

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR APPAREL MADE-UPS & HOME FURNISHING SECTOR

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 – Machine Maintenance Mechanic: Sewing Machine

SECTOR: APPAREL, MADE-UP'S AND HOME FURNISHING

SUB-SECTOR: APPAREL

OCCUPATION: MACHINE MAINTENANCE

REFERENCE ID: AMH/Q 1901

ALIGNED TO: NCO-2004 /7233.52

Brief Job Description: A sewing machine maintenance mechanic is responsible for conducting regular preventive maintenance procedures to ensure the machines are in good condition & function smoothly, as well as trouble shoot machine associated problems and change machine parts as and when required.

Personal Attributes: A machine maintenance mechanic should be organized and have good analytical skills. He/she also needs to have good hand-eye coordination and dexterity.

Job Details	Qualifications Pack Code	AMH/Q 1901		
	Job Role	Machine Maintenance Mechanic: Sewing Machine		
	Credits (NSQF)	TBD	Version number	1.0
	Sector	Apparel, Made-Up's and Home Furnishing	Drafted on	05/11/14
	Sub-sector	Apparel	Last reviewed on	15/11/14
	Occupation	Machine Maintenance	Next review date	30/12/15
	NSQC Clearance On*	20/07/15		

Job Role	Machine Maintenance Mechanic
Role Description	To maintain the sewing machines in the production line and ensure they function smoothly.
NSQF level	5
Minimum Educational Qualifications	8 th standard, preferably
Maximum Educational Qualifications	N/A
Training (Suggested but not mandatory)	Training in apparel production/apparel manufacturing technology/machine maintenance procedures
Minimum Job Entry Age	18 years
Experience	Preferably 1-2 years of work experience in stitching or maintenance division of any apparel manufacturing company
National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> AMH/N 1901 (Carry out preventive machine maintenance procedures) AMH/N 1902 (Troubleshoot machine related problems) AMH/N 0102 (Maintain work area, tools & machines) AMH/N 0103 (Maintain health, safety and security at workplace) <p>Optional: Not Applicable</p>
Performance Criteria	As described in the relevant OS units

Glossary of Key Terms

Table 1: Glossary of Key Terms

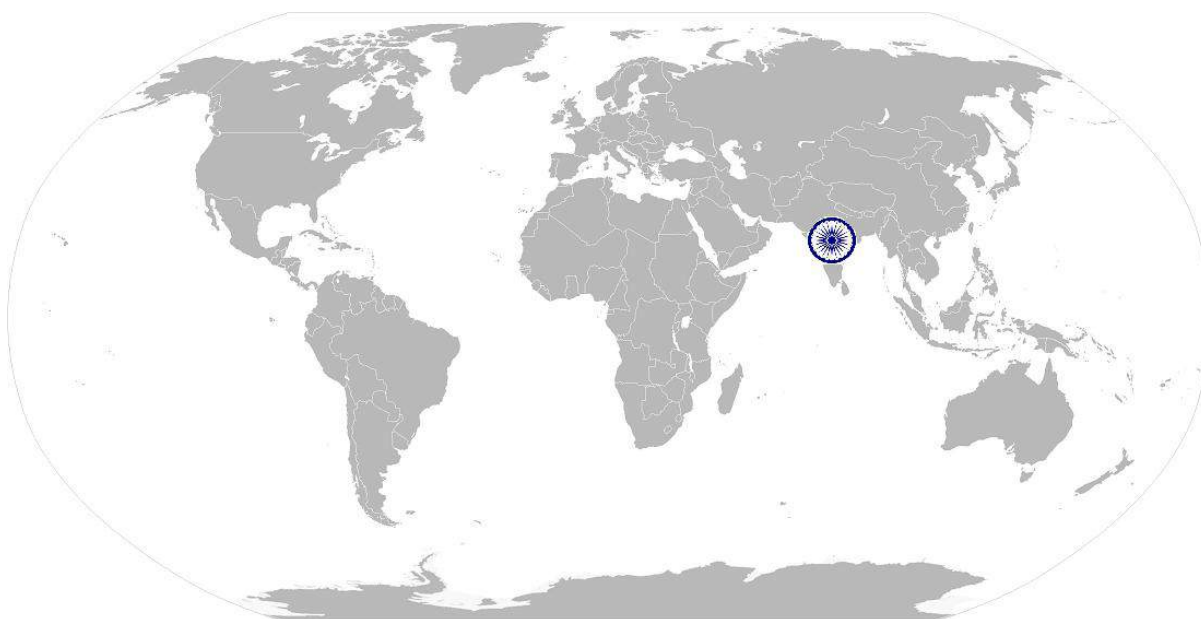
Definitions	Keywords /Terms	Description
	Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
	Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
	Vertical	Vertical may exist within a sub-sector representing different domain areas or the client industries served by the industry.
	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 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-functions	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 (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(QP)	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 OS unit, which can be denoted with either an 'O' or 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 the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
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.
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Helpdesk	Helpdesk is an entity to which the customers will report their IT problems. IT Service Helpdesk Attendant is responsible for managing the helpdesk.
Keywords /Terms	Description
SSC	Sector Skill Council
OS	Occupational Standard(s)
NOS	National Occupational Standard(s)
QP	Qualifications Pack
UGC	University Grants Commission
MHRD	Ministry of Human Resource Development
MoLE	Ministry of Labor and Employment
NVEQF	National Vocational Education Qualifications Framework
NVQF	National Vocational Qualifications Framework

Acronyms

AMH/N 1901 Carryout preventive machine maintenance procedures

National Occupational Standard



Overview

This unit is about carrying out the preventive machine maintenance procedures on a regular basis


AMH/N 1901 Carryout preventive machine maintenance procedures

National Occupational Standard	Unit Code	AMH/1901
	Unit Title (Task)	Carryout preventive machine maintenance procedures
	Description	This unit is about carrying out the preventive machine maintenance procedures on a regular basis
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> ▪ Checking the machine is setup correctly and is ready for use ▪ Regular cleaning of the machine ▪ Machine Lubrication
	Performance Criteria (PC) w.r.t. the Scope	
	Elements	Performance Criteria
	Checking that the machine is setup correctly & is ready for use	To be competent, you must be able to: <ul style="list-style-type: none"> PC1. check the correct position of thread post and stand. PC2. check if all the screws are fitted correctly. PC3. check the entire bobbin unit. ensure all parts are functioning properly. PC4. check the correct position of the thread guides. PC5. check and ensure that all thread guides are in good condition – no rust/damage PC6. check if the needle is fitted correctly and the needle screw is tightly fixed PC7. check the needle. in case of damage replace the needle and the needle screw. PC8. check the needle system and size <ul style="list-style-type: none"> ➤ check needle system, i.e. right needle for the machine type ➤ check that the size of the needle is right for the thread ➤ check that the needle point is correct for the sewing material PC9. check if presser foot is in the right position <ul style="list-style-type: none"> ➤ loosen the screw of presser roller/foot bar to adjust & then tighten it PC10. check that the needle plate is not damaged. in case of damage, replace the needle plate or polish. PC11. check the timing between the needle and hook, and make adjustments to correct the same if required. PC12. check that the thread take-up spring is not broken, and replace the same if required. PC13. check the tension of the spring. adjust if required. PC14. check the stitch tension, adjust if required. PC15. check the stitch length, adjust the spi as per given specifications. PC16. check the correct position of knee lifter. adjust the knee lever so that it can be conveniently operated with the right knee PC17. check if foot pedal is in the right position. adjust/replace/re-align if required. PC18. check the tension after the technical/maintenance work on the machine is completed and check the test stitches. make further adjustments if required. PC19. minimise and dispose the waste materials in the approved manner PC20. leave work area safe and secure when work is complete
	Cleaning of the	PC21. clean the machine using the right solution

AMH/N 1901 Carryout preventive machine maintenance procedures

<p>machine</p>	<p>PC22. check that the machine should not have rust. PC23. open the tension unit and clean each part. PC24. re-assemble the tension unit again. PC25. loosen the screw, take out the thread plate and clean. put it back again after cleaning. PC26. clean the bobbin case from the inside. PC27. clean the inside part of the hook PC28. clean the machine bed. lift the machine and clean all the parts under the machine. PC29. use the correct tools for cleaning & maintenance work. PC30. carry out cleaning & maintenance of machines as per the work schedule on a regular basis.</p>
<p>Machine Lubrication</p>	<p>PC31. check that the lubrication points are clean. PC32. put few drops in the lubrication points (in case of manual machines) PC33. open the hook set and oil (in case of manual machines) PC34. check the level of oil. PC35. put oil if required or change the oil (depending on the type of machine). PC36. regulate the quantity of oil in the hook</p>
<p>Knowledge and Understanding (K)</p>	
<p>A. Organizational Context (Knowledge of the company/ organization and its processes)</p>	<p>You need to know and understand: KA1. your organization’s policies, procedures, guidelines and standards KA2. safe working practices and organisational procedures KA3. quality systems and other processes practiced in the organization KA4. types of problems with quality and how to report them to appropriate people KA5. methods to present any ideas for improvement to line manager KA6. the importance of complying with written instructions KA7. reporting procedure in case of faults in own/ other processes KA8. who to refer problems to when they are outside the limit of your authority KA9. your organization’s tools, templates and processes for machine maintenance</p>
<p>B. Technical Knowledge</p>	<p>You need to know and understand: KB1. types of industrial sewing machines KB2. identification of right tools for machine maintenance KB3. different parts of sewing machine & their functions KB4. purpose of lubrication, oil used for machines, oil used for thread lubrication KB5. lubrication systems KB6. oil consumption KB7. stitch formation and types KB8. different types of feed mechanism in sewing machines KB9. needle systems KB10. checking the details in the specs sheet and techpack KB11. thread thickness, shade and sizes KB12. types of needles & their suitability</p>

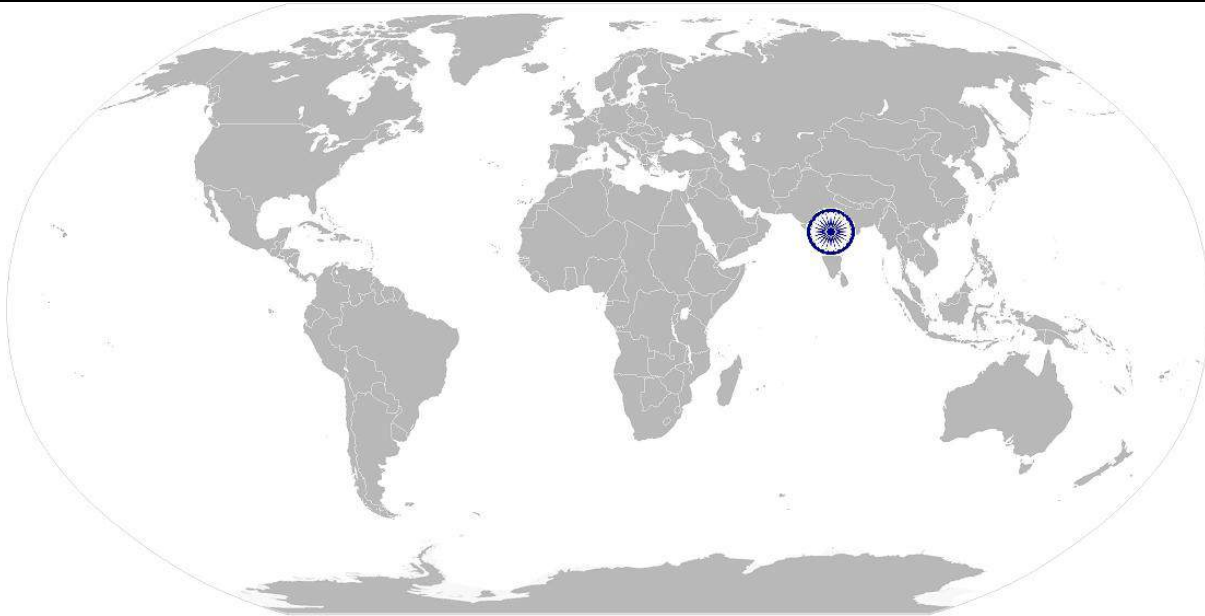
AMH/N 1901 Carryout preventive machine maintenance procedures

Skills (S)	
A. Core Skills/ Generic Skills	Writing Skills
	You need to know and understand how to: SA1. Write in local language SA2. Mark garment specifications SA3. Write the required measurements where applicable
	Reading Skills
	You need to know and understand how to: SA4. Read a techpack/specifications sheet/specs chart SA5. Read and understand the buyer/client's requirements
	Oral Communication (Listening and Speaking skills)
	You need to know and understand how to: SA6. listen effectively and orally communicate information accurately SA7. ask for clarification and advice from others
	B. Professional Skills
You need to know and understand how to: SB1. follow rule-based decision-making processes SB2. make decisions on a suitable course of action or response	
Plan and Organize	
You need to know and understand how to:  SB3. plan and organize your work to achieve targets and deadlines	
Customer Centricity	
NA	
Problem Solving	
You need to know and understand how to: SB4. apply problem-solving approaches in different situations SB5. refer anomalies to the supervisor SB6. seek clarification on problems from others	
Analytical Thinking	
You need to know and understand how to: SB7. analyze data and activities SB8. pass on relevant information to others	
Critical Thinking	
You need to know and understand how to: SB9. provide opinions on work in a detailed and constructive way SB10. apply balance judgments to different situations	

AMH/N 1901 Carryout preventive machine maintenance procedures

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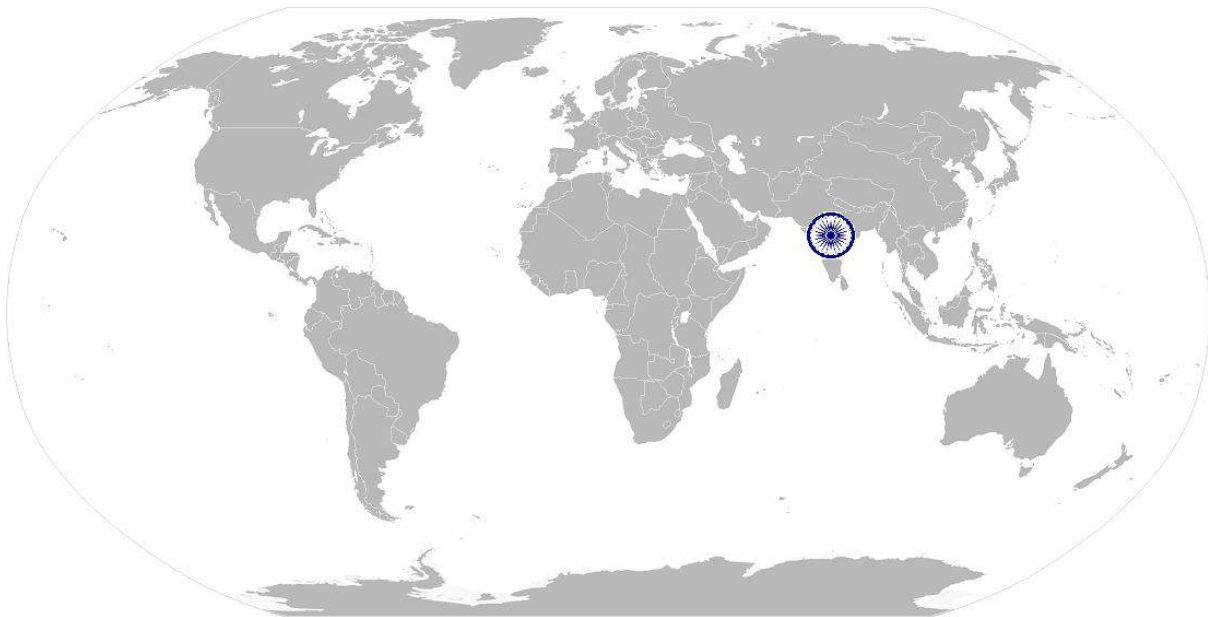
NOS Code	AMH/N 1901		
Credits (NSQF)	TBD	Version number	1.0
Industry	Apparel, Made-Up's and Home Furnishing	Drafted on	05/11/14
Industry Sub-sector	Apparel	Last reviewed on	15/11/14
Occupation	Machine Maintenance	Next review date	30/12/15



AMH/N 1902

Troubleshoot machine related problems

National Occupational Standard



Overview

This unit is about dealing with faults in stitching and troubleshooting machine related problems. identifying the cause of defect/faults in sewing related operations and making adjustments/replacements in the machine to rectify the same.

AMH/N 1902

Troubleshoot machine related problems

National Occupational Standard	Unit Code	AMH/N 1902
	Unit Title (Task)	Troubleshoot machine related problems
	Description	This unit is about dealing with faults in stitching and troubleshooting machine related problems.
	Scope	This unit/task covers the following: <ul style="list-style-type: none"> Identify stitching defects, their cause & method of troubleshooting Resolving machine related issues
	Performance Criteria (PC) w.r.t. the Scope	
	Element	Performance Criteria
	Identifying stitching defects, their cause & method of troubleshooting	<p>To be competent, you must be able to:</p> <p>PC1. identify common machine related issues that affect stitching</p> <p>PC2. identify the cause and method of troubleshooting if machine runs with difficulty</p> <p>PC3. if machine starts with slow running, identify the cause and take appropriate action to rectify the same.</p> <p>PC4. identify the cause and method of troubleshooting for upper thread tearing</p> <p>PC5. identify the cause and method of troubleshooting for lower thread tearing</p> <p>PC6. resolve issues such as skipping of stitches</p> <p>PC7. take appropriate action in case of needle breakage</p> <p>PC8. resolve the issues of difficult and uneven machine feeding</p> <p>PC9. take appropriate action in case of incorrect stitch locking. threads locked on the top side or bottom side of sewn material.</p> <p>PC10. take appropriate action if hook is blocked.</p> <p>PC11. troubleshoot the issue of little reserve of upper thread for which machine does not start sewing, upper thread leaves needle eye at the start of next sewing.</p> <p>PC12. troubleshoot the issue of little reserve of lower thread, when machine does not start sewing</p> <p>PC13. resolve the issue of machine starting to sew only after having skipped some stitches</p> <p>PC14. resolve machine issues such as when starting sewing operation, upper thread end projects above the sewn material</p>
	Resolve machine related issues	<p>PC15. replace machine part in case of damage or as appropriate.</p> <p>PC16. make required adjustments in the machine settings to ensure stitching quality is achieved as per given specifications</p> <p>PC17. analyze the stitching/machine problem, check for solution and take appropriate action</p>
	Knowledge and Understanding (K)	
	A. Organizational Context (Knowledge of the company/)	<p>You need to know and understand:</p> <p>KA10. Details of the job role and responsibilities</p> <p>KA11. Responsibilities and line of reporting within the work area</p> <p>KA12. Protocol to obtain more information on work related tasks</p>

AMH/N 1902

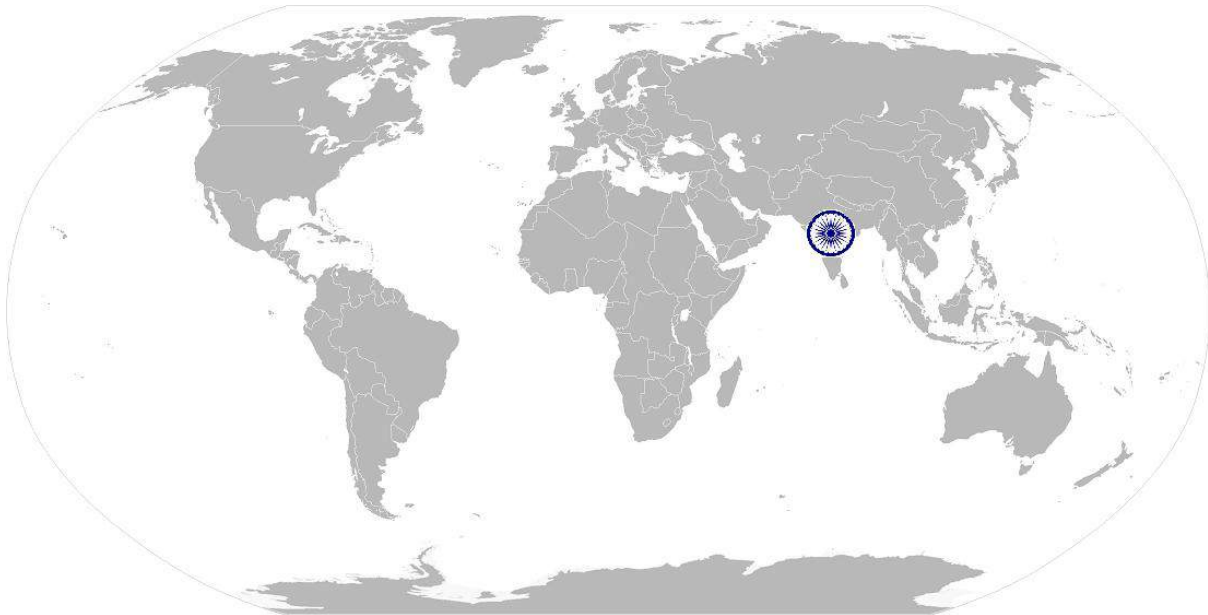
troubleshooting machine related problems

<p>organization and its processes)</p>	<p>KA13. Organizational policies and procedures KA14. who to refer problems to when they are outside the limit of your authority KA15. Common hazards in the work area and procedures for dealing with them KA16. Procedures with regard to material re-usage and disposal KA17. Quality standards and the reporting procedures KA18. Documentation required as part of the process</p>
<p>B. Technical Knowledge</p>	<p>You need to know and understand:</p> <p>KB13. machine specifications KB14. different types of stitching defects & their cause KB15. technical terms associated with sewing machines & apparel industry KB16. quality standards for stitching KB17. different types of machine beds KB18. different types of feed mechanism in sewing machines KB19. types of motors and power consumption KB20. types of belts, machine speed KB21. do's & dont's of sewing KB22. types of maintenance – preventive, breakdown and routine KB23. the operation of a sewing machine</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Writing Skills You need to know and understand how to: SA8. Write in local language SA9. Write the required measurements where applicable</p> <p>Reading Skills You need to know and understand how to: SA10. Read a techpack/specifications sheet/specs chart</p> <p>Oral Communication (Listening and Speaking skills) You need to know and understand how to: SA11. listen effectively and orally communicate information accurately SA12. ask for clarification and advice from others</p>
<p>B. Professional Skills</p>	<p>Decision Making You need to know and understand how to: SB11. follow rule-based decision-making processes SB12. make decisions on a suitable course of action or response</p> <p>Plan and Organize You need to know and understand how to: SB13. plan and organize your work to achieve targets and deadlines</p> <p>Customer Centricity NA</p> <p>Problem Solving You need to know and understand how to: SB14. apply problem-solving approaches in different situations SB15. refer anomalies to the supervisor</p>

AMH/N 1902

Troubleshooting machine related problems

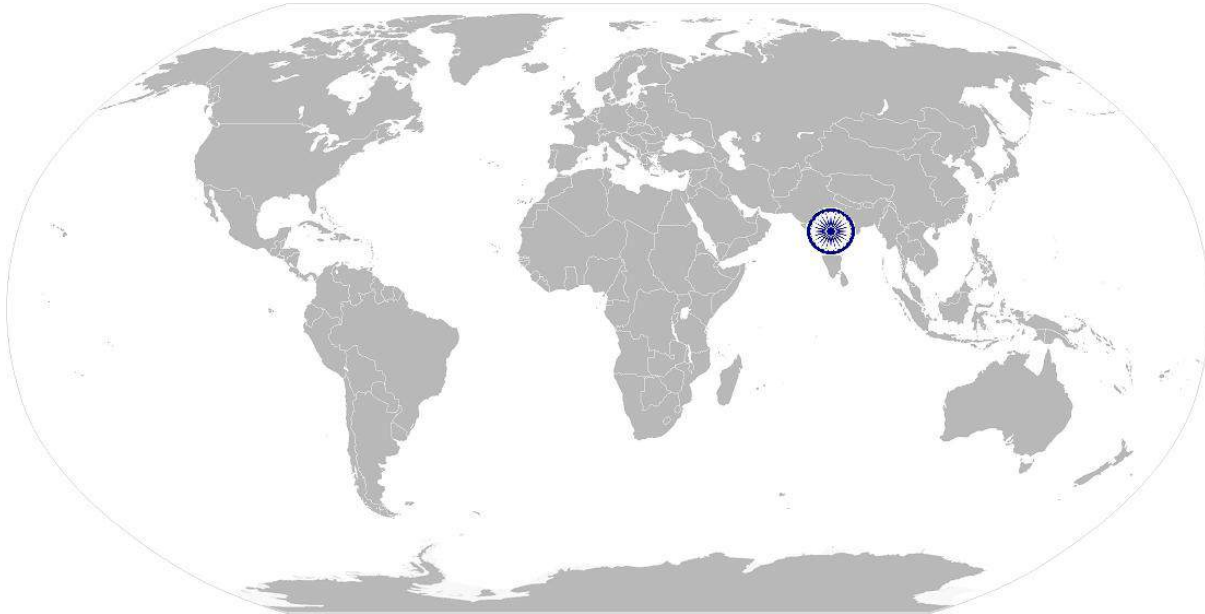
	SB16. seek clarification on problems from others
	Analytical Thinking
	You need to know and understand how to: SB17. analyze data and activities SB18. pass on relevant information to others
	Critical Thinking
	You need to know and understand how to: SB19. provide opinions on work in a detailed and constructive way SB20. apply balance judgments to different situations



AMH/N 1902 Troubleshoot machine related problems

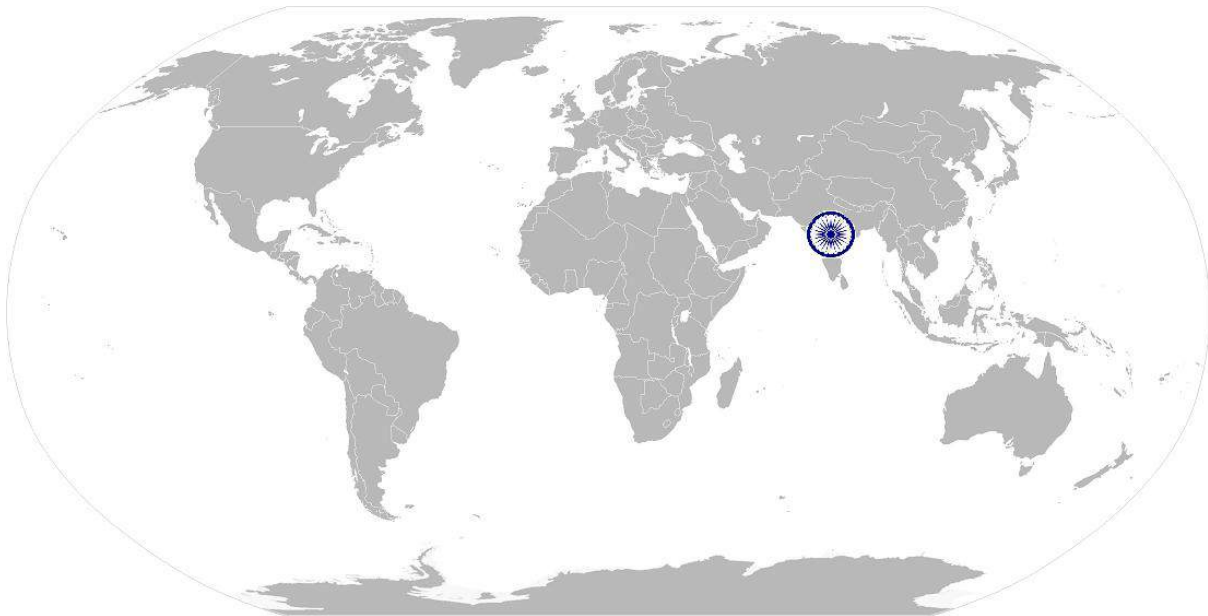
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NOS Code	AMH/N 1902		
Credits (NSQF)	TBD	Version number	1.0
Industry	Apparel, Made-Up's and Home Furnishing	Drafted on	05/11/14
Industry Sub-sector	Apparel	Last reviewed on	15/11/14
Occupation	Machine Maintenance	Next review date	30/12/15



AMH/N0102 Maintainworkarea,toolsandmachines

National Occupational Standard



Overview

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Abilities required to organise/maintain work areas and activities to ensure tools and machines are maintained as per norms

AMH/N0102 Maintain work area, tools and machines

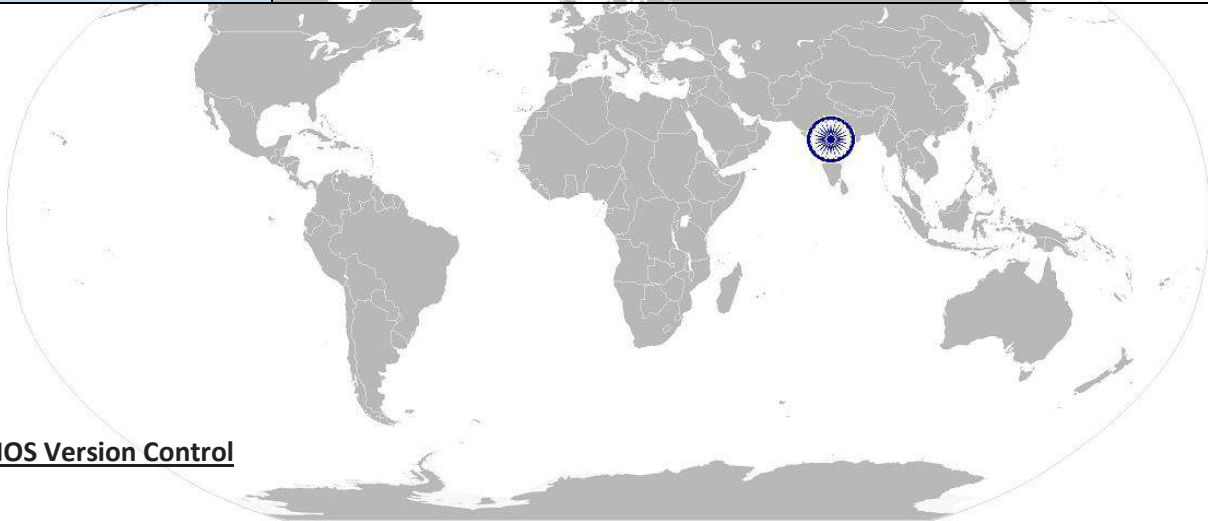
National Occupational Standard	Unit Code	AMH/N0102
	Unit Title (Task)	Maintain work area, tools and machines
	Description	This unit provides Performance Criteria, Knowledge & Understanding and Skills & Abilities required to organise/maintain work areas and activities to ensure tools and machines are maintained as per norms
	Scope	This unit/task covers the following: 1. Maintain the work area, tools and machines
	Performance Criteria (PC) w.r.t. the Scope	
	Elements	Performance Criteria
	Maintain the work area, tools and machines	To be competent, the user/individual on the job must be able to: PC1. handle materials, machinery, equipment and tools safely and correctly PC2. Use correct lifting and handling procedures PC3. Use material to minimize waste PC4. Maintain a clean and hazard-free working area PC5. Maintain tools and equipment PC6. carry out running maintenance within agreed schedules PC7. carry out maintenance and/or cleaning within one's responsibility PC8. report unsafe equipment and other dangerous occurrences PC9. ensure that the correct machine guards are in place PC10. work in a comfortable position with the correct posture PC11. use cleaning equipment and methods appropriate for the work to be carried out PC12. dispose of wastes safely in the designated location PC13. store cleaning equipment safely after use PC14. carry out cleaning according to schedules and limits of responsibility
	Knowledge and Understanding (K) w.r.t. the Scope	
	Elements	Knowledge and Understanding
	A. Organisational Context (Knowledge of the company/organisation and its processes)	The user/individual on the job needs to know and understand: KA1. Personal hygiene and duty of care KA2. Safe working practices and organisational procedures KA3. Limits of your own responsibility KA4. Ways of resolving with problems within the work area KA5. The production process and the specific work activities that relate to the work process KA6. The importance of effective communication with colleagues KA7. The lines of communication, authority and reporting procedures KA8. The organisation's rules, codes and guidelines (including time keeping) KA9. The company's quality standards KA10. The importance of complying with written instructions KA11. Equipment operating procedures/manufacturer's instructions

AMH/N0102 Maintain work area, tools and machines

B. Technical/ Domain Knowledge	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. Work instructions and specifications and interpret them accurately</p> <p>KB2. Method to make use of the information detailed in specifications and instructions</p> <p>KB3. Relation between work role and the overall manufacturing process</p>
	<p>KB4. The importance of taking action when problems are identified</p> <p>KB5. Different ways of minimising waste</p> <p>KB6. The importance of running maintenance and regular cleaning</p> <p>KB7. Effects of contamination on products i.e. Machine oil, dirt</p> <p>KB8. Common faults with equipment and the method to rectify</p> <p>KB9. Maintenance procedures</p> <p>KB10. Hazards likely to be encountered when conducting routine maintenance</p> <p>KB11. Different types of cleaning equipment and substances and their use</p> <p>KB12. Safe working practices for cleaning and the method of carrying them out</p>
Skills (S) w.r. to the Scope	
Elements	Skills
A. Core Skills / Generic Skills	<p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. Document and report any health and safety related incidents/ accidents</p> <p>Reading Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA2. Read and comprehend manuals of operations</p> <p>SA3. Read all organizational and equipment related health and safety manuals and documents</p> <p>SA4. Read instructions, guidelines/procedures/rules related to the worksite and machine operations</p> <p>Oral Communication (Listening and Speaking Skills)</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA5. Give clear instructions to co-workers, subordinates and other personnel</p> <p>SA6. Use correct technical terms while interacting with supervisor</p>
B. Professional Skills	<p>Decision Making</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SB1. Make an appropriate timely decision in responding to emergencies/accidents in line with organization</p> <p>SB2. Evaluate and use correct PPE and other safety gear while at the workplace</p> <p>Plan and Organize</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SB3. Work with supervisors/ team mates to carry out work related tasks</p> <p>SB4. Plan work according to the required schedule</p> <p>SB5. Keep work area free from potential hazards</p> <p>Customer Centricity</p> <p>The user/ individual on the job needs to know and understand how to:</p>

AMH/N0102 Maintain work area, tools and machines

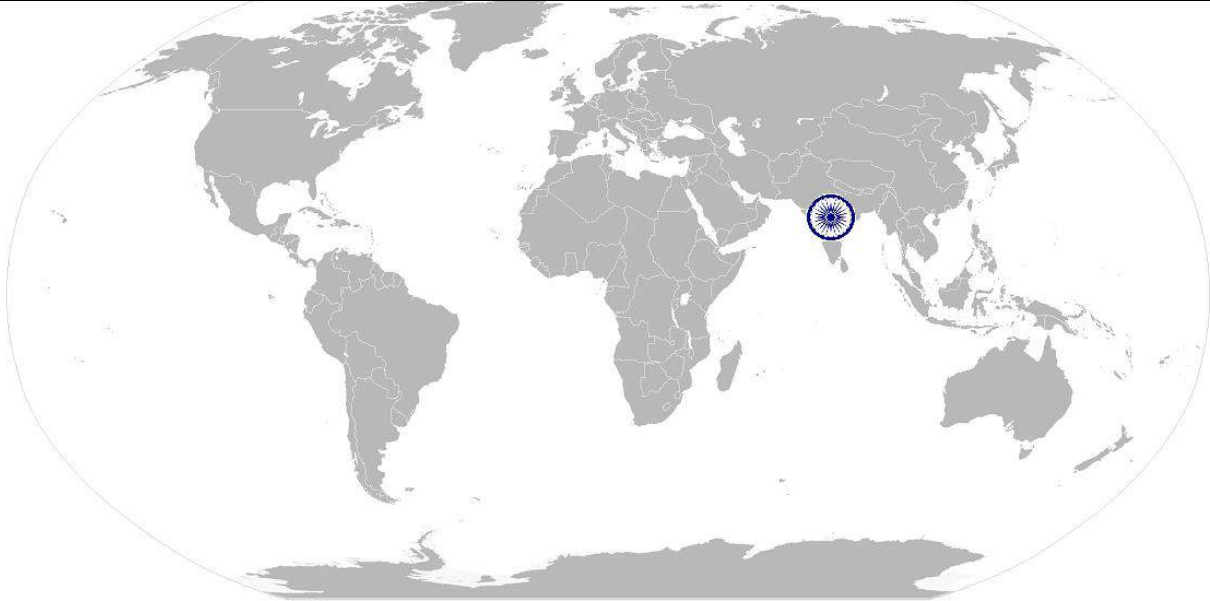
	SB6. Ensure and follow organizational procedures pertaining to health and safety are followed
	Problem Solving
	The user/ individual on the job needs to know and understand how to:
	SB7. Take appropriate actions during emergencies, accidents or fire at the workplace
	SB8. Resolve issues pertaining to malfunctions in machineries and report if required
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to:
SB9. Identify emergency situations	
SB10. Identify cause effect relationship for the emergencies	
Critical Thinking	
The user/ individual on the job needs to know and understand how to:	
SB11. Analyze, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently	



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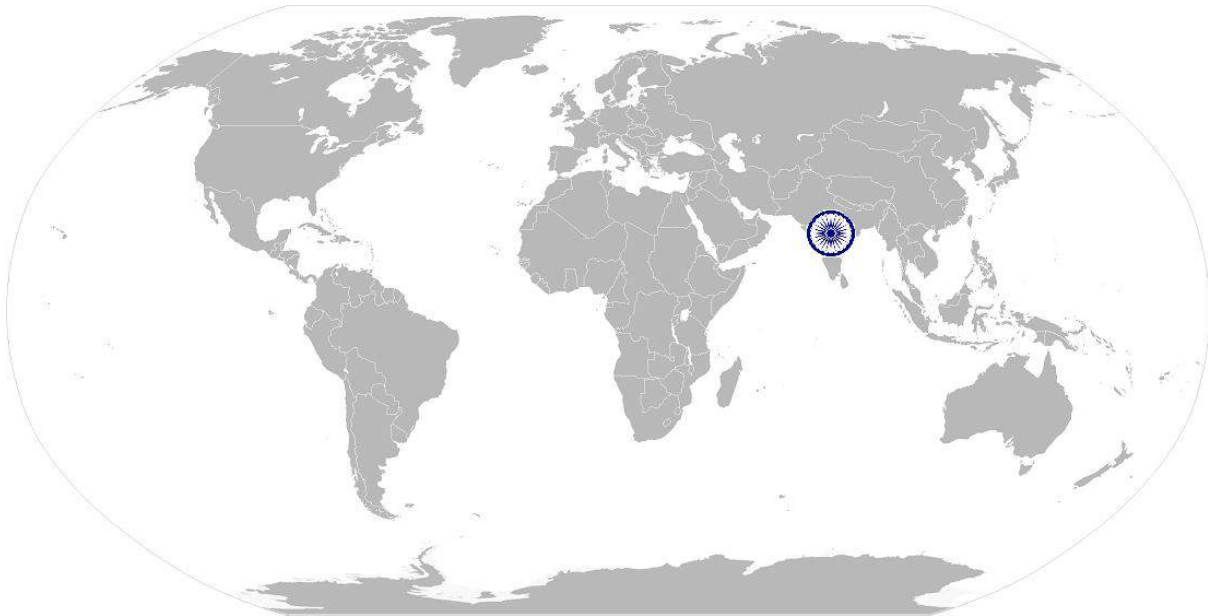
AMH/N0102 Maintainworkarea,toolsandmachines

NOS Code	AMH/N 0102		
Credits (NSQF)	TBD	Version number	1.0
Industry	Apparel, Made-Up's and Home Furnishing	Drafted on	05/11/14
Industry Sub-sector	Apparel	Last reviewed on	15/11/14
Occupation	Machine Maintenance	Next review date	30/12/15



AMH/N0103 Maintain health, safety and security at workplace

National Occupational Standard



Overview

This unit provides Performance Criteria, Knowledge & Understanding and Skills & Abilities required to comply with health, safety and security requirements at the workplace and covers procedures to prevent, control and minimise risk to self and others.

AMH/N0103 Maintain health, safety and security at workplace

National Occupational Standard

Unit Code	AMH/N 0103
Unit Title (Task)	Maintain health, safety and security at workplace
Description	This unit provides Performance Criteria, Knowledge & Understanding and Skills & Abilities required to comply with health, safety and security requirements at the workplace and
Scope	This unit/task covers the following: 1. Comply with health, safety and security requirements at work
Performance Criteria (PC) w.r.t. the Scope	
Elements	Performance Criteria
Comply with health, safety and security requirements at work	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. comply with health and safety related instructions applicable to the workplace</p> <p>PC2. use and maintain personal protective equipment as per protocol</p> <p>PC3. carry out own activities in line with approved guidelines and procedures</p> <p>PC4. maintain a healthy lifestyle and guard against dependency on intoxicants</p> <p>PC5. follow environment management system related procedures</p> <p>PC6. identify and correct (if possible) malfunctions in machinery and equipment</p> <p>PC7. report any service malfunction that cannot be rectified</p> <p>PC8. store materials and equipment in line with manufacturer's and organisational requirements</p> <p>PC9. safely handle and move waste and debris</p> <p>PC10. minimize health and safety risks to self and others due to own actions</p> <p>PC11. seek clarifications, from supervisors or other authorized personnel in case of perceived risks</p> <p>PC12. monitor the workplace and work processes for potential risks and threats</p> <p>PC13. carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned</p> <p>PC14. report hazards and potential risks/ threats to supervisors or other authorized personnel</p> <p>PC15. participate in mock drills/ evacuation procedures organized at the workplace</p> <p>PC16. undertake first aid, fire-fighting and emergency response training, if asked to do so</p> <p>PC17. take action based on instructions in the event of fire, emergencies or accidents</p> <p>PC18. follow organisation procedures for shutdown and evacuation when required</p>
Knowledge and Understanding (K) w.r.t. the Scope	
Elements	Knowledge and Understanding
A. Organisational	The user/individual on the job needs to know and understand:

AMH/N0103 Maintain health, safety and security at workplace

(Knowledge of the company / organisation and its processes)	<p>KA1. Health and safety related practices applicable at the workplace KA2. Potential hazards, risks and threats based on nature of operations KA3. Organizational procedures for safe handling of equipment and machine operations KA4. Potential risks due to own actions and methods to minimize these KA5. Environmental management system related procedures at the workplace KA6. Layout of the plant and details of emergency exits, escape routes, emergency equipment and assembly points KA7. Potential accidents and emergencies and response to these scenarios</p>
B. Technical / Domain Knowledge	<p>The user/individual on the job needs to know and understand: KB1. Occupational health and safety risks and methods KB2. Personal protective equipment and method of use KB3. Identification, handling and storage of hazardous substances KB4. Proper disposal system for waste and by-products KB5. Signage related to health and safety and their meaning KB6. Importance of sound health, hygiene and good habits KB7. Ill-effects of alcohol, tobacco and drugs</p>
Skills (S)w.r.t.theScope	
Elements	Skills
A. Core Skills / Generic Skills	Writing Skills
	<p>The user/ individual on the job needs to know and understand how to: SA7. Document and report any health and safety related incidents/ accidents</p>
	Reading Skills
	<p>The user/ individual on the job needs to know and understand how to: SA8. Read and comprehend manuals of operations SA9. Read all organizational and equipment related health and safety manuals and documents SA10. Read instructions, guidelines/procedures/rules related to the worksite and machine operations</p>
	Oral Communication (Listening and Speaking Skills)
<p>The user/ individual on the job needs to know and understand how to: SA11. Give clear instructions to co-workers, subordinates and other personnel SA12. Use correct technical terms while interacting with supervisor</p>	
B. Professional Skills	Decision Making
	<p>The user/ individual on the job needs to know and understand how to: SB12. Make an appropriate timely decision in responding to emergencies/accidents in line with organization SB13. Evaluate and use correct PPE and other safety gear while at the workplace</p>
	Plan and Organize
	<p>The user/ individual on the job needs to know and understand how to: SB14. Work with supervisors/ team mates to carry out work related tasks SB15. Plan work according to the required schedule SB16. Keep work area free from potential hazards</p>

AMH/N0103 Maintain health, safety and security at workplace

	Customer Centricity
	The user/ individual on the job needs to know and understand how to: SB17. Ensure and follow organizational procedures pertaining to health and safety are followed
	Problem Solving
	The user/ individual on the job needs to know and understand how to: SB18. Take appropriate actions during emergencies, accidents or fire at the workplace SB19. Resolve issues pertaining to malfunctions in machineries and report if required
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to: SB20. Identify emergency situations SB21. Identify cause effect relationship for the emergencies
Critical Thinking	
The user/ individual on the job needs to know and understand how to: SB22. Analyze, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently	

NOS Version Control

NOS Code	AMH/N 0103		
Credits (NSQF)	TBD	Version number	1.0
Industry	Apparel, Made-Up's and Home Furnishing	Drafted on	05/11/14
Industry Sub-sector	Apparel	Last reviewed on	15/11/14
Occupation	Machine Maintenance	Next review date	30/12/15

CRITERIA FOR ASSESSMENT OF TRAINEES

Machine Maintenance Mechanic: Sewing Machine

AMH/Q1901

AMHSSC

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 70% aggregate in QP
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

		Marks Allocation				
		Total Marks	Out of	Theory	Skills Practical	Viva
1. AMH/N 1901 (Carry out preventive machine maintenance procedures)	PC1. Check the correct position of thread post and stand.	110	3	1	1	1
	PC2. Check if all the screws are fitted correctly.		3	1	1	1
	PC3. Check the entire bobbin unit. Ensure all parts are functioning properly.		3	1	1	1
	PC4. Check the correct position of the thread guides.		3	1	1	1
	PC5. Check and ensure that all thread guides are in good condition – no rust/damage		3	1	1	1
	PC6. Check if the needle is fitted correctly and the needle screw is tightly fixed		3	1	1	1
	PC7. Check the needle. In case of damage replace the needle and the needle screw.		3	1	1	1

PC8. Check the needle system and size Ø Check needle system, i.e. right needle for the machine type Ø Check that the size of the needle is right for the thread Ø Check that the needle point is correct for the sewing material		3	1	1	1
PC9. Check if presser foot is in the right position - Loosen the screw of presser roller/foot bar to adjust & then tighten it		3	1	1	1
PC10. Check that the needle plate is not damaged. In case of damage, replace the needle plate or polish.		4	2	1	1
PC11. Check the timing between the needle and hook, and make adjustments to correct the same if required.		3	1	1	1
PC12. Check that the thread take-up spring is not broken, and replace the same if required.		3	1	1	1
PC13. Check the tension of the spring. Adjust if required.		3	1	1	1
PC14. Check the stitch tension, adjust if required.		3	1	1	1
PC15. Check the stitch length, adjust the SPI as per given specifications.		3	1	1	1
PC16. Check the correct position of knee lifter. Adjust the knee lever so that it can be conveniently operated with the right knee		3	1	1	1
PC17. Check if foot pedal is in the right position. Adjust/replace/re-align if required.		3	1	1	1
PC18. Check the tension after the technical/maintenance work on the machine is completed and check the test stitches. Make further adjustments if required.		4	2	1	1
PC19. Minimise and dispose the waste materials in the approved manner		3	1	1	1
PC20. Leave work area safe and secure when work is complete		3	1	1	1
PC21. Clean the machine using the right solution		3	1	1	1

	PC22. Check that the machine should not have rust.		3	1	1	1
	PC23. Open the tension unit and clean each part.		3	1	1	1
	PC24. Re-assemble the tension unit again.		3	1	1	1
	PC25. Loosen the screw, take out the thread plate and clean. Put it back again after cleaning.		3	1	1	1
	PC26. Clean the bobbin case from the inside.		3	1	1	1
	PC27. Clean the inside part of the hook		3	1	1	1
	PC28. Clean the machine bed. Lift the machine and clean all the parts under the machine.		3	1	1	1
	PC29. Use the correct tools for cleaning & maintenance work.		3	1	1	1
	PC30. Carry out cleaning & maintenance of machines as per the work schedule on a regular basis.		3	1	1	1
	PC31. Check that the lubrication points are clean.		3	1	1	1
	PC32. Put few drops in the lubrication points (in case of manual machines)		3	1	1	1
	PC33. Open the hook set and oil (in case of manual machines)		3	1	1	1
	PC34. Check the level of oil.		3	1	1	1
	PC35. Put oil if required or change the oil (depending on the type of machine).		3	1	1	1
	PC36. Regulate the quantity of oil in the hook		3	1	1	1
		Total	110	38	36	36
2. AMH/N 1902 (Troubleshooting machine related problems)	PC1. Identify common machine related issues that affect stitching	90	6	2	2	2
	PC2. Identify the cause and method of troubleshooting if machine runs with difficulty		6	1	2	3
	PC3. If machine starts with slow running, identify the cause and take appropriate action to rectify the same.		6	2	2	2

	PC4. Identify the cause and method of troubleshooting for upper thread tearing		8	4	2	2
	PC5. Identify the cause and method of troubleshooting for Lower thread tearing		8	4	2	2
	PC6. Resolve issues such as skipping of stitches		6	2	2	2
	PC7. Take appropriate action in case of Needle breakage		6	2	2	2
	PC8. Resolve the issues of difficult and uneven machine feeding		4	2	1	1
	PC9. Take appropriate action in case of Incorrect stitch locking. Threads locked on the top side or bottom side of sewn material.		4	2	1	1
	PC10. Take appropriate action if hook is blocked.		4	1	2	1
	PC11. Troubleshoot the issue of little reserve of upper thread for which machine does not start sewing, upper thread leaves needle eye at the start of next sewing.		4	1	2	1
	PC12. Troubleshoot the issue of little reserve of lower thread, when machine does not start sewing		6	2	3	1
	PC13. Resolve the issue of machine starting to sew only after having skipped some stitches		4	1	2	1
	PC14. Resolve machine issues such as when starting sewing operation, upper thread end projects above the sewn material		4	2	1	1
	PC15. Replace machine part in case of damage or as appropriate.		4	2	1	1
	PC16. Make required adjustments in the machine settings to ensure stitching quality is achieved as per given specifications		6	3	2	1
	PC17. Analyze the stitching/machine problem, check for solution and take appropriate action		4	2	1	1
		Total	90	35	30	25
3. AMH/N	PC1. Handle materials, machinery, equipment and tools	100	10	4	2	4

0102 (Maintain work area, tools & machines)	safely and correctly					
	PC2. Use correct lifting and handling procedures		8	4	2	2
	PC3. Use materials to minimize waste		6	2	2	2
	PC4. Maintain a clean and hazard free working area		6	2	2	2
	PC5. Maintain tools and equipment		6	2	2	2
	PC6. Carry out running maintenance within agreed schedules		7	3	2	2
	PC7. Carry out maintenance and/or cleaning within one's responsibility		8	4	2	2
	PC8. Report unsafe equipment and other dangerous occurrences		7	3	2	2
	PC9. Ensure that the correct machine guards are in place		6	2	2	2
	PC10. Work in a comfortable position with the correct posture		6	2	2	2
	PC11. Use cleaning equipment and methods appropriate for the work to be carried out		8	4	2	2
	PC12. Dispose of waste safely in the designated location		8	3	3	2
	PC13. Store cleaning equipment safely after use		6	2	2	2
	PC14. Carry out cleaning according to schedules and limits of responsibility		8	3	3	2
	Total		100	40	30	30
4. AMH/N 0103 (Maintain health, safety and security at workplace)	PC1. Comply with health and safety related instructions applicable to the workplace	100	8	4	1	3
	PC2. Use and maintain personal protective equipment as per protocol		6	2	2	2
	PC3. Carry out own activities in line with approved guidelines and procedures		6	2	2	2
	PC4. Maintain a healthy lifestyle and guard against		6	3	1	2

	dependency on intoxicants					
	PC5.Follow environment management system related procedures		8	4	2	2
	PC6.Identify and correct (if possible) malfunctions in machinery and equipment		6	2	2	2
	PC7.Report any service malfunctions that cannot be rectified		4	2	1	1
	PC8.Store materials and equipment in line with manufacturer's and organisational requirements		6	2	2	2
	PC9.Safely handle and move waste and debris		6	2	2	2
	PC10. Minimize health and safety risks to self and others due to own actions		4	2	1	1
	PC11.Seek clarifications, from supervisors or other authorized personnel in case of perceived risks		6	3	1	2
	PC12.Monitor the workplace and work processes for potential risks and threats		6	2	2	2
	PC13.Carry out periodic walk-through to keep work area free from hazards and obstructions, if assigned		4	1	1	2
	PC14.Report hazards and potential risks/ threats to supervisors or other authorized personnel		6	1	2	3
	PC15.Participate in mock drills/ evacuation procedures organized at the workplace		4	1	2	1
	PC16. Undertake first aid, fire-fighting and emergency response training, if asked to do so		4	1	2	1
	PC17. Take action based on instructions in the event of fire, emergencies or accidents		4	1	2	1
	PC18. Follow organisation procedures for shutdown and evacuation when required		6	2	1	3
		Total	100	37	29	34
	Grand Total		400	150	125	125

*Qualifications For Machine Maintenance
Mechanic: Sewing Machine*