



# Model Curriculum

## Technician Ship Scrapper

**SECTOR:** STRATEGIC MANUFACTURING  
**SUB-SECTOR:** SHIP BUILDING & SHIP REPAIR  
**OCCUPATION:** SHIP BREAKING  
**REF ID:** SMC/Q 4501, v1.0  
**NSQF LEVEL:** 4





## Certificate

### CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

### STRATEGIC MANUFACTURING SECTOR SKILL COUNCIL

for the

### MODEL CURRICULUM

Complying to National Occupational Standards of

**Job Role/Qualification Pack : Technician Ship Scrapper, QP No. SMC/Q4501, Version 1.0, NSQF Level 4**

Date of Issue: 13th September, 2017  
Valid Up to\* : 12th September, 2020

\*Valid upto to the next review date of the Qualification Pack or the  
Valid up to 'date mentioned above (whichever is earlier)

Authorised Signatory

Strategic Manufacturing Sector Skill Council



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# Technician Ship Scrapper

## CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a “Technician Ship Scrapper”, in the “Strategic Manufacturing” Sector/Industry and aims at building the following key competencies amongst the learner

<b>Program Name</b>	Technician Ship Scrapper		
<b>Qualification Pack Name &amp; Reference ID.</b>	SMC/Q4501, v1.0		
<b>Version No.</b>	1.0	<b>Version Update Date</b>	13/ 09/2017
<b>Pre-requisites to Training</b>	10 <sup>th</sup> Standard		
<b>Training Outcomes</b>	<b>After completing this programme, participants will be able to:</b> <ul style="list-style-type: none"><li>• dismantles the plant and machineries of decommissioned ship ,</li><li>• cuts large super structures of ship ,</li><li>• breaks plates and flooring into smaller pieces,</li><li>• removes all internal structures and support frames from ship ,</li><li>• remove equipment's from ship</li></ul>		



This course encompasses **4** out of **4** National Occupational Standards (NOS) of “**Technician Ship Scrapper**” Qualification Pack issued by “**Strategic Manufacturing Sector Skill Council**”.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	<b>Work out ship scrapping operations</b> <b>Theory Duration</b> (hh:mm) 32:00 <b>Practical Duration</b> (hh:mm) 58:00  <b>Corresponding NOS Code</b> SMC/N 4501	The user/individual on the job needs to know/understand/able to: <ul style="list-style-type: none"><li>• use information from ship drawings</li><li>• methods of docking the ship such as anchoring or mooring to pier or beach head methods of providing temporary support to various structures on ship.</li><li>• identify and apply de-welding markings and measurements related to scrapping</li><li>• identify and request for all types of acetylene metal cutting torches in a working state</li><li>• identify and request for the number of welding machines needed for tagging/cutting operation</li><li>• identify the support mechanism needed for cutting up heavy metal pieces</li><li>• identify internal and external torches based on state of cut hull</li><li>• identify the placement of tackles and pulleys, to lift dismantled plates</li></ul>	<ol style="list-style-type: none"><li>1) Power Point Presentation on ship scrapping operations</li><li>2) Sample built up drawing of ship</li><li>3) Welding plant small – One Set</li><li>4) Oxy acetylene cutter – small – one set.</li><li>5) General Purpose Tools</li><li>6) Tripod Crane 6” feet height</li><li>7) Wire Rope</li><li>8) Pulley – small and medium size</li><li>9) Slings</li><li>10) D – Shackles</li><li>11) Support angle iron tripod 1<sup>1/2</sup>inches.</li><li>12) Wooden logs – 3 inches dia 6 feet long – 2 numbers</li><li>13) Hammer – Large – 5kg</li><li>14) Wooden Hammer</li><li>15) Trolley to transport material &amp; gas cylinders</li><li>16) Lifting winch – small – one set.</li></ol>
2	<b>Carry out ship scrapping operations</b> <b>Theory Duration</b> (hh:mm) 50:00  <b>Practical Duration</b> (hh:mm) 90:00	The user/individual on the job needs to know / understand / perform / able to do: <ul style="list-style-type: none"><li>• carry out scrapping of engines, batteries, generators, copper wiring portholes, lifeboats, electronic dials and other marine equipment/fitings</li><li>• dismantle pipes and thermal insulations, floor tiles, vent flange gaskets</li></ul>	<ol style="list-style-type: none"><li>1) Power Point Presentation on ship scrapping operations</li><li>2) Sample built up drawing of ship</li><li>3) Welding plant small – One Set</li><li>4) Oxy acetylene cutter – small – one set.</li><li>5) General Purpose Tools.</li></ol>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
	<p><b>Corresponding NOS Code</b> SMC/N 4502</p>	<ul style="list-style-type: none"> <li>• set up, starting, controlling, adjusting and stopping machines, which will cut metal and hull, for ship scrapping</li> <li>• cut the steel pieces as per the instruction</li> <li>• cut the heavy metal pieces as per the instructions</li> <li>• use lifting machines and small material handling machines</li> <li>• segregate the structural pieces of ship as per the plan</li> <li>• remove the equipment like fixtures, anchors, chains, furniture and small equipment</li> <li>• carry out crane lift operations</li> <li>• unpack space insulations</li> <li>• dismantle exhaust duct insulations</li> <li>• disintegrate burn covers and any other secondary machineries/ equipment.</li> <li>• sort out the cut pieces of metals on the basis of visual inspections</li> <li>• certify scrapping tools against receiving documents, noting and reporting discrepancies</li> </ul>	<ol style="list-style-type: none"> <li>6) Support angle iron tripod 1 1/2 inches.</li> <li>7) Wooden logs – 3 inches dia 6 feet long – 2 number</li> <li>8) Hammer – Large – 5kg</li> <li>9) Wooden Hammer</li> <li>10) Trolley to transport material &amp; gas cylinders</li> <li>11) Lifting winch – small – one set.</li> </ol>
3	<p><b>Work effectively with others</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 10:00</p> <p><b>Corresponding NOS Code</b> SMC/ N 9103</p>	<p>The user/individual on the job needs to know/understand/ able to do:</p> <ul style="list-style-type: none"> <li>• define own work and responsibilities</li> <li>• understand individual goals</li> <li>• understand work requirements</li> <li>• collaborate and integrate own work with other people's work</li> <li>• consult with others to achieve smooth workflow</li> <li>• work in a way that shows respect for others</li> <li>• carry out any commitments made to others</li> <li>• seek ways of improvement of work</li> <li>• learn skills from others that help in performing the work efficiently</li> <li>• ensure proper care is given to a fellow worker in case of an accident.</li> <li>• receive information and instructions accurately from the supervisor and colleagues</li> <li>• seek clarifications where required without disruption of own or others work</li> </ul>	<ol style="list-style-type: none"> <li>1) Training Kit (trainer guide, PPT)</li> <li>2) Power point for general communication skills, power point for shipyard &amp; factory.</li> <li>3) Team Management - Posters.</li> <li>4) Team building - Posters.</li> <li>5) Team Organisation in Shipyards Posters.</li> </ol>



Sr. No.	Module	Key Learning Outcomes	Equipment Required
		<ul style="list-style-type: none"> <li><input type="checkbox"/> pass on accurate information to authorized persons who require it and within agreed timescale and confirm its receipt</li> <li><input type="checkbox"/> communicate with other people clearly and effectively</li> <li><input type="checkbox"/> use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism display active listening skills while interacting with others at work and receiving feedback</li> </ul>	
4	<p><b>Maintain a healthy, safe and secure working environment</b></p> <p><b>Theory Duration</b> (hh:mm) 20:00</p> <p><b>Practical Duration</b> (hh:mm) 16:00</p> <p><b>Corresponding NOS Code</b> SMC/ N 9104</p>	<p>The user/individual on the job needs to know and understand:</p> <ul style="list-style-type: none"> <li>• general rules on hygiene</li> <li>• importance of correct clothing, footwear, safety masks, respiratory masks, gloves, loose cotton and headgear</li> <li>• the physical signs and reactions related to exposures to such hazards</li> <li>• entry and exit route of vessel and evacuation procedures in case of an emergency</li> <li>• method of disposing of waste material</li> <li>• work going on in surrounding areas</li> <li>• gasses generated on board of ship</li> <li>• toxic gases in confined spaces</li> <li>• personal safety, health and dignity issues</li> <li>• various types of safety signs</li> <li>• maintain cleanliness and hygiene</li> <li>• requirement of wearing clean and appropriate clothing, footwear and headgear at work place</li> <li>• correct emergency procedures</li> <li>• importance of keeping a look out for hazards in the workplace related to equipment, process etc.</li> <li>• use of protective clothing such as gloves, safety glasses, etc for specific tasks &amp; work conditions</li> <li>• reporting method of any accidents</li> </ul>	<ol style="list-style-type: none"> <li>1) Training Kit ( Trainer Guide, PPT)</li> <li>2) Power point presentation of safety general</li> <li>3) Power point presentation of safety in shipyard / factory</li> <li>4) Leather apron</li> <li>5) Safety helmets</li> <li>6) Safety gloves</li> <li>7) Industrial safety shoes</li> <li>8) First aid kit</li> <li>9) Fire extinguisher (Soda &amp; Foam Type)</li> <li>10) Fire bucket with sand</li> <li>11) Protective visor / screen</li> <li>12) Fire safety – Posters</li> <li>13) Posters of safety in shipyards</li> </ol>





Sr. No.	Module	Key Learning Outcomes	Equipment Required
		quickly and accurately to the proper person	
	<b>Theory Duration</b> <b>122:00</b>  <b>Practical Duration</b> <b>174:00</b>	<b>Unique Equipment Required: NIL</b>	

Grand Total Course Duration: **296 Hours, 0 Minutes**

(This syllabus/ curriculum has been approved by [Strategic Manufacturing Sector Skill Council](#))



## Trainer Prerequisites for Job role: “Technician Ship Scrapper” mapped to Qualification Pack: “SMC/ Q 4501, v1.0”

Sr. No.	Area	Details
1	<b>Description</b>	A technician ship scrapper is responsible for dismantling, cutting, breaking and removing of all internal structures, equipments and machineries of a decommissioned ship.
2	<b>Personal Attributes</b>	The individual must have responsibility to organize own work within defined limit. He should have basic communication (written and oral), arithmetic and algebraic principle skills. Also, understanding the need to take initiative and manage self and work to improve efficiency and effectiveness.
3	<b>Minimum Educational Qualifications</b>	12 <sup>th</sup> Standard
4a	<b>Domain Certification</b>	Certified for Job Role: “Technician Ship Scrapper” mapped to QP: SMC/ Q 4501”. Minimum accepted score as per respective SSC guidelines.
4b	<b>Platform Certification</b>	Recommended that the Trainer is certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “SMC/ Q 4501”. Minimum accepted score as per respective SSC guidelines.
5	<b>Experience</b>	5 years’ experience in shipyard



## Annexure: Assessment Criteria

<b>Assessment Criteria</b>	
<b>Job Role</b>	<b>Technician Ship Scrapper</b>
<b>Qualification Pack</b>	<b>SMC/Q4501, v1.0</b>
<b>Sector Skill Council</b>	<b>Strategic Manufacturing</b>

<b>Sr. No.</b>	<b>Guidelines for Assessment</b>
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 <i>unsuccessful completion</i> , the trainee may seek reassessment on the Qualification Pack.



Complutory NOS Total Marks: 400				Marks Allocation	
Assessment outcomes	Assessment criteria for outcomes	Total Marks	Out of	Theory	Skills/ Practical
SMC/N 4501 (Work out ship scrapping operations)	PC1. apply de-welding markings and measurements related to scrapping	100	11	4	7
	PC2. place all types of acetylene metal cutting torches in a working state		11	4	7
	PC3. place welding machines for tagging/cutting operation		11	4	7
	PC4. place support mechanism for cutting up heavy metal pieces		11	4	7
	PC5. set up, starting, controlling, adjusting and stopping machines, which will cut metal and hull, for shipscrapping		11	4	7
	PC6. place internal and external torches based on state of cut hull		11	3	8
	PC7. commence internal break apart of hull and accessories		11	3	8
	PC8. placing of tackles and pulleys, to lift dismantled plates		12	2	10
	PC9. prepare and set up machines for various ship scrapping operations		11	4	7
			<b>Total</b>	<b>100</b>	<b>32</b>
SMC/N 4502 (Carry out ship scrapping operations)	PC1. carry out scrapping of engines, batteries, generators, copper wiring portholes, lifeboats, electronic dials and other marine equipment/fittings	100	9	3	6
	PC2. dismantle pipes and thermal insulations, floor tiles, vent flange gaskets		9	3	6
	PC3. cut the steel pieces as per the instruction		9	3	6
	PC4. cut the heavy metal pieces as per the instructions		9	2	7
	PC5. use lifting machines and small material handling machines		9	3	6



	PC6. segregate the structural pieces of ship as per the plan		9	3	6
	PC7. remove the equipments like fixtures, anchors, chains, furnitures and small equipments		9	2	7
	PC8. carry out crane lift operations		9	2	7
	PC9. unpack space insulations		9	3	6
	PC10. dismantle exhaust duct insulations		9	3	6
	PC11. disintegrate burn covers and any other secondary machineries/equipments		10	3	7
		<b>Total</b>	<b>100</b>	<b>30</b>	<b>70</b>
<b>SMC/N 9103</b> (Working effectively in a collaborative environment)	PC1. define own work and responsibilities	<b>100</b>	7	1	6
	PC2. collaborate and integrate own work with other people's work		7	1	6
	PC3. consult with others to achieve smooth workflow and help in maximising effectiveness and efficiency in carrying out tasks		7	1	6
	PC4. discuss with the appropriate authority or person, any problems that arise, which may affect the work and remain unresolved		7	2	5
	PC5. carry out any commitments made to others		8	3	5
	PC6. learn skills from others that help in performing the work efficiently and share own skills with them, which may benefit their work		8	3	5
	PC7. receive information and instructions accurately from the supervisor and colleagues		8	3	5
	PC8. make sure that information being provided is within the purview of own authority and responsibility		8	3	5
	PC9. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		8	3	5
	PC10. exhibit proper work etiquettes		8	3	5



	PC11. display active listening skills while interacting with others at work and receiving feedback		8	3	5
	PC12. develop understanding, goodwill and trust with team members		8	3	5
	PC13. escalate unresolved grievances to appropriate authority		8	3	5
	<b>Total</b>		<b>100</b>	<b>32</b>	<b>68</b>
<b>SMC/N 9104</b> (Maintain a healthy, safe and secure working environment)	PC1. maintain cleanliness and hygiene	<b>100</b>	10	4	6
	PC2. identify common health hazards		10	4	6
	PC3. keep a look out for hazards		10	4	6
	PC4. keep a lookout for accommodation for safety		10	4	6
	PC5. keep a lookout for the machinery		10	4	6
	PC6. keep a lookout for the deck		10	4	6
	PC7. report any accidents or near accidents quickly and accurately to the proper person		10	4	6
	PC8. use appropriate fire extinguishers on different types of fires correctly causes of fires		10	4	6
	PC9. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		10	4	6
	PC10. participate in emergency procedures and move injured people and others in correct method during an emergency		10	2	8
	<b>Total</b>		<b>100</b>	<b>38</b>	<b>62</b>
	<b>Minimum Pass % To Qualify (Aggregate)</b>	<b>70%</b>			