



## QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR STRATEGIC MANUFACTURING 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- Pre-cleaning Technician - Shipbreaking

**SECTOR/S:** STRATEGIC MANUFACTURING

**SUB-SECTOR:** Ship Building & Ship Repair

**OCCUPATION:** Ship Breaking

**REFERENCE ID:** SMC/Q 4601

**ALIGNED TO:** NCO-2015/ NIL, ISCO - NIL

**Brief Job Description:** A pre-cleaning technician identifies the area containing hazardous materials onboard ships. He is responsible for cleaning the identified areas including usage of ship cleaning machines.

**Personal Attributes:** The individual has to organize work, which may be predictive and routine in nature involving basic degree of making choices, for responsible execution of familiar tasks. He should have basic communication (written and oral), arithmetic skills. Also, understanding the initiative to improve efficiency and effectiveness in work.



Qualifications Pack for Pre-cleaning Technician - Shipbreaking

<b>Qualifications Pack Code</b>	<b>SMC/Q 4601</b>		
<b>Job Role</b>	<b>Pre-cleaning Technician - Shipbreaking</b>		
<b>Credits (NSQF)</b>	TBD	<b>Version number</b>	<b>1.0</b>
<b>Sector</b>	Strategic Manufacturing	<b>Drafted on</b>	<b>05/11/2016</b>
<b>Sub-sector</b>	Ship Building and Ship Repair	<b>Last reviewed on</b>	<b>13/09/2017</b>
<b>Occupation</b>	Ship Breaking	<b>Next review date</b>	<b>12/09/2020</b>
<b>NSQC Clearance on</b>	<b>NA</b>		

Job Details

<b>Job Role</b>	<b>Pre-cleaning Technician - Shipbreaking</b>
<b>Role Description</b>	A pre-cleaning technician identifies the area containing hazardous materials onboard ships. He is responsible for cleaning the identified areas including usage of ship cleaning machines.
<b>NSQF level</b>	4
<b>Minimum Educational Qualifications</b>	12 <sup>th</sup> Standard
<b>Maximum Educational Qualifications</b>	N/A
<b>Prerequisite License or Training</b>	N/A
<b>Minimum Job Entry Age</b>	18 year
<b>Experience</b>	1 year experience in shipyard
<b>Applicable National Occupational Standards (NOS)</b>	<p><b>Compulsory NOS:</b></p> <ol style="list-style-type: none"> <li><a href="#">SMC/N4601 Identification of hazardous material and processes for pre cleaning operations (Shipbreaking)</a></li> <li><a href="#">SMC/N 4602 Carry out pre cleaning operations (Shipbreaking)</a></li> <li><a href="#">SMC/N 9103 Work effectively in a collaborative environment</a></li> <li><a href="#">SMC/N 9104 Maintain safe, hygiene and secure environment</a></li> </ol>
<b>Performance Criteria</b>	As described in the relevant OS units



### Qualifications Pack for Pre-cleaning Technician - Shipbreaking

#### Definitions

Keywords /Terms	Description
Sector	Sector is a conglomeration of different business operations having similar businesses and interest. 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 In an industry.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through analysis and form the basis of OS.
Job Role	Job role defines a unique set of functions that together form a unique Employment opportunity in an organization.
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.
NOS	NOS are Occupational Standards which apply uniquely in the Indian context.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Qualifications Pack	Qualifications Pack comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification 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
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.



### Qualifications Pack for Pre-cleaning Technician - Shipbreaking

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

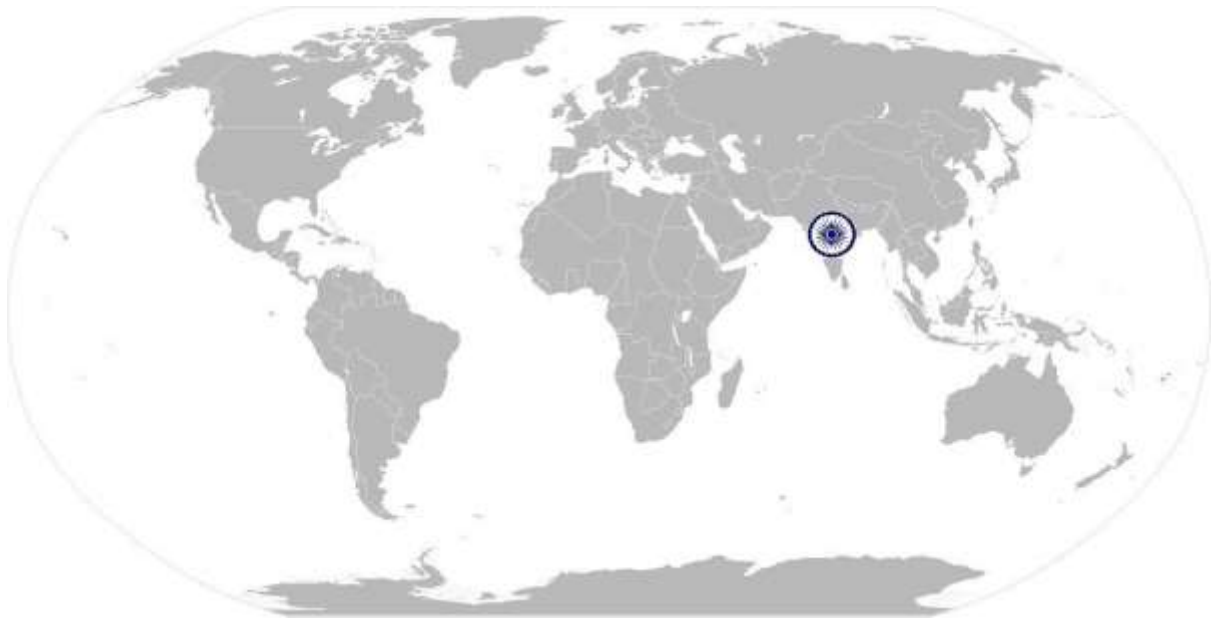
Keywords /Terms	Description
SMSSC	Strategic Manufacturing Sector Skill Council
NOS	National Occupational Standards
NSQF	National Skills Qualification Framework
NVEQF	National Vocational Educational Qualification Framework
NVQF	National Vocational Qualification Framework
OS	Occupational Standards
PC	Performance Criteria
QP	Qualification Pack
SSC	Sector Skills Council



SMC/N 4601 Identification of hazardous material and processes for pre cleaning operations  
(Shipbreaking)

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# National Occupational Standard



## Overview

This unit is about identification of hazardous material and processes for pre cleaning operations.



**SMC/N 4601 Identification of hazardous material and processes for pre cleaning operations  
(Shipbreaking)**

National Occupational Standard

<b>Unit Code</b>	<b>SMC/N 4601</b>
<b>Unit Title (Task)</b>	<b>Identification of hazardous material and processes for pre cleaning operation</b>
<b>Description</b>	This unit is about identification of hazardous material and processes for pre cleaning operation
<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>• Identification of hazardous material and processes for pre cleaning operations</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Identification of hazardous material and processes for pre cleaning operations</b>	To be competent, the user/ individual must be able to: <ul style="list-style-type: none"> <li>PC1. work on hazardous waste handling and disposal plan</li> <li>PC2. identify hazardous materials including asbestos, mercury and radioactive</li> <li>PC3. identify operational substances including cargo residue and dry tank residue</li> <li>PC4. identify metals that are mixed with non-metals on material used onboard ship</li> <li>PC5. identify thinners, paint and rust stabilizers</li> <li>PC6. prepare processes for the removal of gaseous substances such as refrigerants, halon, CO2</li> <li>PC7. prepare and work out ancillary operational substances including boiler, feed water test re-agents, domestic water treatment chemical, lead acid batteries</li> <li>PC8. work out layout and components of ship around ship deck, engine room, propeller</li> </ul>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KA1. legislation, standards, policies, and procedures followed in the company relevant to own employment and performance conditions</li> <li>KA2. own job role and responsibilities and sources for information pertaining to employment terms, entitlements, job role and responsibilities</li> <li>KA3. reporting structure, inter-dependent functions, lines and procedures in the work area</li> <li>KA4. importance and purpose of documentation in context of employment and work</li> <li>KA5. all types of ships such as cargo ships, passengers ships, cruise ships, tankers, ferries, war ships, frigate, crew ships, etc</li> <li>KA6. types of fishing vessels - small, medium and large</li> </ul>
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> <li>KB1. the main items of ships and hazardous materials with disposal options</li> <li>KB2. proper storage, breaking and disposal of waste</li> <li>KB3. to sort out and segregate the waste based on type of waste and disposal options</li> <li>KB4. measurements and performing daily and periodic monitoring requirement</li> <li>KB5. how to operate pre cleaning machines</li> <li>KB6. knowledge of existing standards and guidelines on safe and environmentally sound management in ship dismantling</li> </ul>



**SMC/N 4601 Identification of hazardous material and processes for pre cleaning operations  
(Shipbreaking)**

	<p>KB7. pre-cleaning guidelines</p> <p>KB8. tools to test systems for leaks (using air, water or hydraulic testing methods)</p> <p>KB9. the dismantling plan for safe and practical cutting sequences</p> <p>KB10. the importance of leaving the work area and equipment in a safe and clean condition methods</p> <p>KB11. how to fill up the reports, checklists and complete documentation</p>
<b>Skills (S)</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. prepare and maintain documentation
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA2. read vernacular/english language SA3. read various colour codes, as per standard electrical, mechanical and civil nomenclature
<b>B. Professional Skills</b>	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/individual on the job needs to know and understand how to: SA4. express statements or information clearly SA5. participate in and understand the main points of simple discussions SA6. communicate with peers, superiors and sub-ordinates
	<b>Plan &amp; Organise</b>
	The user/individual on the job needs to know and understand how to: SB1. plan and organize work schedule to meet deadlines SB2. work constructively and collaboratively with others SB3. ask questions for better understanding
<b>Analytical thinking</b>	The user/individual on the job needs to know and understand how to: SB4. apply domain knowledge, observations and data to select course of action to perform tasks





SMC/N 4601

Work out pre cleaning operations (Shipbreaking)

## NOS Version Control

<b>NOS Code</b>	<b>SMC/N 4601</b>		
<b>Credits (NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	<b>Strategic Manufacturing</b>	<b>Drafted on</b>	<b>05/11/2016</b>
<b>Industry Sub-sector</b>	<b>Ship Building &amp; Ship Repair</b>	<b>Last reviewed on</b>	<b>13/09/2017</b>
<b>Occupation</b>	<b>Ship Breaking</b>	<b>Next review date</b>	<b>12/09/2020</b>



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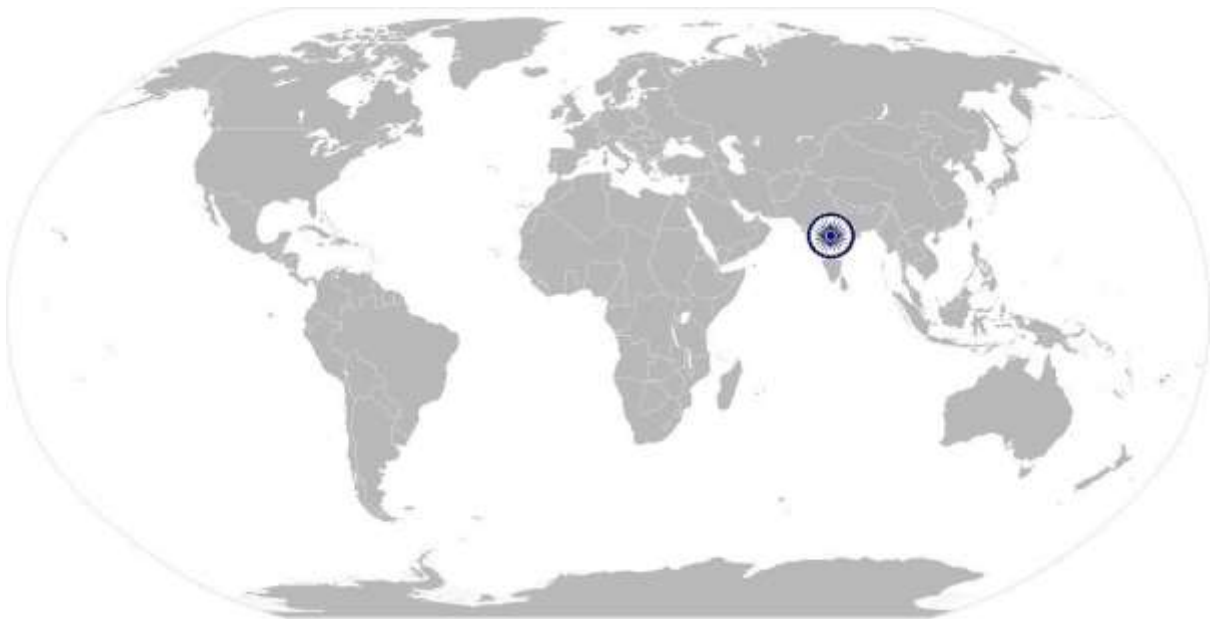




SMC/N 4602

Carry out pre cleaning operations (Shipbreaking)

# National Occupational Standard



## Overview

This unit is about carrying out pre cleaning operation



SMC/N 4602

Carry out pre cleaning operations (Shipbreaking)

National Occupational Standard

<b>Unit Code</b>	SMC/N 4602
<b>Unit Title (Task)</b>	Carry out pre cleaning operations (Shipbreaking)
<b>Description</b>	This unit is about carrying out pre cleaning operations (Shipbreaking)
<b>Scope</b>	This unit/task covers the following: <ul style="list-style-type: none"> <li>Carry out pre cleaning operations</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Carry out pre cleaning operations</b>	<p>To be competent, the user/ individual must be able to:</p> <ul style="list-style-type: none"> <li>PC1. set up starting, controlling, adjusting and stopping pre cleaning machines</li> <li>PC2. prepare surfaces for cutting</li> <li>PC3. work towards removal of anti – freeze fluids, kerosene, fuel oil, diesel oil, grease, etc</li> <li>PC4. carry out cleaning and removal of hazardous components including arsenic paints, freon in refrigerating pipelines, tank level indicator</li> <li>PC5. carry out sampling of liquids and gases in the compartment that will be cut first</li> <li>PC6. remove fuels, oils and other liquids that are mixed with bilge and ballast water</li> <li>PC7. remove the water that may accumulate due to rain and firefighting activity</li> <li>PC8. remove hazardous materials including asbestos, mercury and radioactive</li> <li>PC9. remove toxic metals using shredders and separators</li> <li>PC10. remove gaskets from piping systems and electrical systems</li> <li>PC11. remove paints from internal spaces &amp; external surfaces</li> <li>PC12. carry out decoating of primer paints from internal spaces (tank coatings) &amp; external surfaces (decks, wind strake plates, hull etc.)</li> <li>PC13. remove thinners, paint and rust stabilizer</li> </ul>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> <li>KB1. own job role and responsibilities and sources for information pertaining to employment terms, entitlements, job role and responsibilities</li> <li>KB2. reporting structure, inter-dependent functions, lines and procedures in the work area</li> <li>KB3. relevant people and their responsibilities within the work area</li> </ul>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> <li>KB1. the best operating practices to control asbestos emissions</li> <li>KB2. to remove properly and dispose of waste water specially bilge and ballast</li> <li>KB3. to clean ballast water – all types i.e compensated fuel ballast dirty ballast, mud ballast and chromatid ballast water</li> <li>KB4. to clean tanks/compartments on boards</li> <li>KB5. should know the response to injuries</li> </ul>



SMC/N 4602

Carry out pre cleaning operations (Shipbreaking)

	<ul style="list-style-type: none"> <li>• first aid, eye splashing</li> <li>• reporting to a responsible designated person.</li> <li>• rapid additional medical care</li> <li>• recording of the incident.</li> </ul> <p>KB6. how to remove fuels, oils and other liquids that are mixed with bilge and ballast water</p> <p>KB7. how to remove the accumulated water</p> <p>KB8. how to use shredders and separators remove paints and decoating of primer paints, from internal spaces (tank coatings) &amp; external surfaces (decks, wind strake plates, hull etc.)</p> <p>KB9. how to remove dangerous substances such as asbestos, petrochemicals by products, lead, mercury, polychlorinated biphenyls, radium, poisons and heavy metal machinery</p> <p>KB10. how to fill up the reports, checklists and complete documentation</p>
<b>Skills (S)</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. prepare and maintain documentation
	<b>Reading Skills</b>
	The user/individual on the job needs to know and understand how to: SA2. read vernacular/english language SA3. read various colour codes, as per standard electrical, mechanical and civil nomenclature
	<b>Oral Communication (Listening and Speaking skills)</b>
The user/individual on the job needs to know and understand how to: SA4. participate in and understand the main points of simple discussions SA5. communicate with peers, superiors and sub-ordinates	
<b>B. Professional Skills</b>	<b>Organisation skills</b>
	The user/individual on the job needs to know and understand how to: SB1. plan and organize work schedule to meet deadlines SB2. work constructively and collaboratively with others SB3. ask questions for better understanding



SMC/N 4602

Carry out pre cleaning operations (Shipbreaking)

## NOS Version Control

<b>NOS Code</b>	<b>SMC/N 4602</b>		
<b>Credits (NSQF)</b>	<b>TBD</b>	<b>Version number</b>	<b>1.0</b>
<b>Industry</b>	<b>Strategic Manufacturing</b>	<b>Drafted on</b>	<b>05/11/2016</b>
<b>Industry Sub-sector</b>	<b>Ship Building &amp; Ship Repair</b>	<b>Last reviewed on</b>	<b>13/09/2017</b>
<b>Occupation</b>	<b>Ship Breaking</b>	<b>Next review date</b>	<b>12/09/2020</b>





# National Occupational Standard



## Overview

This unit covers basic practices for working effectively with others in a collaborative environment, such as team work and cooperation, awareness of team and organisational goals, sharing of information, communicating effectively using appropriate etiquettes and behaviour, and interpersonal relations.



SMC/N 9103

Work effectively in a collaborative environment

National Occupational Standard	<b>Unit Code</b>	<b>SMC/N 9103</b>
	<b>Unit Title (Task)</b>	<b>Working effectively in a collaborative environment</b>
	<b>Description</b>	This unit covers basic practices for working effectively with others in a collaborative environment, such as team work and cooperation, sharing of information, communicating effectively using appropriate etiquettes and behaviour, and interpersonal relations.
	<b>Scope</b>	This unit/task covers the following: Activities covered: <ul style="list-style-type: none"><li>• Working effectively in a team</li><li>• Etiquettes and behaviors for:<ul style="list-style-type: none"><li>• understanding &amp; sharing information with others to enable efficient delivery of work</li><li>• communicating with other members and people internal or external to the organization</li></ul></li><li>• Interpersonal relations</li></ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>		
<b>Element</b>	<b>Performance Criteria</b>	
<b>Working effectively in a team</b>	To be competent, the user/individual on the job must be able to: PC1. define own work and responsibilities PC2. understand work requirements PC3. collaborate and integrate own work with other people's work PC4. consult with others to achieve smooth workflow and help in maximizing effectiveness and efficiency in carrying out tasks PC5. discuss with the appropriate authority or person, any problems that arise, which may affect the work and remain unresolved PC6. carry out any commitments made to others PC7. seek ways of improvement of work PC8. learn skills from others that help in performing the work efficiently and share own skills with them, which may benefit their work PC9. work together as a single unit to ensure efficiency in work PC10. ensure proper care is given to a fellow worker in case of an accident	



SMC/N 9103

**Work effectively in a collaborative environment**

<b>Etiquettes and behaviors for sharing information and communicating effectively</b>	To be competent, the user/individual on the job must be able to: PC11. receive information and instructions accurately from the supervisor PC12. seek clarifications where required PC13. pass on accurate information to authorized persons PC14. make sure that information being provided is within the purview of own authority and responsibility PC15. communicate with other people clearly and effectively PC16. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism PC17. etiquettes may include: <ul style="list-style-type: none"><li>• use appropriate titles and terms of respect</li><li>• use polite language</li><li>• avoid casual expressions</li></ul> PC18. display active listening skills while interacting with others at work and receiving feedback PC19. demonstrate responsible and disciplined behavior
<b>Interpersonal relations</b>	To be competent, the user/individual on the job must be able to: PC20. develop understanding, goodwill and trust PC21. resolve individual disagreements with the concerned person PC22. escalate unresolved grievances to appropriate authority
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the organization and its processes)	The user/individual on the job needs to know and understand: KA1. procedures followed in the company relevant to own employment and performance conditions KA2. reporting structure, inter-dependent functions, lines and procedures in the work area KA3. effective working relationships with both internal and external the people with which the individual is required to interact
<b>B. Technical Knowledge</b>	The user/individual on the job needs to know and understand: KB1. various components of effective communication KB2. value and importance of active listening and assertive communication KB3. importance of avoiding casual expletives and unpleasant terms while communicating in professional circles KB4. importance of communicating clearly and effectively with people face-to-face, by telephone and in writing KB5. importance of effective working relationships and how these contribute towards effective working relationships on a day-to-day basis KB6. how to deal with difficult working relationships with people to sort out problems KB7. importance of discipline for professional success KB8. process of resolving interpersonal conflicts KB9. importance and ways of managing interpersonal conflict effectively KB10. expressing and addressing grievances appropriately and effectively





SMC/N 9103

Work effectively in a collaborative environment

Skills (S)	
<b>A. Core Skills/ Generic Skills</b>	<b>Oral Communication (Listening and Speaking skills)</b>
	The user/ individual on the job needs to know and understand how to: SA1. express statements or information clearly so that others can hear and understand SA2. participate in and understand the main points of simple discussions SA3. respond appropriately to any queries SA4. communicate with employees
<b>B. Professional Skills</b>	<b>Decision making</b>
	The user/individual on the job needs to know and understand how to: SB1. follow organization rule- based decision making process
	<b>Plan and organize</b>
	The user/individual on the job needs to know and understand how to: SB2. plan and organize work schedule to meet deadlines SB3. how to improve the work process
	<b>Team Working Skills</b>
The user/individual on the job needs to know and understand how to: SB4. work constructively and collaboratively with others SB5. build rapport and cooperative relationships with internal team members and other departments for effective completion of work SB6. resolve conflicts within teams SB7. ask questions for better understanding	



SMC/N 9103

Work effectively in a collaborative environment

## NOS Version Control

NOS Code	SMC/N 9103		
Credits (NSQF)	TBD	Version number	1.0
Industry	Strategic Manufacturing	Drafted on	05/11/2016
Industry Sub-sector	Common	Last reviewed on	13/09/2017
Occupation	Common	Next review date	12/09/2020



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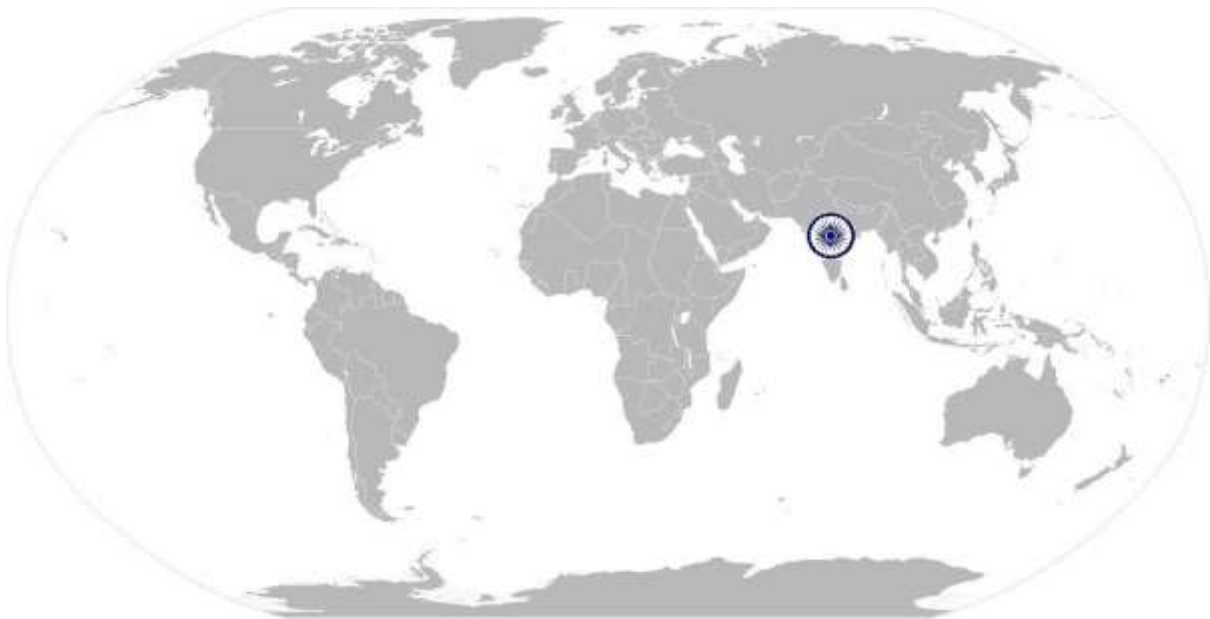
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SMC/N 9104 Maintain a healthy, safe and secure working environment

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# National Occupational Standard



## Overview

This unit covers procedures and practices to be followed to maintain a healthy, safe and secure work environment.

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SMC/N 9104 Maintain a healthy, safe and secure working environment

National Occupational Standard

<b>Unit Code</b>	<b>SMC/N 9104</b>
<b>Unit Title (Task)</b>	<b>Maintain a healthy, safe and secure working environment</b>
<b>Description</b>	This unit is about maintaining a healthy, safe and secure work environment. It covers responsibilities towards self, others, assets and the environment.
<b>Scope</b>	<p>This unit/task covers the following: Activities covered:</p> <ul style="list-style-type: none"> <li>• maintain healthy workplace environment</li> <li>• maintain safe and secure environment</li> <li>• fire safety</li> <li>• emergencies, rescue and first-aid procedures</li> </ul>
<b>Performance Criteria(PC) w.r.t. the Scope</b>	
<b>Element</b>	<b>Performance Criteria</b>
<b>Maintain healthy workplace</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. follow health and hygiene procedures in all the work at all times</p> <p>PC2. identify common health hazards and symptoms for self related to exposure of paint fumes, oxygen – deficient atmosphere, asbestos fibers, etc</p>
<b>Maintain safe and secure environment</b>	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC3. keep a look out for hazards in the workplace related to equipment, personal clothing, areas one works, etc</p> <p>PC4. keep a lookout for following accommodation related safety aspects</p> <ul style="list-style-type: none"> <li>• escape routes unobstructed; exits clearly marked</li> <li>• safety signs and placards posted and clearly readable</li> <li>• life jackets, immersion suits &amp; EEBDs correctly stowed &amp; marked</li> <li>• internal communications equipment tested and operating correctly</li> <li>• muster list signed and properly displayed at appropriate locations</li> </ul> <p>PC5. keep a lookout for the following machinery spaces related safety aspects</p> <ul style="list-style-type: none"> <li>• all handrails, guard-rails and safety guards correctly fitted and secured to protect against fall</li> <li>• switchboard area clear and free of obstructions and rubber mats in position</li> <li>• all portable fire extinguishers correctly stowed, accessible and inspection dated</li> <li>• all fixed fire-fighting equipment unobstructed and in good condition</li> <li>• all personnel wear correct personal protective gear</li> <li>• high voltage areas clearly marked</li> <li>• shielding of high pressure fuel pipes in place, steam pipes properly insulated</li> </ul> <p>PC6. keep a lookout for the following deck area related safety aspects</p>



**SMC/N 9104 Maintain a healthy, safe and secure working environment**

	<ul style="list-style-type: none"> <li>• escape routes and embarking areas marked, unobstructed and no slipping and tripping hazards</li> <li>• “Danger-Enclosed Space” marked outside all such spaces having access other than via manholes</li> <li>• all lifebuoys correctly stowed, life buoy lights and smoke markers valid &amp; in good condition</li> <li>• lifeboats in good condition</li> <li>• piping systems on deck are properly clamped</li> <li>• deck cranes, mooring winches &amp; windlasses are free from oil leakages</li> <li>• area free of combustible rubbish and tools and equipment which are not in use</li> <li>• area free of leaking pipes and fittings</li> </ul> <p>PC7. report any accidents or near accidents quickly and accurately to the proper person</p>
<b>Fire safety</b>	<p>To be competent ,the user/individual on the job must be able to:</p> <p>PC8. use appropriate fire extinguishers such as sand, water, foa, chemical powder, etc on different types of fire that are caused by heating of metal, spontaneous ignition, sparking, electrical heating, chemical fire, etc</p> <p>PC9. ensure all portable fire extinguishers &amp; stowage locations numbered, in place &amp; inspection dated and for safety reasons, fire station not locked but only sealed</p>
<b>Emergencies, rescue and first-aid procedures</b>	<p>To be competent ,the user/individual on the job must be able to:</p> <p>PC10. administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc.</p> <p>PC11. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments</p> <p>PC12. perform and organize loss minimization or rescue activity during an accident in real or simulated environments administer basic first aid to victims</p> <p>PC13. participate in emergency procedures and move injured people and others during an emergency</p>
<b>Knowledge and Understanding (K)</b>	
<b>A. Organizational Context</b> (Knowledge of the organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. responsibilities under the organization’s health, safety and security standards</p> <p>KA2. where one can get information about health, hygiene and safety at the workplace</p> <p>KA3. names of all the people responsible for health and safety in a workplace</p> <p>KA4. names and location of documents that refer to health and safety in the workplace</p>
<b>B. Technical Knowledge</b>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. general rules on hygiene that one must follow</p> <p>KB2. understand the physical signs and reactions related to exposures to such hazards</p> <p>KB3. knowledge of entry and exit of vessel and evacuation procedures in case of an emergency</p>



SMC/N 9104 Maintain a healthy, safe and secure working environment

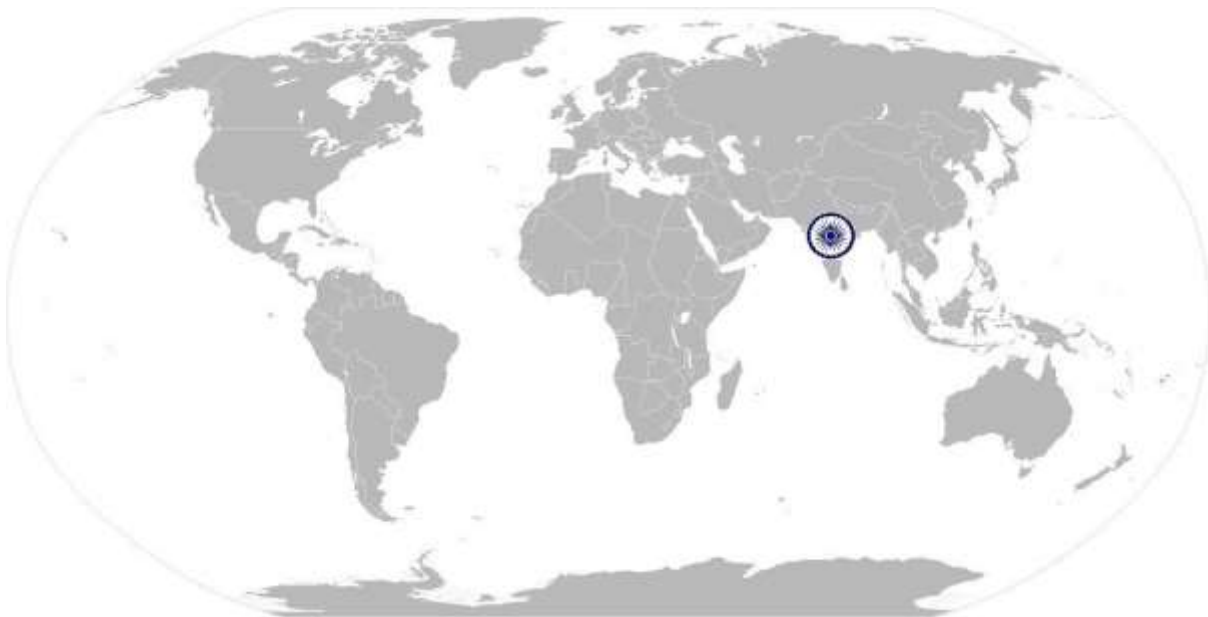
	<p>KB4. knowledge of emergency indicators like sirens and what it indicates</p> <p>KB5. knowledge of precautions to be taken in confined spaces</p> <p>KB6. knowledge of precautions to be taken while working with working machine tools</p> <p>KB7. knowledge of methods of prevention of fires like proper and safe disposal of inflammable material, maintenance of proper ventilation in enclosed spaces, temperature control in working areas</p> <p>KB8. knowledge of precautions to be taken to be taken while working in heights like safety nets, length of rope and other safety practices in marine industry</p> <p>KB9. how to read indicators like oxygen level indicator</p> <p>KB10. knowledge of precautions to be taken while sand blasting &amp; painting</p> <p>KB11. meaning of “hazards” and “risks”</p> <p>KB12. methods of accident prevention</p> <p>KB13. hazards one can deal with oneself and hazards that must be reported to someone else</p> <p>KB14. where to find first aid equipment and who the registered first-aider is in the workplace</p> <p>KB15. safe lifting and handling techniques to be followed</p> <p>KB16. precautionary activities to minimize the risk of fire and prevent fire accidents</p> <p>KB17. where to find fire alarms and how to set them off</p> <p>KB18. preventive and remedial actions to be taken in the case of exposure to toxic materials</p> <p>KB19. various types of safety signs and what they mean</p> <p>KB20. appropriate basic first aid treatment relevant to the condition e.g. shock,</p> <p>KB21. content of written accident report</p>
<b>Skills (S)</b>	
<b>A. Core Skills/ Generic Skills</b>	<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>SA1. express statements or information clearly participate in and understand the main points of simple discussions</p> <p>SA2. communicate with employees</p> <p><b>Reading Skills</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA3. read vernacular/english language</p> <p>SA4. read and understand manuals, health and safety instructions</p> <p>SA5. read various colour codes, as per standard electrical, mechanical and civil nomenclature</p>
<b>B. Professional Skills</b>	<p><b>Decision making</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. follow organisation rule- based decision making process</p> <p>SB2. take decision with systematic course of actions and/or response</p> <p><b>Plan and organize</b></p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB3. plan and organize work schedule to meet deadlines</p> <p>SB4. work constructively and collaboratively with others</p>



**SMC/N 9104**    **Maintain a healthy, safe and secure working environment**

## NOS Version Control

NOS Code	SMC/N 9104		
Credits (NSQF)	TBD	Version number	1.0
Industry	Strategic Manufacturing	Drafted on	05/11/2016
Industry Sub-sector	Common	Last reviewed on	13/09/2017
Occupation	Common	Next review date	12/09/2020



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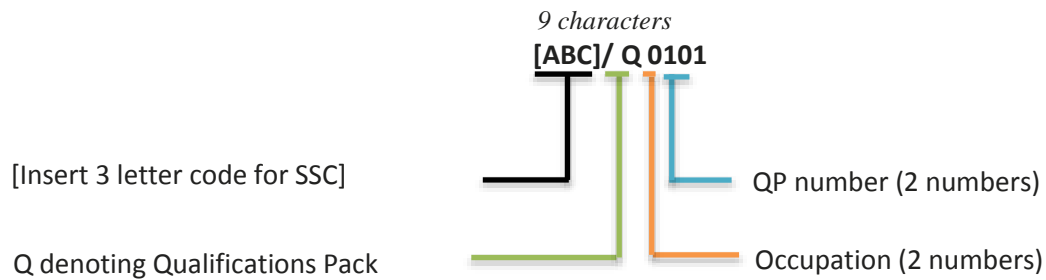




## Annexure

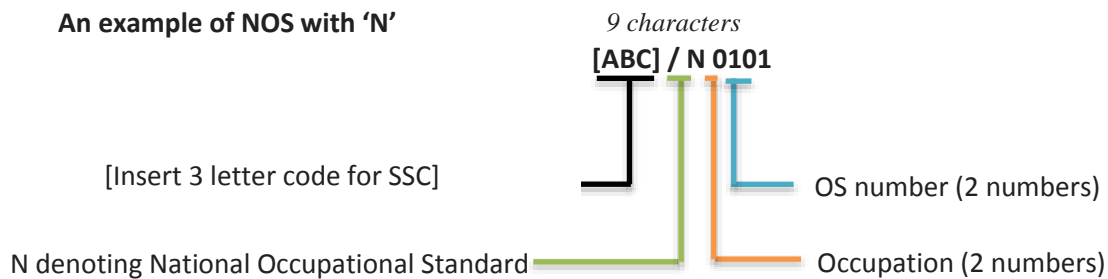
### Nomenclature for QP and NOS

#### Qualifications Pack



#### Occupational Standard

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





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

Sub sectors	Range of occupation numbers
Defence Equipment - Land & Naval Systems	01-30
Ship building & Ship breaking	31-60
Electronic Security Equipment Manufacturing	61-75
Safety & Fire Fighting Equipment	76-90
Common	91-94

Sequence	Description	Example
Three letters	Industry name	SMC
Slash	/	/
Next letter	Whether QP or NOS	Q or N
Next two numbers	Occupation code	1
Next two numbers	OS number	1

Note :

- The range of occupation numbers have been decided based on the number of existing and future occupations in a segment



### CRITERIA FOR ASSESSMENT OF TRAINEES

**Job Role:** Pre Cleaning Technician

**Qualification Pack:** SMC/Q 4601

**Sector Skill Council:** Strategic Manufacturing Sector Skill Council

#### Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.
6. To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
7. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS Total Marks: 400				Marks Allocation	
Assessment outcomes	Assessment criteria for outcomes	Total Marks	Out of	Theory	Skills/ Practical
<b>SMC/N 4601</b> Identification of hazardous material and processes for pre cleaning operations (Shipbreaking)	PC1. work on hazardous waste handling and disposable plan	<b>100</b>	13	4	9
	PC2. identify hazardous materials		13	4	9
	PC3. identify operational substances		13	4	9
	PC4. identify metals that are mixed with nonmetals		13	4	9

Compulsory NOS Total Marks: 400				Marks Allocation	
Assessment outcomes	Assessment criteria for outcomes	Total Marks	Out of	Theory	Skills/ Practical
	PC5. identify thinners, paint and rust stabilizers		13	4	9
	PC6. prepare processes for the removal of gaseous substances		13	4	9
	PC7. prepare and work out ancillary operational substances		12	4	8
	PC8. work out layout and components of ship around ship deck, engine room, propeller, etc		12	4	8
			<b>100</b>	<b>32</b>	<b>68</b>
<b>SMC/N 4602</b> Carry out pre cleaning operations (Shipbreaking))	PC1.remove fuels, oils and other liquids that are mixed with bilge and ballast water		8	3	5
	PC2. remove the water that may accumulate due to rain, firefighting activity, or use of hot work cooling water, and will have to be properly removed		8	3	5
	PC3. carry out cleaning and removal of hazardous components including arsenic paints, freon in refrigerating pipelines, tank level indicator		8	3	5
	PC4. carry out sampling of liquids and gases in the compartment that will be cut first		8	3	5
	PC5. remove hazardous materials including asbestos, mercury and radioactive		8	3	5
	PC6. remove toxic metals using shredders and separators		8	3	5
	PC7. remove gaskets from piping systems and electrical systems		8	3	5

Compulsory NOS Total Marks: 400				Marks Allocation	
Assessment outcomes	Assessment criteria for outcomes	Total Marks	Out of	Theory	Skills/ Practical
	PC8. remove paints from internal spaces & external surfaces		8	3	5
	PC9. carry out decoating of primer paints from internal spaces (tank coatings) & external surfaces (decks, wind strake plates, hull etc.)		8	3	5
	PC10. remove thinners, paint and rust stabilizer		7	3	4
	PC11. set up starting, controlling, adjusting and stopping pre cleaning machines		7	3	4
	PC12. prepare surfaces for cutting		7	3	4
	PC13. work towards removal of anti – freeze fluids, kerosene, fuel oil, diesel oil, grease, etc		7	3	4
		<b>Total</b>	<b>100</b>	<b>38</b>	<b>62</b>
<b>SMC/N 9103</b> Work effectively in a collaborative environment	PC1. define own work and responsibilities	<b>100</b>	5	2	3
	PC2. understand work requirements		5	2	3
	PC3. collaborate and integrate own work with other people's work		5	2	3
	PC4. consult with others to achieve smooth workflow and help in maximising effectiveness and efficiency in carrying out tasks		5	2	3
	PC5. discuss with the appropriate authority or person, any problems that arise, which may affect the work and remain unresolved		5	1	4
	PC6. carry out any commitments made to others		5	1	4
	PC7. seek ways of improvement of work		5	1	4

Compulsory NOS Total Marks: 400				Marks Allocation	
Assessment outcomes	Assessment criteria for outcomes	Total Marks	Out of	Theory	Skills/ Practical
	PC8. learn skills from others that help in performing the work efficiently and share own skills with them, which may benefit their work		5	1	4
	PC9. work together as a single unit to ensure efficiency in work		5	1	4
	PC10. ensure proper care is given to a fellow worker in case of an accident		5	1	4
	PC11. receive information and instructions accurately from the supervisor and colleagues		5	1	4
	PC12. seek clarifications where required		5	1	4
	PC13. pass on accurate information to authorized persons who require it and within agreed timescale and confirm its receipt		4	2	2
	PC14. make sure that information being provided is within the purview of own authority and responsibility		4	2	2
	PC15. communicate with other people clearly and effectively		3	1	2
	PC16. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		3	1	2
	PC17. exhibit proper work etiquettes		3	1	2
	PC18. display active listening skills while interacting with others at work and receiving feedback		3	1	2

Compulsory NOS Total Marks: 400				Marks Allocation	
Assessment outcomes	Assessment criteria for outcomes	Total Marks	Out of	Theory	Skills/ Practical
	PC19. demonstrate responsible and disciplined behavior		5	2	3
	PC20. develop understanding, goodwill and trust		5	2	3
	PC21. resolve individual disagreements with the concerned person		5	1	4
	PC22. escalate unresolved grievances to appropriate authority		5	1	4
	<b>Total</b>		<b>100</b>	<b>30</b>	<b>70</b>
<b>SMC/N 9103</b> Maintain a healthy, safe and secure working environment	PC1. maintain cleanliness and hygiene	<b>100</b>	8	2	6
	PC2. wear clean clothing		8	2	6
	PC3. follow health procedures		9	4	5
	PC4. identify common health hazards		9	2	7
	PC5. keep a look out for hazards		8	2	6
	PC6. keep a lookout for accommodation for safety		8	2	6
	PC7. keep a lookout for the machinery		8	2	6
	PC8. keep a lookout for the deck		8	2	6
	PC9. report any accidents or near accidents quickly and accurately to the proper person		8	4	4
	PC10. use appropriate fire extinguishers on different types of fires correctly causes of fires		9	5	4
	PC11. administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc.		9	4	5
	PC12. demonstrate basic techniques of bandaging		8	1	7
	<b>Total</b>		<b>100</b>	<b>36</b>	<b>64</b>



