Model Curriculum

Machine Operator Assistant – Plastics Sacks

SECTOR:	**RUBBER**
SUB-SECTOR:	**MANUFACTURING/PLASTICS PROCESSING**
OCCUPATION:	**PLASTICS SACKS**
REF ID:	**RSC/Q4802 (CPC/Q1103), V 1.0**
NSQF LEVEL:	**3**

Skill India
कौशल भारत-कुशल भारत

RSDC
RUBBER SKILL DEVELOPMENT COUNCIL

N·S·D·C
National
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: **'Machine Operator Assistant – Plastics Sacks'**
QP No. **'RSC/Q4802 (CPC/Q1103), V1.0, NSQF Level 3'**

Date of Issuance: **December 26th, 2016**

Valid up to: **December 25th, 2021**

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

Authorised Signatory
(Rubber Skill Development Council)

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Machine Operator Assistant - Plastics Sacks

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Machine Operator Assistant - Plastics Sacks", in the "Rubber Skill Development Council" Sector/Industry and aims at building the following key competencies amongst the learners.

Program Name	**Machine Operator Assistant – Plastics Sacks**		
Qualification Pack Name & Reference ID	RSC/Q4802 (CPC/Q1103), V 1.0		
Version No.	1.0	**Version Update Date**	29/05/2019
Pre-requisites to Training	VIII Standard		
Training Outcomes	**After completing this program, participants will be able to:** • Explain the process requirements of different types of plastics • Evaluate the role and responsibilities of a machine operator assistant- plastics sacks • Practice fitting operations on machining components • Explain basics of polymers and thermoplastics materials • Demonstrate the process of sack/ tape processing • Identify various processing methods • Ensure the feeding of cleaned, dried and separated plastic waste in the hopper for trial • Explain principles and basics of weaving technology and loom operation • Practice loom, weaving machine operation • Perform the visual inspection of the output • Conduct quality check on the finished products • Identify basic requirement of auxiliary equipment and machineries • Demonstrate the process of operation and maintenance of auxiliary equipment • Demonstrate communication/soft skills • Ensure sorting, streamlining, storage and documentation, cleaning, standardization and sustenance across the plant premises • Maintain basic health and safety practices at the workplace.		

This course encompasses 7 out of 7 National Occupational Standards (NOS) of "Machine Operator Assistant- Plastics Sacks" Qualification Pack issued by "Rubber Skill Development Council".

Sr. No.	Module	Key Learning Outcomes	Equipment Required
1.	**Introduction to the job role** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** Bridge Module	• Evaluate the developmental history of plastic • Describe current industrial scenario of plastics and prospects • Identify types of plastic • List major industrial associations related to plastics sacks • Identify equipment used for plastics sacks • Describe the roles and responsibilities of a machine operator assistant - plastics sacks	• LCD Projector, White Board with marker and duster, charts etc. • Pen drives, computers etc. for conducting class.
2.	**Pre-requisites to fitting operations** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** RSC/N4102 CPC/N0412)	• Demonstrate the work flow as per the procedures and instructions laid out • Ensure that all the tools, equipment, power tool cables, extension leads are in a safe and usable condition • Verify the job specification from a valid and approved source • Evaluate the job requirements from the job specification document, properly • Ensure that the fitting operations are carried out as per the procedure • Ensure that all the measuring instruments are calibrated • Ensure that the components used are free from foreign objects, dirt and corrosion • Inform the operator at regular intervals about the status of the on-going work • Assemble appropriate tools and measuring instruments	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding, • Pre drying system like Oven Drier, Hopper Drier, Dehumidifier, Chillers etc.
3.	**Perform fitting operations on machining components**	• Identify the tools required and assist the operator with the equipment and processes • Perform different fitting operations on various forms of metal	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** RSC/N4102 CPC/N0412)	components using a range of hand tools and manually operated machines • Assemble all the tools and equipment at the correct location post completion of the work • Explain the importance of cleaning the work area and keeping it in a safe and tidy condition post completion of job activities	• Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding,
4.	**Basics of polymers and thermoplastics** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** RSC/N4103 (CPC/N0413)	• Explain the importance of polymers in human life • Define the fundamental terminology related to polymers • Identify the types of polymers and its application • Explain the commodity polymers: polyolefin: LDPE – HDPE – LLDPE, PPetc. • Analyze the engineering polymers: PC, ABS, PMMA, POM, PA-NYLON etc. • Analyze the special polymers: FEP, PVDF etc.	• Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semi-automatic blow moulding, Automatic blow moulding.
5.	**Evaluate plastics material** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code**	• Identify types of polymers-thermoplastics, elastomers • Identify the use of plastic materials in commodity sector like telecommunications, automobiles, packaging medical, electrical and electronics and aerospace etc. • Demonstrate the identification method like drop test, water floatation test, scratch test • Demonstrate the advanced methods of identification like MFI, melting etc.	• Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	RSC/N4103 (CPC/N0413)		
6.	**Sack/ tape processing and types** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** RSC/N4804 (CPC/N1114)	• Identify the basic needs for plastics sack/tape process principle • Compare the merits and demerits of sack/tape process with the other plastic processes • Ensure the finishing operation includes surface treatment of the fabricated product • Demonstrate tape extrusion line using its terminology namely quenching, heating and orientation by stretching annealing, winding etc. • Analyze the film extrusion types along with the specification required, blown film, flat film, cast film • Identify the special film extrusion including tubular quench film (TQ), expanded film, and co extruded film and sheet etc. • Demonstrate the pipe / tube extrusion process which comprises introduction, development of different features. construction and operation of pipe extrusion line according to various materials and sizes • Practice the sizing method, take off method and post operation method	• LCD Projector, White Board with marker and duster, charts etc. • Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding, • Pre drying system like Oven Drier, Hopper Drier, Dehumidifier, Chillers etc.
7.	**Identify processing methods** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 25:00 **Corresponding NOS Code**	• Identify the type of process to be used depending on a variety of factors • Evaluate the parameters, including product shape and size, plastic type, quantity to be produced • Identify the common process parameter like temperature, pressure and speed and its controls • Explain the significance of post-production and storing • Demonstrate the shutdown	• Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	RSC/N4804 (CPC/N1114)	procedure- extruder, tape line/ circular looms and weaving machines etc. • Demonstrate the conversion techniques such as lamination sealing cutting, printing and other processes	
8.	**Perform hopper trial by feeding plastic waste** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 25:00 **Corresponding NOS Code** RSC/N4804 (CPC/N1114)	• Discuss the importance of pre heating and pre operations of plastic • Ensure that plastic material is mixed with additives, fillers (if any) before being fed into the hopper • Ensure the required operation code is fed in the apparatus, for heaters, to melt the plastic material at the predefined temperature • Demonstrate how to enter temperature, volume of plastic material and weight settings in the machine, required for the process • Ensure that the process machine and process parameters such as pressure and time are as per the data sheet • Demonstrate basic troubleshooting i.e. identification of defects, causes and remedies	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier.
9.	**Principles of weaving technology and loom operation** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** RSC/N4805 (CPC/N1115)	• Discuss the principle of weaving technology and loom operation • Evaluate the basic need of tools and accessories and machineries • Identify the raw materials for loom, weaving machines operation • Describe the process required for carrying out the operations for various types of loom and weaving machines • Identify the types of loom shuttle, projectile loom, rapier loom water jet loom, air jet loom and circular looms etc. • Demonstrate the different types of weaving, namely single phase and multiphase	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, automatic blow moulding.

Sr. No.	Module	Key Learning Outcomes	Equipment Required
10.	**Pre-requisites for loom and weaving machines** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** RSC/N4805 (CPC/N1115)	• Demonstrate the basic setting of loom and weaving machine operation • Compare the merits and demerits of loom and weaving operation with other processes • Check the dimension & uniformity of the tape identified for feed strip • Practice making tiny and firm weaver's knots • Identify broken warp ends, find out the location of the broken end, with mechanical droppers • Check the location using the indication lamp and by bringing the hands over the droppers, with electrical warp stop motion • Demonstrate how to run the loom by pulling the starting handle with full torque • Ensure cleaning the machines and work area, without damaging the tape in the looms • Demonstrate how to fix the desired loom to the weaving and loom machine apparatus in order to achieve the desired operation as per the work instructions.	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding,
11.	**Perform visual inspection of the output** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** RSC/N4805 (CPC/N1115)	• Ensure the basic functionality and assembly of weaving and loom machine as per the SOP • Demonstrate the program and control required for weaving and loom machine, with the help of tools and software • Identify molding procedure to be adopted for completing the work order • Ensure that the required material is procured from the store before starting the process • Ensure that the pouring is in line with defined standards and specifications • Check the observation fed in the record for interrupted pouring or any abnormality	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		• Conduct a test process and produce a sample output as per the sketches/ engineering drawing shared with the supervisor	
12.	**Quality check of the finished products** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** RSC/N4805 (CPC/N1115)	• Ensure that the dimensions of the output product are measured as per the process given in the work instructions/ SOP • Identify the parts which do not meet the criteria mentioned in the measurements provided, send the same for further processing in terms of cutting, finishing etc. • Analyze the observations of the inspection process • Identify pieces which are incorrect and also not meeting the specified standards • Categorize the batches which are beyond repair and repair the ones which need minor modifications in settings • Maintain batch wise record of each category of work output, which requires corrections • Identify the reasons for rejection of the output and the causes for the same • Check and rectify minor defects like dimension variation, thickness variation etc. by following the parameters set for the process. • Identify all the issues related to changes in surface properties, tensile strength etc. so that the equipment can be reset • Deliver the first and last output from each batch to the lab for quality check on its composition, properties etc. • Ensure clearance for the entire batch from the lab.	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding,
13.	**Basic requirement of auxiliary equipment and machineries**	• Inspect operating fuel systems, fuel oil transfer, supply lines and associated equipment and fossil fuel chillers • Operate condensate and feed	• Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** RSC/N4806 (CPC/N1116)	water systems, circulating and cooling water systems, condensate and makeup systems, circulating service water treatment equipment, auxiliary lube oil systems, emission control equipment and miscellaneous equipment • Perform according to the onsite training programs • Demonstrate the skills required to meet the production with basic plant services • Ensure cleaning and lubrication of equipment and tooling • Perform various preventative maintenance tasks, as needed • Identify different types of pre-drier-hot air oven, hopper driers, dehumidifiers etc. • Analyze the basics of chiller, cooling tower for controlling temperature of mold, machine and fluids • Check the basic operation and monitor gauges, dials, or other indicators to make sure the machine is working properly • Examine the functions of the compressor and scrap grinder.	like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding, • Pre drying system like Oven Drier, Hopper Drier, Dehumidifier, Chillers, Double stage Blow Moulding machine, Hand Operated Blow Moulding M/C with accessories etc.
14.	**Operation process and maintenance of auxiliary equipment** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** RSC/N4806	• Demonstrate equipment maintenance by performing routine maintenance on equipment • Determine when and what kind of maintenance is needed • Ensure that appropriate kind of equipment are selected to do a job • Comply with the instructions given on the equipment manual describing the operating process • Ensure relevant safety board's/ signs are placed on the shop floor • Operate the machine using the recommended personal protective equipment (PPE)	• Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding, • Pre drying system like Oven Drier, Hopper Drier, Dehumidifier, Chillers, Semi-Automatic Blow Moulding Machine,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	(CPC/N1116)	• Ensure team members also use the related PPEs at the workplace.	Fully Automatic Single stage Blow Moulding machine etc.
15.	**Knowledge of communication/soft skills** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** RSC/N4108 (CPC/N0418)	• Practice basic computer operations • Analyze the basic functions of a computer • Practice receiving information and instructions accurately from the supervisor/operator and fellow workers • Demonstrate circulating information to the authorized person, within agreed timelines • Demonstrate supportive behavior by assisting others in performing tasks as and when required • Assist coworkers to maximize the effectiveness and efficiency in carrying out tasks • Demonstrate active listening skills while interacting with others at work • Demonstrate appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism • Demonstrate how to escalate grievances and problems to the appropriate authority.	• LCD Projector, White Board with marker and duster, charts etc. • Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc.
16.	**Ensure sorting, stream lining, storage standards across the plant** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00	• Check that the tools, fixtures and jigs that are lying on workstations are the ones in use and unnecessary items are not cluttering the workbenches • Segregate waste in hazardous/non-hazardous types • Demonstrate the technique of waste disposal and waste storage in proper bins • Segregate the items which are labeled as red tag items for the process area and keep them in the correct places • Demonstrate sorting tools/equipment/fasteners/spare parts as per the	• LCD Projector, White Board with marker and duster, charts etc. • Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc. • Plastics raw material like PP, HDPE, PET, PBT, PVC etc. for training on machines of Blow grade from good/reputed supplier • Basics machines for training like hand blow moulding, semiautomatic blow

Sr. No.	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code RSC/N4101 (CPC/N0411)	specifications/utility into proper trays, cabinets, lockers as mentioned in the 5S guidelines/ work instructions • Practice stacking the various types of boxes and containers properly as per the size/utility to avoid any spillage of items/breakage • Store extra material and tools at the designated places and make sure that no additional material/tool is lying near the work area • Identify the floor markings/area markings used for demarcating the various sections in the plant • Comply with the given instructions and check for labeling of fluids, oils, lubricants, solvents, chemicals etc.	moulding, Automatic blow moulding, Semi-Automatic Blow Moulding Machine, Fully Automatic Single stage Blow Moulding machine • Pre drying system like Oven Drier, Hopper Drier, Dehumidifier, Chillers, Injection stretc.h Blow Moulding Machine, Double stage Blow Moulding machine, Hand Operated Blow Moulding M/C with accessories etc.
17.	**Maintain basic health and safety practices at the workplace** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** RSC/N4101 (CPC/N0411)	• Identify the importance of wearing protective clothing/equipment for specific tasks and work conditions • Demonstrate safe working practices while dealing with hazards to ensure the safety of self and others. • Employ good housekeeping practices at all times • Apply appropriate fire extinguishers on different types of fires • Demonstrate rescue techniques applied during fire hazard • Demonstrate the correct use of a fire extinguisher • Identify potential injuries through sharp objects, burns, fall, electricity, gas leakages, radiation, poisonous fumes, chemicals, loud noise • Conduct regular checks of the machine, with support of the maintenance team • Inform the concerned authorities about machine breakdown/ damages which can potentially	• LCD Projector, White Board with marker and duster, charts etc. • Pen drives, computers etc. for conduct of class. • Common hand tools like Vernier calliper, micrometer, drills, tapes and dies etc • Plastics raw material like PP, HDPE, PET, PBT, PVC etc for training on machines of Blow grade from good/reputed supplier. • Basics machines for training like hand blow moulding, semiautomatic blow moulding, Automatic blow moulding,

Sr. No.	Module	Key Learning Outcomes	Equipment Required
		cause harm • Maintain awareness amongst others by sharing information on the risks identified • Practice safety and fire drills to be self-aware of safety hazards and preventive techniques • Demonstrate high standards of personal hygiene at the work place.	
	Total Duration **Theory Duration** **180:00** **Practical Duration** **300:00**	**Unique Equipment Required:** **1. Class Room equipment:** LCD Projector/Screen, Computer, charts, Black / White board and duster. **2. Measuring equipment:** Steel Ruler, Micrometer, Vernier Caliper, Radius gauge, Feeler gage, Steel measuring tape, Weighing Balance (1 No.) **3. Hand Tools:** Hammer, screw driver set with Multiple heads, **4.** Allen key hexagonal, File triangular, Hacksaw, adjustable, Spanner set double side, Adjustable spanner **5. Personal Protective equipment:** Safety Goggles, Rubber Gloves, Asbestos gloves, Fire Extinguisher, Apron, Helmet, First Aid Box with Medicines **6. Plastics raw material:** PP, HDPE, Blow moulding grade. **7.** Mould: Hand mould, Blow Mould **8. Auxiliary equipment:** Automatic Hopper Loader, Hot air oven and Dryer, Dehumidifier, Mould Temperature Controller, Scrap Grinder, Crane, Air Compressor, Hot air blow Gun, Water cooling Tower, Hand Operated Blow Moulding M/C with accessories, Semi-Automatic Blow Moulding Machine, Fully Automatic Single stage Blow Moulding machine, Full Automatic Double stage Blow Moulding machine, Injection Stretch Blow Moulding Machine	

Grand Total Course Duration: **480 Hours 0 Minutes**

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

Trainer Prerequisites for Job role: "Machine Operator Assistant - Plastics Sacks" mapped to Qualification Pack: "RSC/Q4802 (CPC/Q1103)" Version 1.0

Sr. No.	Area	Details
1	**Description**	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "RSC/Q4802 (CPC/Q1103), V 1.0".
2	**Personal Attributes**	A Trainer should be free from socio-economic preferences and prejudice. He/ she should be safety conscious and proficient in handling and use security/ safety equipment. Besides being knowledgeable, he/ she should be energetic, motivating, innovative and good at communication. The trainer should be able to establish rapport with the trainees and employ innovative methods to impart instructions.
3	**Minimum Educational Qualification**	VIII Standard
4a	**Domain Certification**	Certified for Job Role "Machine Operator Assistant - Plastics Sacks" mapped to the Qualification Pack "RSC/Q4802 (CPC/Q1103), V 1.0" issued by RSDC
4b	**Platform Certification**	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q2601" with scoring of minimum 80%.
5	**Experience**	As per the standards set by relevant SSC to practice in different industry sectors.

Annexure: Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES
Job Role: Machine Operator Assistant - Plastics Sacks **Qualification Pack Code: RSC/Q4802 (CPC/Q1103), V 1.0** **Sector Skill Council: Rubber Skill Development Council**

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also laydown 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 centre (as per assessment criteria below).
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training centre based on these criteria.
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS.
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.

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**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	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 & 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	2.5	0.5	2
	PC11. Follow the technique of waste disposal	1.5	0.5	1

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
	and waste storage in the proper bins as per SOP			
	PC12. Segregate the items which are labeled 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
	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
	Subtotal	**40**	**10**	**30**
RSC/N4102 (CPC/N0412)	PC1. Comply with health and safety, environmental and other relevant	1.5	0.5	1

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
Fitting Tools Measuring Equipment's & Practice	regulations			
	PC2. Adhere to procedures and guidelines for personal protective equipment (PPE) and other relevant safety regulations while performing die fitting operations	1.5	0.5	1
	PC3. Work following laid down procedures and instructions	1.5	0.5	1
	PC4. Ensure work area is clean and safe from hazards	2.5	0.5	2
	PC5. ensure that all tools, equipment, power tool cables, extension leads are in a safe and usable condition	2.5	0.5	2
	PC6. Basic Knowledge of job specification from a valid and approved source	2.5	0.5	2
	PC7. Understand job requirements from the job specification document properly	2.5	0.5	2
	PC8. Report to operator information time to time	2.5	0.5	2
	PC9. Basic Knowledge of the fitting operations as per procedure	3	1	2
	PC10. Ensure that all calibrated measuring instruments used	3	1	2
	PC11. ensure that the components used are free from foreign objects, dirt and corrosion	3	1	2
	PC12. Obtain appropriate tools and measuring instruments	2.5	0.5	2
	PC13. Understand of work pieces as per job requirements using appropriate holding devices	2.5	0.5	2
	PC14. Helping to operator while marking specified features with the help of marking-out methods on the work pieces as per job specification by using appropriate measuring and marking tools	2.5	0.5	2
	PC15. Basic knowledge of different fitting operations on various forms of metal components using a range of hand tools and manually operated machines	2.5	0.5	2

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
	PC16. Basic knowledge of Carrying & return all tools and equipment to the correct location on completion of the fitting activities	2.5	0.5	2
	PC17. Cleaning the work area in a safe and tidy condition on completion of job activities	1.5	0.5	1
	Subtotal	40	10	30
RSC/N4103 (CPC/N0413) Introduction to Polymers and thermoplastics Materials	PC1. Basic Importance of polymers in Human Life	3	1	2
	PC2. Understand fundamental terminology of polymers	3	1	2
	PC3. Types of polymers & its application	5	1	4
	PC4. Basic Knowledge of Polymers- Types of Polymers-Thermoplastics, Elastomers	5	1	4
	PC5. Plastic Material Application-commodity sector, telecommunications, automobiles, packaging medical, Electrical and Electronics & aerospace etc.	5	1	4
	PC6. Commodity Polymers: Polyolefin: LDPE – HDPE – LLDPE, PP etc.	5	1	4
	PC7. Engineering Polymers: PC, ABS, PMMA, POM, PA-NYLON etc.	5	1	4
	PC8. Special Polymers: FEP, PVDF etc	3	1	2
	PC9. Basic Knowledge of Identification Method:-Drop Test, water floatation Test, Scratch test	3	1	2
	PC10. Basic Knowledge of Advanced Methods of Identification:-MFI, Melting etc.	3	1	2
	Subtotal	**100**	**25**	**75**
RSC/N4804 (CPC/N1114) Basic Knowledge of woven sack/raffia plant operations with start-up and shut down	PC1. Understand Basic needs for plastics sack/tape process principle	3	1	2
	PC2. Basic Knowledge of merits and demerits of sack/tape process to over the all others plastic Process	4	1	3
	PC3. Basic Knowledge of finishing operation including surface treatment of the fabricated product if required as per SOP	5	1	4

Assessable outcome		Marks Allocation		
NOS	Assessment Criteria	Total	Theory	Practical
procedure	PC4. Basic understanding of tape extrusion line and its terminology-as quenching, heating and orientation by stretching annealing, winding etc.	5	1	4
	PC5. Basic understanding of Film extrusion: - Types & specification requires. Blown film, Flat film, cast film	3	1	2
	PC6. Basic understanding of Special film extrusion: - Tubular quench film (TQ), expanded film, Co extruded film & sheet etc.	3	1	2
	PC7. Basic understanding of Pipe / tube extrusion process: - Introduction, development different features. Construction & operation Pipe extrusion line according to various material & sizes	6	2	4
	PC8. Basic Knowledge of Sizing method, take off method & post operation method	6	2	4
	PC9. Understand the type of process to be used depends on a variety of factors	6	2	4
	PC10. Understand the Parameters, including product shape and size, plastic type, quantity to be produced	6	2	4
	PC11. Basic Knowledge of Common Process Parameter like Temperature, Pressure and Speed and its controls	5	1	4
	PC12. Basic Knowledge of Post production and storing	5	1	4
	PC13. Basic Knowledge of Machine Operation and process parameter of sack/tape	5	1	4
	PC14. Basic Knowledge of Shut down procedure- extruder, tape line/ circular looms and weaving machines etc.	5	1	4
	PC15. Basic Knowledge of Type of Conversion Techniques: Lamination sealing cutting, printing and other processes	5	1	4
	PC16. Basic Knowledge of preheating and pre operations of plastic if required	5	1	4
	PC17. Basic Knowledge of plastic material are mixed with additives, fillers (if any)	5	1	4

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
	before being fed into the hopper			
	PC18. Feed the required operation code in the apparatus for heaters to melt the plastic material at the predefined temperature	5	1	4
	PC19. Enter process temperature, volume of plastic material and weight settings in the machine as per data sheet	5	1	4
	PC20. Basic Knowledge of Enter machine and process parameters such as pressure and time as per the data sheet	5	1	4
	PC21. Troubleshooting i.e. Defects, Causes & Remedies	3	1	2
	Subtotal	**100**	**25**	**75**
RSC/N4805 (CPC/N1115) Basic Knowledge of Weaving technology and Loom operation (Circular)	PC1. Understand basic Need of Tools and Accessories and Machineries	1.5	0.5	1
	PC2. Understanding of raw Material for Loom , weaving machines operation	1.5	0.5	1
	PC3. Basic Knowledge of Various types of Loom, weaving machines operation process	1.5	0.5	1
	PC4. Basic Knowledge of Various types of Loom:- shuttle , projectile loom, rapier loom water jet loom, air jet loom and circular looms etc.	1.5	0.5	1
	PC5. Basic Knowledge of Type of weaving – single phase and multiphase PC6. Basic Knowledge of Type of weaving – single phase and multiphase	2.5	0.5	2
	PC7. Understand basic Setting of Loom , weaving Machine operation merits and demerits/over other Process	2.5	0.5	2
	PC8. Check the identified feed strip for dimension uniformity/identified tape	4.5	0.5	4
	PC9. Make tiny & firm weaver's knots	4.5	0.5	4
	PC10. Find out broken warp ends, find out the location of the broken end, by bringing the hands under the dropper bars, with mechanical droppers. detect the location using the indication lamp & by bringing the hands over the droppers, with electrical warp stop motion	5	1	4

Assessable outcome		Marks Allocation		
NOS	Assessment Criteria	Total	Theory	Practical
	PC11. Mind the broken warp end in the sized beams with the thrums of the same count of the sized beams, using " weavers ' knots"	5	1	4
	PC12. Basic knowledge of Run the loom by pulling the starting handle with full torque	5	1	4
	PC13. Clean the machines & work area, so as to ensure good working atmosphere, without damaging the tape in the looms where the cleaning work is carried out as well as in the adjacent & opposite looms . Should not misuse “air”. Can use air for cleaning, only in the areas	5	1	4
	PC14. Check for operation of weaving and loom apparatus as per the checklist provided	5	1	4
	PC15. Basic knowledge of Fix the desired loom to the weaving and loom machine apparatus in order to achieve the desired operation as per the Work Instructions/ SOPs	5	1	4
	PC16. Understand basic functionality and assembly of weaving and loom machine as per SOP	3	1	2
	PC17. Adjust the weaving and loom machine controlling and program with the help of tools and software as per requirement	3	1	2
	PC18. Understand the molding procedure and process to be adopted for completing the work order from the supervisor by referring the Work Instruction document/ SOP manual	3	1	2
	PC19. Ensure that the required material is procured from the store before starting the process	3	1	2
	PC20. Understand the type of looms and weaving required for executing the required operation and ensure that the same is available for operations	3	1	2
	PC21. Ensure pouring in line with defined standards and specifications	3	1	2
	PC22. Record the feeding observations like	3	1	2

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
	interrupted pouring or any abnormality			
	PC23. Conduct a test process and produce a sample output as per the sketches/ engineering drawing shared with the supervisor	3	1	2
	PC24. Conduct a test process and produce a sample output as per the sketches/ engineering drawing shared with the supervisor	3	1	2
	PC25. In case the parts are not as per the given measurements, send the same for further processing in terms of cutting, finishing etc.	3	1	2
	PC26. Note down the observations of the basic inspection process and Identify pieces which are OK and also not meeting the specified standards	3	1	2
	PC27. Discard the batch which are beyond repair and repair the ones which need minor modifications in settings	3	1	2
	PC28. Maintain records of each category of work outputs as per the batch etc. so that correction can be organized	2.5	0.5	2
	PC29. Establish linkage between rejection of output and the pertinent causes for the same (process/ material etc.); Recommend the means for rejection control	2.5	0.5	2
	PC30. Rectify minor defects like dimension variation, thickness variation etc. by control process parameters etc.	2.5	0.5	2
	PC31. Escalate all issues related to change in surface properties, Tensile strength etc. so that the manufacturing equipment can be reset to achieve the specified output	2.5	0.5	2
	PC32. Provide first and last output from each batch to the lab for quality check on its composition, properties etc.	2.5	0.5	2
	PC33. Obtain clearance for the entire batch from the lab	1.5	0.5	1
	Subtotal	**100**	**25**	**75**
RSC/N4806 (CPC/N1116)	PC1. Some duties include: Inspecting, monitoring, operating fuel systems, fuel	1.5	0.5	1

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
Auxiliary equipment's used in Plastics Sack and Tape Production	oil transfer & supply lines & associated equipment and fossil fuel chillers			
	PC2. Operating condensate & feed water systems, circulating & cooling water systems, condensate & makeup systems, circulating service water treatment equipment, auxiliary lube oil systems, emission control equipment and miscellaneous equipment Pass onsite training programs. Follow safety rules, regulations and procedures	1.5	0.5	1
	PC3. Connects basic plant services as needed to meet production requirements and makes initial checks of operating conditions before initiating production runs	1.5	0.5	1
	PC4. Assist in cleaning and lubrication of equipment and tooling and performs various preventative maintenance tasks as needed	1.5	0.5	1
	PC5. Basic Knowledge of different types of Predrier-Hot air Oven, Hopper Driers, Dehumidifiers etc.	1.5	0.5	1
	PC6. Basic Knowledge of Chiller, Cooling Tower for the controlling temperature of Mould, machine and Fluids	2.5	0.5	2
	PC7. Basic Knowledge of Operation and Monitoring -- Watching gauges, dials, or other indicators to make sure a machine is working properly	2.5	0.5	2
	PC8. Basic Knowledge of Compressor and Scrap Grinder	2.5	0.5	2
	PC9. Understand Equipment Maintenance -- Performing routine maintenance on equipment and determining when and what kind of maintenance is needed	3	1	2
	PC10. Understand Equipment Selection -- Determining the kind of tools and equipment needed to do a job	3	1	2
	PC11. Understand & Follow the instructions given on the equipment manual describing the operating process of the equipment	2.5	0.5	2
	PC12. Follow the Safety, Health and Environment related practices	2.5	0.5	2

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
	developed by the organization			
	PC13. Ensure relevant safety board's/ signs are placed on the shop floor	2.5	0.5	2
	PC14. Operate the machine using the recommended Personal Protective Equipment (PPE) and ensure team members also use the related PPEs at the workplace	2.5	0.5	2
	PC15. Maintain a clean and safe working environment near the work place and ensure there is no spillage of chemicals, production waste, oil, solvents etc.	2.5	0.5	2
	PC16. Attend all safety and fire drills to be self-aware of safety hazards and preventive techniques	2.5	0.5	2
	PC17. Maintain high standards of personal hygiene at the work place	2.5	0.5	2
	PC18. Ensure that the waste disposal is done in the designated area and manner as per organization SOP	1.5	0.5	1
	Subtotal	**40**	**10**	**30**
RSC/N4108 (CPC/N0418): Basic Knowledge of Communication/soft skills	PC1. Accurately receive information and instructions from the supervisor/operator and fellow workers, getting clarification where required	4	1	3
	PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt	4	1	3
	PC3. Display helpful behaviour by assisting others in performing tasks in a positive manner, where required and possible	4	1	3
	PC4. Basic Knowledge of consult with and assist others to maximize effectiveness and efficiency in carrying out tasks	4	1	3
	PC5. Basic Study of Fundamental of Computers	4	1	3
	PC6. Components of Computer: - Hardware and the software	4	1	3
	PC7. Display active listening skills while interacting with others at work	4	1	3

Assessable outcome		Marks Allocation		
NOS	**Assessment Criteria**	**Total**	**Theory**	**Practical**
	PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism	4	1	3
	PC9. Demonstrate responsible and disciplined behaviours at the workplace	4	1	3
	PC10. Escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict	4	1	3
	Subtotal	**40**	**10**	**30**
	Total	**400**	**100**	**300**