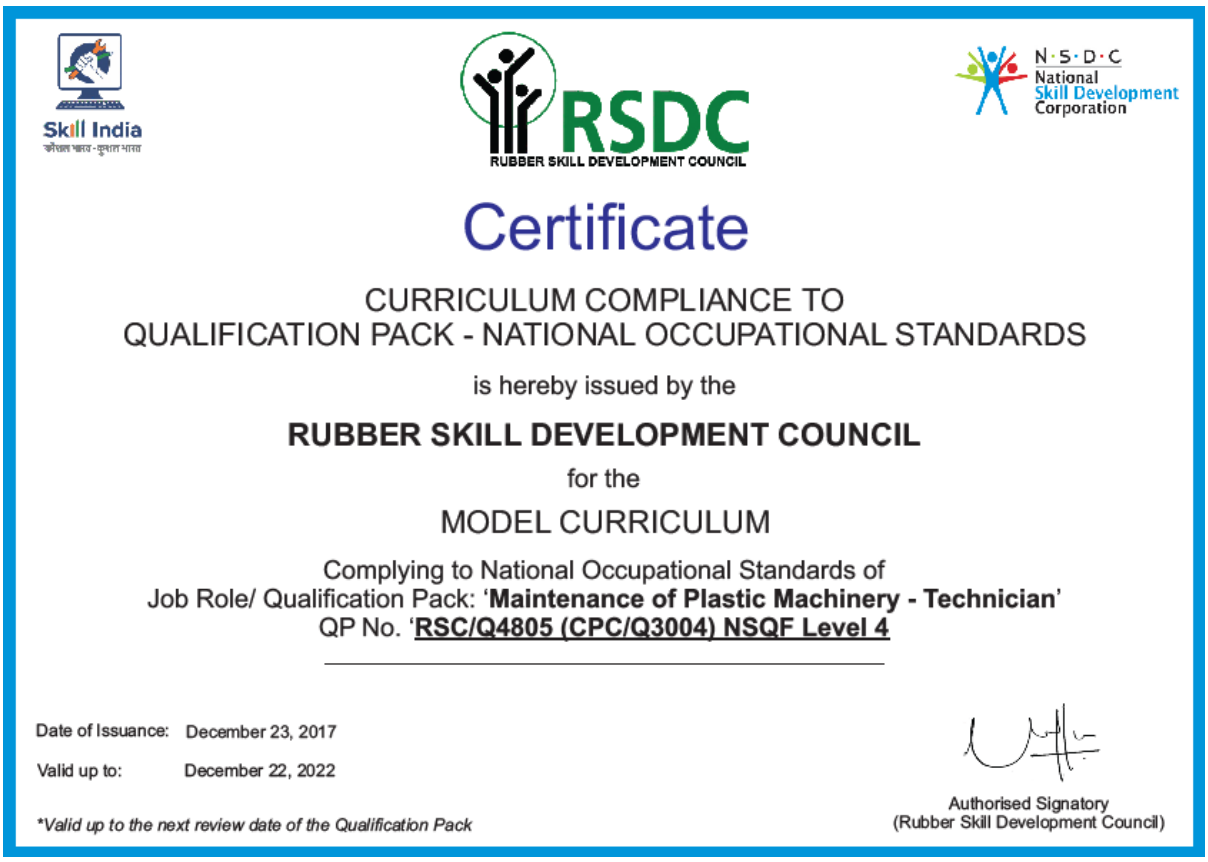
Model Curriculum

Maintenance of Plastic Machinery – Technician

SECTOR: Rubber
SUB-SECTOR: Plastics Processing
OCCUPATION: Maintenance
REF ID: RSC/Q4805 (CPC/Q3004), V1.0
NSQF LEVEL: 4



Certificate

CURRICULUM COMPLIANCE TO
QUALIFICATION PACK - NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

RUBBER SKILL DEVELOPMENT COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: '**Maintenance of Plastic Machinery - Technician**'
QP No. '**RSC/Q4805 (CPC/Q3004) NSQF Level 4**'

Date of Issuance: December 23, 2017

Valid up to: December 22, 2022

**Valid up to the next review date of the Qualification Pack*

Authorised Signatory
(Rubber Skill Development Council)

TABLE OF CONTENTS

1. Curriculum	**01**
2. Trainer Prerequisites	**08**
3. Annexure: Assessment Criteria	**09**

Maintenance of Plastic Machinery – Technician

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Maintenance of Plastic Machinery – Technician", in the "Rubber" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	**Maintenance of Plastic Machinery – Technician**		
Qualification Pack Name & Reference ID	RSC/Q4805 (CPC/Q3004), v1.0		
Version No.	1.0	**Version Update Date**	29/05/2019
Pre-requisites to Training	Xth Standard		
Training Outcomes	**After completing this programme, participants will be able to:** • Comply with the health, safety and security procedures stated by the organisation. • Prepare hand tools and arrange maintenance check lists for planned maintenance. • Perform repairing of mechanical/ hydraulic/ electrical break downs of the machines related to plastics industry. • Perform preventive maintenance and manage spare parts of the machines related to plastics industry. • Perform visual safety inspection of the work area before preventive maintenance.		

This course encompasses 4 out of 4 NOS (National Occupational Standards) of "Maintenance of Plastic Machinery – Technician" Qualification Pack issued by "Rubber Skill Development Council".

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1	**Introduction** **Theory Duration** (hh:mm) 16:00 **Practical Duration** (hh:mm) 32:00 **Corresponding NOS Code** Bridge Module	• Describe the development history of plastic. • Describe current industrial scenario of plastics and prospects. • Identify the types of plastic. • Identify the major industrial associations. • Identify equipment used for maintenance of plastic machinery. • Describe the roles and responsibilities for a "Maintenance of Plastic Machinery – Technician".	White board, marker, duster, Laptop/PC, projector, flipcharts
2	**Health and safety** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 56:00 **Corresponding NOS Code** RSC/N4101 (CPC/N0411)	• Apply safe working practices while dealing with hazards to ensure the safety of self and others. • Use appropriate fires extinguishers on different types of fires. • Demonstrate rescue techniques applied during fire hazard. • Apply good housekeeping in order to prevent fire hazards. • Identify activities which can cause potential injury. • Inform the concerned authorities on the potential risks identified. • Perform the sorting process for the tools, fixtures and jigs. • Perform segregation of waste in hazardous/ non-hazardous waste categories. • Demonstrate the technique of waste disposal and waste storage as per standard operating procedure. • Apply the proper labeling mechanism of instruments/ boxes/ containers.	White board, marker, duster, laptop/PC, projector, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box
3	**Basics of electrical maintenance** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 72:00	• Identify the tools and equipment used for electrical maintenance. • Select appropriate tool and equipment for checking the fault. • Perform the check for an open or short circuit. • Identify the relays used in electric circuits. • Identify the damaged power cord. • Demonstrate the stripping of a wire with the help of wire stripping plier. • Demonstrate tapping of a wire joint with the help of electrical tape.	White board, marker, duster, laptop/PC, projector, flip charts, electricity tester, wire cutter, plier, wire stripping plier, nose plier, screw driver, multi-meter, electrical tape, rubber gloves, Safety shoes, fire extinguisher, first

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code RSC/N4814 (CPC/N3020)	• Perform the crimping of a wire. • Perform soldering operation independently. • Demonstrate the continuity test. • Determine the difference with single phase wiring and three phase wiring. • Perform testing of electric distribution panel.	aid box
3	**Basics of hydraulics** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 72:00 **Corresponding NOS Code** RSC/N4814 (CPC/N3020)	• Describe the basics of hydraulics • Explain the construction and working of different types of hydraulic pumps. • Describe the function of a valve. • Perform the oil level and quality check in the reservoir. • Demonstrate the process of checking oil flow to/from the pump. • Assess the complete hydraulic system for any leak, bend or pinching of oil flow line. • Demonstrate the replacement of pump, valve, actuator, filter, cylinder and hydraulic fluid. • Perform the check for weak hydraulics	White board, marker, duster, laptop/PC, projector, flip charts, hydraulic pump, reservoir, actuator, cylinder, valves, hydraulic fluid, safety gloves, fire extinguisher, apron, helmet, first aid box
3	**Preparation for maintenance** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 64:00 **Corresponding NOS Code** RSC/N4814 (CPC/N3020)	• Perform inspection of maintenance tools and equipment. • Clean of maintenance tools and equipment. • Perform functionality check of maintenance tools and equipment. • Determine the calibration status of maintenance tools and equipment. • Determine the tools and equipment requirement for carrying out maintenance of reported break down. • Perform availability check of the machine spares in the maintenance stores. • Identify and arrange the necessary Personal Protective Equipment (PPE). • Analyze the daily maintenance checklist for the machine. • Determine if there is any machine breakdown reported. • Identify the safety signs, factory signs and other safety and emergency signals used in an organisation. • Interpret the hazard labels used in the machinery.	White board, marker, duster, laptop/PC, projector, hammer, screw driver set, allen key hexagonal, hacksaw, adjustable, spanner set double side, calculator, pliers, cutters, striking tools, and knives, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box, cleaning equipment

Sr. No.	Module	Key Learning Outcomes	Equipment Required
6	**Diagnose the Break down** **Theory Duration** (hh:mm) 32:00 **Practical Duration** (hh:mm) 64:00 **Corresponding NOS Code** RSC/N4815 (CPC/N3021)	• Perform the process of collecting machine break down slip. • Analyze maintenance history for same breakdown in the reported machine. • Identify and arrange the maintenance manuals of the required machine or equipment. • Examine the machinery to determine the source of the problem • Determine the source of problem by analyzing the symptoms. • Interpret any abnormality in machine vibration or noise. • Analyze the machine parts or circuit related to the reported problem. • Interpret the machine electrical drawing. • Create the maintenance sequence. • Determine if the part could be repaired or replacement. • Determine if the problem could be resolved using existing skills or if it requires the attention of a specialized technician. • Escalation to the supervisor if problem is beyond technician's scope.	White board, marker, duster, laptop/PC, projector, multi-meter, clamp meter, hammer, screw driver set, allen key hexagonal, hacksaw, adjustable, spanner set double side, calculator, pliers, cutters, striking tools, air blow gun, injection moulding machine, blow moulding machine, plastic extrusion machine, cleaning equipment, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box
7	**Carry out the Maintenance** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 72:00 **Corresponding NOS Code** RSC/N4815 (CPC/N3021)	• Perform the LOTO (Lock out- Tag out) before starting machine maintenance. • Select appropriate tools for the machine repairing. • Perform the process of arranging required spares from the stores. • Determine the time to be taken for machine repairing and inform to the user department. • Perform the process of making minor adjustments in parameters to resolve the reported issue. • Carry out electrical repair, independently and safely using appropriate tools and equipment. • Carry out mechanical repair, independently and safely using appropriate tools and equipment. • Carry out hydraulic repair, independently and safely using appropriate tools and equipment. • Obtain the required parts from the store (if available) or inform purchase person to place order. • Receive required parts and change the parts as per manufacturer's guidelines	White board, marker, duster, laptop/PC, projector, multi-meter, clamp meter, hammer, screw driver set, allen key hexagonal, hacksaw, adjustable, spanner set double side, calculator, pliers, cutters, striking tools, air blow gun, injection moulding machine, blow moulding machine, plastic extrusion machine, cleaning equipment, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		• Check fluid levels of oil tanks for hydraulic system & gear boxes and top up any fluids as required • Apply grease and lubricants where required • Complete and check off all the line items in the breakdown maintenance Checklist • Escalate to the supervisor if problem is beyond your scope.	
8	**Post Break down activities** **Theory Duration** (hh:mm) 32:00 **Practical Duration** (hh:mm) 64:00 **Corresponding NOS Code** RSC/N4815 (CPC/N3021)	• Test the machinery to ensure that it is fully functional and safe for use. • Explain the maintenance issue identified and repaired to the user department. • Convey special instructions for machine use to user department, if any. • Clean the tools and equipment and store them back to their place. • Fill in the machine history card with complete details of the maintenance carried out resolve the identified issue. • Calculate MTTR (Mean time to repair). • Calculate MTBF (Mean time between failure). • Create Maintenance MIS (Management Information System) report.	White board, marker, duster, laptop/PC, projector, multi-meter, clamp meter, hammer, screw driver set, allen key hexagonal, hacksaw, adjustable, spanner set double side, calculator, pliers, cutters, striking tools, air blow gun, injection moulding machine, blow moulding machine, plastic extrusion machine, cleaning equipment, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box
9	**Preventive Maintenance of plastic processing machines** **Theory Duration** (hh:mm) 32:00 **Practical Duration** (hh:mm) 64:00 **Corresponding NOS Code** RSC/N4816 (CPC/N3022)	• Determine the preventive maintenance frequency of the machine used in the organisation from preventive maintenance plan. • Interpret preventive maintenance check list. • Assess machine history card for any repeated issue after last preventive maintenance. • Perform preventive maintenance of hydraulic system of the machine. • Perform preventive maintenance of mechanical system of the machine. • Demonstrate the oil level and quality check. • Perform the oil change or oil top as per manufacturer's instruction. • Demonstrate the filter cleaning.	White board, marker, duster, laptop/PC, projector, multi-meter, clamp meter, hammer, screw driver set, allen key hexagonal, hacksaw, adjustable, spanner set double side, calculator, pliers, cutters, striking tools, air blow gun, injection moulding machine, blow moulding machine,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		• Perform checks of wire connector joints. • Demonstrate cleaning of the motors. • Perform functionality check of moving parts of machine and carry out necessary repair. • Identify abnormal sound/ noise during operating cycle of the machine to determine any undetected issue in the machine.	plastic extrusion machine, cleaning equipment, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box
10	**Preventive maintenance of ancillary equipment** **Theory Duration** (hh:mm) 32:00 **Practical Duration** (hh:mm) 64:00 **Corresponding NOS Code** RSC/N4816 (CPC/N3022)	• Perform preventive maintenance of cooling tower, independently and safely • Perform preventive maintenance of air compressor, independently and safely • Perform preventive maintenance of chiller, independently and safely. • Perform preventive maintenance of automatic hopper loader, independently and safely. • Perform preventive maintenance of hot air oven, independently and safely. • Perform preventive maintenance of dehumidifier, independently and safely. • Perform preventive maintenance of Diesel generator set, independently and safely • Perform preventive maintenance of De-humidifier/ plastic dryer, independently and safely • Perform preventive maintenance of granulator, independently and safely. • Perform preventive maintenance of water pumps, independently and safely. • Perform preventive maintenance of material handling equipment, independently and safely. • Identify the worn-out parts and replace them. • Perform the inspection of the safety stop motions. • Analyze the reasons for breakdowns and take precautionary measures during preventive maintenance.	White board, marker, duster, laptop/PC, projector, multi-meter, clamp meter, hammer, screw driver set, allen key hexagonal, hacksaw, adjustable, spanner set double side, calculator, pliers, cutters, striking tools, air blow gun, crane, cooling tower, air compressor, chiller, automatic hopper loader, hot air oven, dehumidifier, Diesel generator set, De-humidifier/ plastic dryer, granulator, water pump, material handling equipment, cleaning equipment, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box
11	**Spare parts management** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 48:00	• Perform verification of the stock of machine spares. • Carry out requisition for spare parts procurement. • Create list of critical spare parts and maintain stock as per recommended quantity. • Calculate minimum and maximum stock of the machine spares based on the previous consumption and future machine usage.	White board, marker, duster, laptop/PC, projector, flip charts

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code RSC/N4816 (CPC/N3022)	• Perform ABC analysis of spares for controlling the inventory carrying cost. • Maintain perpetual inventory for accuracy in stock. • Demonstrate MSDC (Material Safety Data Sheet) for the oil used in the machines.	
	Total Duration: **Theory Duration 288:00** **Practical Duration 672:00**	**Unique Equipment Required:** White board, marker, duster, laptop/PC, projector, multi-meter, clamp meter, hammer, screw driver set, allen key hexagonal, hacksaw, adjustable, spanner set double side, calculator, pliers, cutters, striking tools, air blow gun, injection moulding machine, blow moulding machine, plastic extrusion machine, cooling tower, air compressor, chiller, automatic hopper loader, hot air oven, dehumidifier, Diesel generator set, De-humidifier/ plastic dryer, granulator, water pump, material handling equipment, cleaning equipment, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box	

Grand Total Course Duration: 960 Hours, 0 Minutes.

*(This syllabus/ curriculum has been approved by **Rubber Skill Development Council)***

Trainer Prerequisites for Job role: "Maintenance of Plastic Machinery - Technician" mapped to Qualification Pack: "RSC/Q4805 (CPC/Q3004), v1.0"

Sr. No.	Area	Details
1	**Description**	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "RSC/Q4805 (CPC/Q3004) Version 1.0".
2	**Personal Attributes**	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well- organized and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	**Minimum Educational Qualifications**	Any Graduate preferably in plastic technology.
4a	**Domain Certification**	Certified for Job Role: "Maintenance of Plastic Machinery - Technician" mapped to QP: "RSC/Q4805 (CPC/Q3004)". Minimum accepted score as per SSC guidelines is 80%.
4b	**Platform Certification**	Recommended that the trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/ Q2601". Minimum accepted score as per SSC guidelines is 80%.
5	**Experience**	5+ years of relevant work-experience, above supervisor level.

Annexure: Assessment Criteria

Assessment Criteria	
Job Role:	**Maintenance of Plastic Machinery – Technician**
Qualification Pack Code:	**RSC/Q4805 (CPC/Q3004)**
Sector Skill Council:	**Rubber Skill Development Council**

S. No.	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 criterion.
5	To pass the Qualification Pack, every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.
6	In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
(RSC/N4101 (CPC/N0411) Maintain basic health and safety practices at the workplace, 5S	PC1. Wear protective clothing / equipment for specific tasks and work conditions.	40	2.5	0.5	2
	PC2. Carry out safe working practices while dealing with hazards to ensure the safety of self and others.		2.5	0.5	2
	PC3. Keep good housekeeping practices at all times.		2.5	0.5	2
	PC4. Use the various appropriate fire extinguishers on different types of fires correctly.		2.5	0.5	2
	PC5. Demonstrate rescue techniques applied during fire hazard, demonstrate good housekeeping in order to prevent fire hazards, demonstrate the correct use of a fire extinguisher.		2.5	0.5	2
	PC6. Identify activities which can cause potential injury through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise, and Identify areas in the plant which are potentially hazardous / unhygienic in nature. Conduct regular checks with support of the maintenance team on machine health to identify potential hazards due to wear and tear of machine.		2.5	0.5	2
	PC7. Inform the concerned authorities on the potential risks identified in the processes, workplace area/ layout, materials used etc., Inform the concerned authorities about machine breakdowns, damages which can potentially harm man / machine during operations.		2.5	0.5	2
	PC8. Create awareness amongst other by sharing information on the identified risks.		2.5	0.5	2
	PC9. Follow the sorting process and check that the tools, fixtures and jigs that are lying on workstations are the ones in use and un- necessary items are not cluttering the work benches or work surfaces.		2.5	0.5	2
	PC10.Ensure segregation of waste in hazardous/ non-hazardous waste as per the sorting work instructions.		2.5	0.5	2
	PC11.Follow the technique of waste disposal and waste storage in the proper bins as per SOP.		1.5	0.5	1
	PC12.Segregate the items which are labelled as red tag items for the process area and keep them in the correct places.		1.5	0.5	1
	PC13.Sort the tools / equipment / fasteners/ spare parts as per specifications / utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines / work instructions.		1.5	0.5	1
	PC14.Ensure that areas of material storage areas are not overflowing.		1.5	0.5	1

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC15. Properly stack the various types of boxes and containers as per the size / utility to avoid any fall of items / breakage and also enable easy sorting when required.				
	PC16. Return the extra material and tools to the designated sections and make sure that no additional material / tool is lying near the work area.		1.5	0.5	1
	PC17. Follow the floor markings/ area markings used for demarcating the various sections in the plant as per the prescribed instructions and standards.		1.5	0.5	1
	PC18. Follow the proper labelling mechanism of instruments / boxes / containers and maintaining reference files / documents with the codes and the lists.		1.5	0.5	1
	PC19. Check that the items in the respective areas have been identified as broken or damaged.		1.5	0.5	1
	PC20. Follow the given instructions and check for levelling of fluids, oils, lubricants, solvents, chemicals etc. and proper storage of the same to avoid spillage, leakage, fire etc.		1.5	0.5	1
	PC21. Make sure that all material and tools are stored in the designated places and in the manner indicated in the 5S instructions.		1.5	0.5	1
	Total		**40**	**10**	**30**
RSC/N4814 (CPC/N3020) Familiarize with using of hand tools, prepare for maintenance	PC1. Collect the daily maintenance checklist from the supervisor.	**154**	15.4	2.4	13
	PC2. Find out from the supervisor if there is any breakdown or problems in any of the Equipment and collect the special maintenance checklist.		15.4	2.4	13
	PC3. In case of special maintenance, understand which particular machine(s) are to be checked and where they are located.		15.4	2.4	13
	PC4. Understand which the critical equipment is and attend to it first so as to minimize losses to the company.		15.4	2.4	13
	PC5. Find and read up on maintenance history from previous reports of the specific equipment if required.		15.4	2.4	13
	PC6. Plan the sequence in which the maintenance would be carried out so as to optimize time and travel distance.		15.4	2.4	13
	PC7.Collect and wear all the necessary Personal Protective Equipment (PPE).		15.4	2.4	13
	PC8. Assess the tooling requirement and collect the necessary tools from the tool crib/storage racks.		15.4	2.4	13

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC9. Collect any grease, lubricants, fluids or replacement parts that would be used from the store area.		15.4	2.4	13
	PC10. Fill out any forms required by the store after receiving the supplies.		15.4	2.4	13
	Total		**154**	**24**	**130**
RSC/N4815 (CPC/N 3021) Carrying out repair, troubleshooting of mechanical/ hydraulic /electrical break downs and study of different hydraulic & electrical circuits related to plastics industry	PC1. Observe the overall functioning of the machinery to identify problems if any.	**168**	7	2	5
	PC2. Make any minor adjustments in settings or parameters if required to ensure smooth functioning.		7	2	5
	PC3. In case of a machine overhaul, plan well in advance and perform it during holidays or non- peak hours.		7	2	5
	PC4. Check for visual damage, oil leakage etc.		7	2	5
	PC5. Check oil levels of tanks and top up any fluids as required for hydraulic systems and gear boxes.		7	2	5
	PC6. Apply grease and lubricants where required.		7	2	5
	PC7. Replace any parts that have worn out at the times specified by the manufacturer.		7	2	5
	PC8. Complete and check off all the line items in the preventive maintenance checklist.		7	2	5
	PC9. Test the MACHINERY to ensure that it is fully functional and safe for use.		7	2	5
	PC10. Assess the MACHINERY and escalate to supervisor if there is a likelihood of future problems or replacement is required.		7	2	5
	PC11.Conduct regular awareness on safety devices functions in to all operators.		7	5	2
	PC12. Regularly maintain check batteries and ensure they are fully charged for CNC controls.		7	2	5
	PC13. Prepare health card for every machinery.		7	2	5
	PC14. Examine the MACHINERY to determine the source of the problem.		7	2	5
	PC15. Determine if the problem could be resolved using existing skills or if it requires the attention of a specialized technician from the manufacturing company.		7	2	5
	PC16. If the problem could be resolved, determine whether the part could be repaired or if replacement is necessary.		7	2	5
	PC17. If the part could be repaired, carry out repairs using available machine shop equipment.		7	2	5

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC18. If part cannot be repaired or if replacement is required, obtain the required parts from the store (if available) or inform inventory clerk to place orders.		7	2	5
	PC19. Receive required parts and change the parts as per manufacturer's guidelines.		7	2	5
	PC20.Check fluid levels of oil tanks for hydraulic system and gear boxes and top up any fluids as required.		7	2	5
	PC21. Apply grease and lubricants where required.		7	2	5
	PC22. Complete and check off all the line items in the breakdown maintenance checklist.		7	2	5
	PC23. Test the machinery to ensure that it is fully functional and safe for use.		7	2	5
	PC24. Escalate to supervisor in case of delays or if a specialized technician from the manufacturing company is required to solve the problem.		7	2	5
	Total		**168**	**48**	**120**
RSC/N4816 (CPC/N3022) prepare and perform preventive maintenance documentation & spare parts management	PC1.Check the proper functioning of machines and the ancillaries.	**238**	7	2	5
	PC2. Check the conditions of machine parts while they are being cleaned/scoured or overhauled.		7	2	5
	PC3. Ensure the use of safety gadgets like caps, masks, gloves and shoes by all maintenance workers.		7	2	5
	PC4. Dispose any damaged/worn out components and used up fluids appropriately as per company policy.		7	2	5
	PC5. Return any unused fluids or components back to the store.		7	2	5
	PC6. Carry out a basic visual safety inspection of the work area where maintenance activities were carried out.		7	2	5
	PC7. Remove any sharp objects and clean up any spills in the work area.		7	2	5
	PC8.Return any tools used to the tool crib/storage racks.		7	2	5
	PC9. Return any PPE used to their respective storage racks.		7	2	5
	PC10. Change the settings of the machines on need basis.		7	2	5
	PC11. Identify the worn-out parts and getting the worn-out parts replaced.		7	2	5
	PC12. Verify the safety stop motions and getting them attended.		7	2	5
	PC13. Monitor the stoppages due to breakdowns and analysing the reasons for breakdowns and taking precautionary measures.		7	2	5
	PC14. Conduct the tool audits i.e. the tools used for maintenance like spanners, top arm gauge, lubricating and flushing pumps, buffing machines, mounting machines, etc.		7	2	5

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC15. Monitor the cot mounting and buffing activities.		7	2	5
	PC16. Oil and grease the different machine parts at scheduled interval for smooth functioning of machines.		7	2	5
	PC17. Scheduling the oiling and greasing activities.		7	2	5
	PC18. Ensure correct oil and grease are taken.		7	2	5
	PC19. Ensure proper functioning of machines in preparatory department.		7	2	5
	PC20. Escalate to supervisor if parts have not been received or any other reasons which would increase the downtime.		7	2	5
	PC21. Notify supervisor regarding any concerns faced during the day.		7	2	5
	PC22. Provide daily report to manager regarding condition of equipment, damage if any, etc.		7	2	5
	PC23. Complete any forms as required by the store and by management.		7	2	5
	PC24. Log any and suggested replacement dates.		7	2	5
	PC25. Carryout maintenance auditing.		7	2	5
	PC26. Record the activities in the logbook (report book) and updating the machine maintenance history book		7	2	5
	PC27.Verify the stock of various spares maintenance activity undertaken.		7	2	5
	PC28. Update machinery condition in the appropriate history record card/register and the next review dates in the maintenance schedules.		7	2	5
	PC29. Prepare a detailed report explaining the cause for the problem, solution, expected lifespan, accessories and lubricants and working out the indenting plan and placing indents.		7	2	5
	PC30.Refer the machinery catalogues and identifying the correct spares needed.		7	2	5
	PC31. Check the quality of materials received at stores, for e.g. bearings, wheels, arbours, machine spares, belts, brushes, spanners and Other tools, etc.		7	2	5
	PC32. Carryout maintenance machine audit.		7	2	5
	PC33. Maintain records of maintenance.		7	2	5
	PC34. Ensure availability of spares and giving requisitions on need basis.		7	2	5
	Total		**238**	**68**	**170**

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	Grand Total	**600**	**600**	**150**	**450**
	Percentage Weightage:			**60%**	**40%**
	Minimum Pass% to qualify (aggregate):			**70%**	