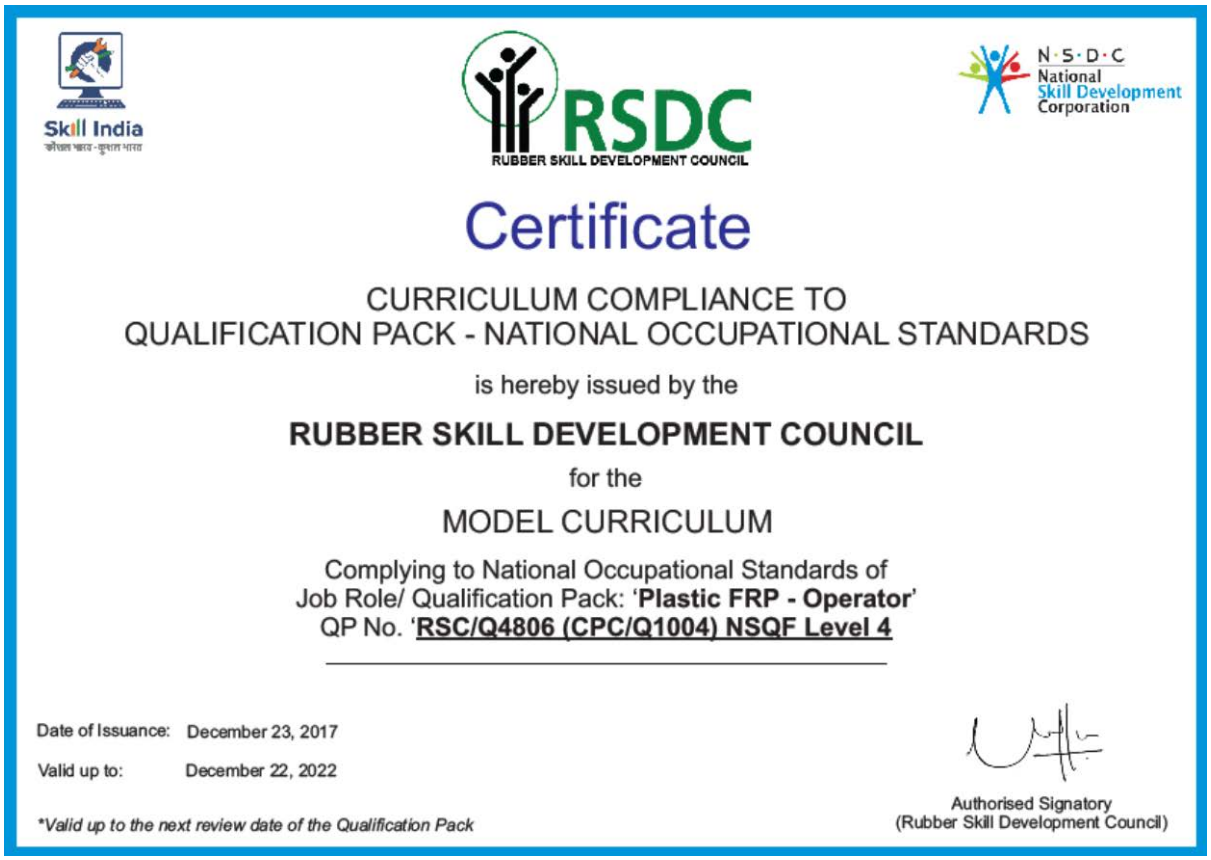
Model Curriculum

Plastic FRP - Operator

SECTOR: Rubber Industry
SUB-SECTOR: Plastics Processing
OCCUPATION: Fibre Reinforced Plastics
REF ID: RSC/Q4806 (CPC/Q1004), V1.0
NSQF LEVEL: 4



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RSDC
RUBBER SKILL DEVELOPMENT COUNCIL

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Skill Development
Corporation

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: '**Plastic FRP - Operator**'
QP No. '**RSC/Q4806 (CPC/Q1004) 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)

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Plastic FRP - Operator

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Plastic FRP - Operator", in the "Rubber" Sector/Industry and aims at building the following key competencies amongst the learner.

Program Name	**Plastic FRP - Operator**		
Qualification Pack Name & Reference ID	RSC/Q4806 (CPC/Q1004), v1.0		
Version No.	1.0	**Version Update Date**	02/05/2019
Pre-requisites to Training	VIIIth Standard		
Training Outcomes	**After completing this programme, participants will be able to:** • Describe the application of FRP products, illustrating the merits and demerits in the design and applying it to the development of new FRP products. • Identify different types of raw materials, resins, fibres (thermoplastic and thermoset materials), used in the FRP manufacturing industry. • Describe various manufacturing process for FRP products, mould development and selection of suitable process for the product in hand. • Operate efficiently the manufacturing equipment's available in the FRP industry. • Perform various post-moulding operation such as painting, printing, decoration, cleaning to remove the releasing agents, assembly and disassembly and improving the aesthetic looks of the finished product. • Apply the quality control techniques for defect free manufacturing. • Comply with the health, safety and security procedures stated by the organisation. • Apply housekeeping techniques to keep work area clean. • Perform daily tasks related to his/ her job effectively		

This course encompasses 10 out of 10 NOS (National Occupational Standards) of "Plastic FRP - Operator" 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) 8:00 **Corresponding NOS Code** Bridge Module	• Explain development history of plastic. • Describe current industrial scenario of plastics and prospects. • Identify types of plastic. • List major industrial associations. • Describe roles and responsibilities for a Plastic FRP - Operator.	White board, marker, duster, laptop/PC, projector, flipcharts, samples – FRP products
2	**Applications of FRP products** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 48:00 **Corresponding NOS Code** RSC/N4817 (CPC/N1019)	• Describe the merits and demerits of FRP products. • Describe the various industrial applications of FRP products. • Describe the properties of different FRP raw materials. • List the types of mould used for FRP product manufacturing. • Explain the working procedure of machinery used for FRP product manufacturing. • Select the suitable material for FRP manufacturing. • Identify the FRP mould as per the product specifications. • Determine the type of machinery and process required for manufacturing the FRP product. • Develop the designing criteria for the FRP products.	White board, marker, duster, laptop/PC, projector, steel ruler, micrometer, vernier caliper, radius gauge, feeler gage, Steel measuring tape, weighing balance, hammer, screw driver set with multiple heads, allen key hexagonal , file triangular, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box

Sr. No.	Module	Key Learning Outcomes	Equipment Required
3	**Basics of raw material used in FRP moulding** **Theory Duration** (hh:mm) 32:00 **Practical Duration** (hh:mm) 64:00 **Corresponding NOS Code** RSC/N4818 (CPC/N1020)	• Describe the properties of thermo-plastics and thermoset material. • Describe the properties of different types of additives like catalyst, accelerators, hardeners, colorants, etc. • Demonstrate the application of various additives like catalyst, accelerators, hardeners, colorants, etc. • Use various resins and fibers in FRP manufacturing. • Perform the process of the fibre laying. • Demonstrate the process of percentage loading of fibres. • Perform the process of preparing resins and fibres. • Demonstrate the handling of resins and fibres.	White board, marker, duster, laptop/PC, projector, steel ruler, micrometer, vernier caliper, radius gauge, feeler gage, steel measuring tape, weighing balance, hammer, screw driver set with multiple heads, Allen key hexagonal , file triangular, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid Box
4	**Preparation for FRP production** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 64:00 **Corresponding NOS Code** RSC/N4819 (CPC/N1021)	• Demonstrate hand layup process. • Demonstrate spray layup process. • Perform the injection molding of thermosets. • Perform the Pultrusion process. • Demonstrate centrifugal casting filament winding. • Perform resin transfer molding process. • Perform reinforced reaction injection molding process. • Perform compression molding process. • Describe the capacity and range of operation of the machine. • Demonstrate the functioning of various parts of the machine. • Select the suitable process parameters FRP manufacturing. • Perform the set up process of the machine parameters.	White board, marker, duster, laptop/PC, projector, steel ruler, micrometer, vernier caliper, radius gauge, feeler gage, Steel measuring tape, weighing balance, hammer, screw driver set with multiple heads, Allen key hexagonal , file triangular, hacksaw, adjustable, spanner set double side, adjustable spanner, hand

Sr. No.	Module	Key Learning Outcomes	Equipment Required
			layup mould, FRP mould, compression mould, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box
5	**FRP mould development** **Theory Duration** (hh:mm) 16:00 **Practical Duration** (hh:mm) 32:00 **Corresponding NOS Code** RSC/N4819 (CPC/N1021)	• Describe the dimensions and specification of the FRP mould as per the product drawing. • Identify the tools required for FRP mould making. • Select the appropriate tool for carrying out different mould making operations. • Demonstrate the pattern making with ply wood, plaster of paris, etc. • Demonstrate mould development with aluminium, steel, FRP composite, etc.	White board, marker, duster, laptop/PC, projector, steel ruler, micrometer, vernier caliper, radius gauge, feeler gage, Steel measuring tape, weighing balance, hammer, screw driver set with multiple heads, Allen key hexagonal , file triangular, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box
6	**Operating FRP manufacturing machinery** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 64:00	• Analyze the specifications of the FRP product as per the product drawing. • Identify the tools required for FRP manufacturing. • Select the correct mould for producing FRP product as per the specifications. • Use appropriate material handling devices for moving FRP moulds. • Demonstrate the Start Up process of the FRP machinery.	White board, marker, duster, laptop/PC, projector, hammer, screw driver set with multiple heads, allen key hexagonal , file triangular,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code RSC/N4820 (CPC/N1022)	• Perform trial production in case of new materials and moulds. • Demonstrate the process of safely loading and unloading of the moulds. • Perform Product ejection and handling. • Perform in process inspection during FRP manufacturing to avoid any rejection. • Demonstrate the Shut Down process of the FRP machinery.	hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box
7	**Troubleshooting during FRP manufacturing** **Theory Duration** (hh:mm) 16:00 **Practical Duration** (hh:mm) 24:00 **Corresponding NOS Code** RSC/N4820 (CPC/N1022)	• Perform “Preventive and Break down Maintenance” for FRP machinery. • Explain the electrical and hydraulic circuits and their operation. • Identify the process abnormalities during FRP manufacturing. • Analyze the process abnormalities during FRP manufacturing. • Perform the trouble shooting of the process abnormalities during FRP manufacturing. • Perform escalation of an issue which is beyond operator’s scope of work.	White board, marker, duster, laptop/PC, projector, hammer, screw driver set with multiple heads, allen key hexagonal , file triangular, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box
8	**Post production operations for FRP** **Theory Duration** (hh:mm) 24:00 **Practical Duration** (hh:mm) 48:00	• Demonstrate the trimming and cutting operations on FRP products. • Demonstrate the process of cleaning the moulded products. • Perform the post molding operations like joining, drilling, painting and printing on moulded products. • Perform the inspection of moulded product. • Perform assembly of components for building the final product.	White board, marker, duster, laptop/PC, projector, steel ruler, micrometer, vernier caliper, radius gauge, feeler gage, steel measuring tape, weighing balance, hammer, screw driver set with

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code RSC/N4821 (CPC/N1023)	• Evaluate the aesthetic appearance of the final product. • Create report for production achieved for the shift.	multiple heads, allen key hexagonal, file triangular, hacksaw, adjustable, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box
9	**Quality control in FRP manufacturing** **Theory Duration** (hh:mm) 16:00 **Practical Duration** (hh:mm) 72:00 **Corresponding NOS Code** RSC/N4822 (CPC/N1024)	• Interpret the company's quality standard. • Select the quality standard applicable for the FRP product under inspection. • Determine mechanical properties and thermal properties tests for the FRP product. • Determine physical and chemical properties of the FRP product. • Determine electrical, fire and smoke properties of the FRP product. • Perform the inspection of FRP product and identify the defects. • Determine the corrective action for eliminating the identified defects. • Evaluate effectiveness of corrective action taken. • Determine the need for action to ensure that problems do not reoccur. • Interpret the results of the quality checks carried out on FRP products. • Analyze results of the findings and submit to QC in-charge/appropriate authority.	White board, marker, duster, laptop/PC, projector, steel ruler, micrometer, vernier caliper, radius gauge, feeler gage, Steel measuring tape, weighing balance, products with manufacturing defects, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box
10	**Health and safety practices at the workplace** **Theory Duration** (hh:mm) 16:00 **Practical Duration** (hh:mm) 80:00	• Demonstrate safe working practices during FRP manufacturing. • Use the appropriate fire extinguisher as per the type of fire. • Demonstrate rescue techniques during fire hazard. • Demonstrate good housekeeping in order to prevent fire hazards. • Identify activities which can cause potential injury. • Perform the escalation to the concerned authorities on the potential risks identified.	White board, marker, duster, Laptop/PC, projector, flipcharts, cleaning equipment, safety goggles, rubber gloves, heat protecting gloves, fire extinguisher, apron, helmet, first aid box

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code RSC/N4101 (CPC/N0411)	• Perform the sorting process on the tools, fixtures and jigs. • Perform segregation of waste in hazardous/ non Hazardous waste. • Demonstrate the technique of waste disposal as per standard operating procedure (SOP). • Demonstrate the labeling mechanism of instruments/ boxes/ containers.	
11	**Housekeeping** **Theory Duration** (hh:mm) 16:00 **Practical Duration** (hh:mm) 80:00 **Corresponding NOS Code** RSC/N4823 (CPC/N1026)	• Evaluate the housekeeping status of area under his / her responsibility. • Use appropriate signage if oily substance / water spill on the floor. • Determine housekeeping activities require to be performed by housekeeping staffs. • Identify the material / equipment required for cleaning the areas. • Create the sequence for cleaning the area. • Apply the appropriate signage for the work being conducted. • Perform the segregation of waste in hazardous / non hazardous waste. • Demonstrate the segregation process of the rejected items. • Demonstrate the sorting process of the tools / equipment / fasteners / spare parts as per specifications.	White board, marker, duster, laptop/PC, projector, cleaning equipment
12	**Effective working at work place** **Theory Duration** (hh:mm) 32:00 **Practical Duration** (hh:mm) 40:00 **Corresponding NOS Code** RSC/N4203 (CPC/N7014)	• Use appropriate communication practices at work place. • Apply active listening skills while interacting with others at work. • Demonstrate disciplined behaviors at the workplace. • Use best practices for accurately receiving information and passing on the information. • Demonstrate the process of escalating grievances and problems to appropriate authority. • Perform consultation with supervisor in case of any difficulty faced in carrying out day to day tasks. • Create list of tasks to be completed. • Determine the priority of the tasks to be completed.	White board, marker, duster, Laptop/PC, projector, flipcharts

Sr. No.	Module	Key Learning Outcomes	Equipment Required
13	**Reporting and documentation** **Theory Duration** (hh:mm) 32:00 **Practical Duration** (hh:mm) 48:00 **Corresponding NOS Code** RSC/N4824 (CPC/N1028)	• Create level charts, signage, manuals, operating procedures etc. • Present the report on safety incidents and accidents either in English or local language. • Present the production data and machine log sheet. • Perform the Computer operations on MS Office like MS Word, Excel and Power Point. • Design the Page set up in MS office and take print out. • Create Posters and Banners as per instructions received from superiors. • Create the forms and formats for production reporting purpose. • Identify the applicable National and International Standards for raw materials and finished products.	White board, marker, duster, laptop/PC, projector
	Total Duration: **Theory Duration** **288:00** **Practical Duration** **672:00**	**Unique Equipment Required:** White board, marker, duster, laptop/PC, projector, steel ruler, micrometer, vernier caliper, radius gauge, feeler gauge, steel measuring tape, weighing balance, hammer, screw driver set with multiple heads, allen key hexagonal , file triangular, hacksaw, adjustable, spanner set double side, adjustable spanner, hand layup mould, FRP mould, compression mould, safety goggles, rubber gloves, asbestos gloves, fire extinguisher, apron, helmet, first aid box, automatic hopper loader, hot air oven and dryer, dehumidifier, mould temperature controller, scrap grinder, crane, air compressor, hot air blow gun, water cooling tower, compression moulding machine, pultrusion set up with mould, resin transfer moulding (RIM), hot air circulating oven, thermoset injection moulding machine, epoxy spray up set up with sample mould, frp hand lat set up with sample mould, safety goggles, rubber gloves, asbestos 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: "Plastic FRP - Operator" mapped to Qualification Pack: "RSC/Q4806 (CPC/Q1004), 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/Q4806 (CPC/Q1004) 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- organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	**Minimum Educational Qualifications**	Any Graduate preferably in plastics technology.
4a	**Domain Certification**	Certified for Job Role: "Plastic FRP - Operator" mapped to QP: "RSC/Q4806 (CPC/Q1004)". 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:	**Plastic FRP - Operator**
Qualification Pack Code:	**RSC/Q4806 (CPC/Q1004)**
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/N4817 (CPC/N1019) Use and applications of FRP products. Merits and demerits	PC1. Identify the need of material and mould for required product.	**50**	12	2	10
	PC2. Find the merits and demerits of FRP products.		12	2	10
	PC3. Select the type of material, machinery, Mould and process for manufacturing the product.		13	3	10
	PC4. Ensure the designing criteria for the FRP products.		13	3	10
	Total		**50**	**10**	**40**
RSC/N4818 (CPC/N1020 Basics of thermoplastics and thermoset materials. Introduction to resins / fibres used for FRP molding	PC1. Ensure the use and application of various additives like catalyst, accelerators, hardeners, colorants, etc.	**60**	15	3	12
	PC2. Ensure the use and application of various resins and fibres.		15	3	12
	PC3. Prepare of fibres for laying. Percentage loading of fibres.		15	3	12
	PC4. Learn the properties of thermo plastics and Thermoset material and their behaviour.		15	3	12
	Total		**60**	**12**	**48**
RSC/4819 (CPC/N1021) Selection of suitable process for FRP products Manufacturing and mould development	PC1. Follow the requirements of the product like aesthetic, size and shape, use condition, performance parameters. Finishing after molding, assembly and disassembly requirements.	**90**	15	3	12
	PC2. Learn Hand layup process and Spray layup process.		15	3	12
	PC3. Operate Injection molding of thermosets.		15	3	12
	PC4. Operate Pultrusion, centrifugal casting Filament winding.		15	3	12
	PC5. Operate Resin transfer molding, reinforced reaction injection molding. Compression molding.		15	3	12
	PC6. Study the Pattern making with ply wood, plaster of paris, etc. Mould development with various materials like aluminium, steel, FRP composite, etc.		15	3	12
	Total		**90**	**18**	**72**
RSC/N4820 (CPC/N1022) Efficient operation of the machinery	PC1. Learn the capacity and range of operation of the machine. Process capability.	**90**	8	2	6
	PC2. Operate skill about various parts and their functions of the machine.		8	2	6
	PC3. Selection of suitable process parameters for the material and product.		9	2	7
	PC4. Start up and shut down procedures		8	2	6

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	PC5. Trial production with new materials and moulds.		8	2	6
	PC6. Process/parameters optimization for quality product manufacturing.		9	2	7
	PC7. Safely loading and unloading of moulds.		8	2	6
	PC8. Products ejection and handling.		8	2	6
	PC9. Preventive and Break down Maintenance.		8	2	6
	PC10. Understanding the Electrical and hydraulic circuits and their operation.		8	2	6
	PC11. Trouble shooting of defects in manufacturing with regard to mould, material, moulding parameter and machine operation.		8	2	6
	Total		**90**	**22**	**68**
RSC/N4821 (CPC/N1023) Finishing / decoration operations for FRP products.	PC1. Trimming and cutting operations on FRP open molded products.	**40**	8	2	6
	PC2. Cleaning, washing and removal of release agents from molded products.		8	2	6
	PC3. Post molding operations like joining, drilling, painting and printing on molded products.		8	2	6
	PC4. Finishing operations aimed at improving aesthetic looks.		8	2	6
	PC5. Assembly and disassembly of components for building the final product.		8	2	6
	Total		**40**	**10**	**30**
RSC/N4822 (CPC/N1024) Understand and apply the quality control techniques for defect free manufacturing	PC1. Mechanical properties and Thermal properties tests.	**90**	9	3.6	5.4
	PC2. Physical and chemical properties.		9	3.6	5.4
	PC3. Electrical, Fire and smoke properties.		9	3.6	5.4
	PC4. Review effectiveness of corrective action.		9	3.6	5.4
	PC5. Interpret the results of the quality check correctly.		9	3.6	5.4
	PC6. Take up results of the findings with QC in Charge / appropriate authority. PC3. Identify non- conformities to quality assurance standards.		9	3.6	5.4
	PC7. Identify potential causes of non-conformities to quality assurance standards.		9	3.6	5.4
	PC8. Identify impact on final product due to non-conformance to prescribed Standards.		9	3.6	5.4
	PC9. Evaluating the need for action to ensure that problems do not reoccur.		9	3.6	5.4
	PC10. Suggest corrective action to address problem.		9	3.6	5.4
	Total		**90**	**36**	**54**

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. Apply 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 workbenches or work surfaces.		2.5	0.5	2
	PC10. Ensure segregation of waste in hazardous/ non Hazardous waste as per the sorting work instructions		1.5	0.5	1
	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. 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		1.5	0.5	1
	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

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	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/N4823 (CPC/N1026) Develop and maintain suitable Housekeeping practices in the shop floor	PC1. Take an overlook of the area under housekeeping.	**66.5**	6.5	2.5	4
	PC2. Put appropriate Signage immediately if oily substance / Water spill on the floor to avoid accident.		6	1	5
	PC3. If certain housekeeping activities require to be performed by housekeeping staffs, then inform them.		6	1	5
	PC4. If it has to be carried out by self then, identify the material / equipment required for cleaning the areas.		6	1	5
	PC5. Plan the sequence for cleaning the area to avoid re-soiling the cleaned areas and surfaces.		6	1	5
	PC6. Display the appropriate signage for the work being conducted.		6	1	5
	PC7. Ensure that there is adequate ventilation for the work being carried out.		6	1	5
	PC8. Ensure segregation of waste in hazardous/ non hazardous waste as per the sorting work instructions.		6	1	5
	PC9. Follow the technique of waste disposal and waste storage in the proper bins as per SOP.		6	1	5
	PC10. Segregate the items which are labelled as red tag items for the process are and keep them in the correct places.		6	1	5
	PC11. Sort the tools / equipment / fasteners / spare parts as per specifications / utility in top roper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions.		6	1	5
	Total		**66.5**	**12.5**	**54**

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
RSC/N4203 (CPC/N7014) Effective working with others	PC1. Display appropriate communication etiquette while working.	13.5	2	1	1
	PC2. Display active listening skills while interacting with others at work.				
	PC3. Demonstrate responsible and disciplined behaviour at the workplace.		2	1	1
	PC4. Accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required.		2	1	1
	PC5. Accurately pass on information to authorized persons who require it and within agreed time scale and confirm its receipt.		1.5	0.5	1
	PC6. Display helpful behaviour by assisting others in performing tasks in a positive manner, where required and possible.		1.5	0.5	1
	PC7. Consult with and assist others to maximize effectiveness and efficiency in carrying out tasks.		1.5	0.5	1
	PC8. Escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict.		1.5	0.5	1
	Total		**13.5**	**5.5**	**8**
RSC/N4824 (CPC/N1028) Perform the reporting and documentation work required in the shop floor	PC1. Perform various level charts, signage, manuals, operating procedures etc.	60	6	2	4
	PC2. Write of small report on incidents and accidents in English or local language.		6	2	4
	PC3. Fill the production data, machine log sheet, personal application etc.		6	2	4
	PC4. Do Basic Computer Operation on MS Office like MS Word, Excel and Power Point.		6	2	4
	PC5. Do the Page set up and Printing.		6	1	5
	PC6. Make of Posters and Banners.		6	1	5
	PC7. Write the Applications and Notes.		6	1	5
	PC8. Study the forms and formats.		6	1	5
	PC9. Fill the forms and formats.		6	1	5
	PC10. Study the National and International Standards and specifications as per BIS, ISO, ASTM, etc. for raw materials and finished products.		6	1	5
	Total		**60**	**14**	**46**

Assessable Outcome	Assessment Criteria	Total Mark (600)	Out Of	Marks Allocation	
				Theory	Skills Practical
	Grand Total	**600**	**600**	**150**	**450**
	Percentage Weightage:			**25%**	**75%**
	Minimum Pass% to qualify (aggregate):			**70%**	