	8
	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.		10	2	8
	PC9. Maintain high standards of personal hygiene at the workplace		9	2	7
	PC10. Ensure that the waste disposal is done in the designated area and manner as per organization SOP.		11	3	8

### Qualification Pack for Maintenance Technician –Electrical L4

	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		7	1	6
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
<b>5. ASC/N0021 Maintain 5S activities at the workplace</b>	PC1. Follow the sorting process and check that the tools, fixtures & jigs that are lying on workstations are the ones in use and un-necessary items are not cluttering the workbenches or work surfaces.		4	1	3
	PC2. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions.		4	1	3
	PC3. Follow the technique of waste disposal and waste storage in the proper bins as per SOP.		4	1	3
	PC4. Segregate the items which are labeled as red tag items for the process area and keep them in the correct places.		4	1	3
	PC5. Sort the tools/ equipment/ fasteners/ spare parts as per specifications/ utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions.		4	1	3
	PC6. Ensure that areas of material storage areas are not overflowing.		4	1	3
	PC7. Properly stack 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.	100	4	1	3
	PC8. Return the extra material and tools to the designated sections and make sure that no additional material/ tool is lying near the work area.		4	1	3
	PC9. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards.		4	1	3
	PC10. Follow the proper labeling mechanism of instruments/ boxes/ containers and maintaining reference files/ documents with the codes and the lists.		4	1	3
	PC11. Check that the items in the respective areas have been identified as broken or damaged.		4	1	3
	PC12. Follow the given instructions and check for labeling of fluids, oils. Lubricants, solvents, chemicals etc. And proper storage of the same to		4	1	3

### Qualification Pack for Maintenance Technician –Electrical L4

	avoid spillage, leakage, fire etc.				
	PC13. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions.		4	1	3
	PC14. Check whether safety glasses are clean and in good condition.		4	1	3
	PC15. Keep all outside surfaces of recycling containers are clean		4	1	3
	PC16. Ensure that the area has floors swept, machinery clean and generally clean. In case of cleaning, ensure that proper displays are maintained on the floor which indicate potential safety hazards		4	1	3
	PC17. Check whether all hoses, cabling & wires are clean, in good condition and clamped to avoid any mishap or mix up.		4	1	3
	PC18. Ensure workbenches and work surfaces are clean and in good condition.		4	1	3
	PC19. Follow the cleaning schedule for the lighting system to ensure proper illumination.		4	1	3
	PC20. Store the cleaning material and equipment in the correct location and in good condition.		4	1	3
	PC21. Ensure self-cleanliness - clean uniform, clean shoes, clean gloves, clean helmets, personal hygiene.		4	1	3
	PC22. Follow the daily cleaning standards and schedules to create a clean working environment.		4	1	3
	PC23. Attend all training programs for employees on 5S.		2.5	0.5	2
	PC24. Support the team during the audit of 5S.		4	1	3
	PC25. Participate actively in employee work groups on 5S and encourage team members for active participation.		2.5	0.5	2
	PC26. Follow the guidelines for What to do and What not to do to build sustainability in 5S as mentioned in the 5S check lists/ work instructions.		3	1	2
	<b>Total</b>		<b>100</b>	<b>25</b>	<b>75</b>
	<b>Grand Total</b>	<b>500</b>	<b>500</b>	<b>133</b>	<b>367</b>
	<b>Percentage Weightage (%)</b>			<b>30</b>	<b>70</b>