APPRENTICESHIP CURRICULUM (OPTIONAL TRADE)

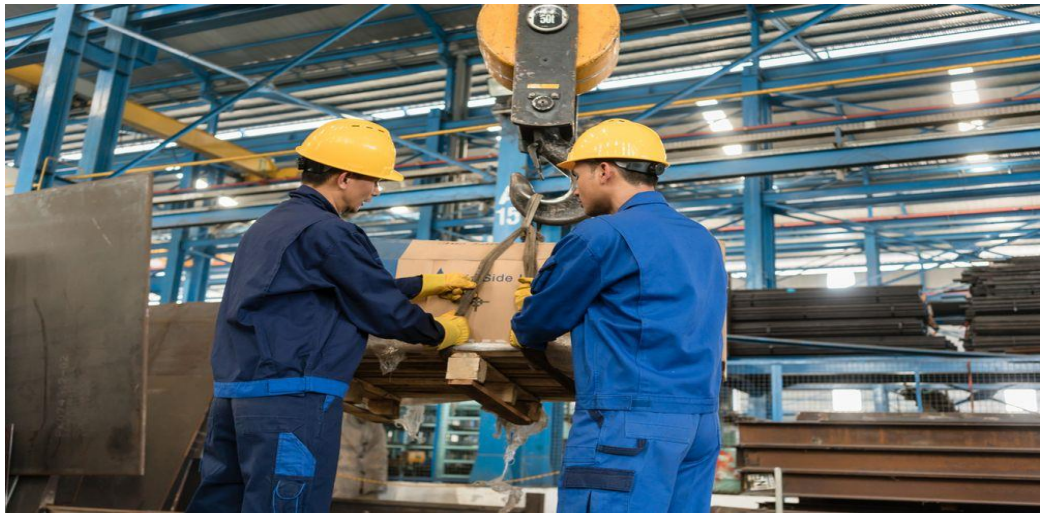
Rubber

Assistant Operator – Material Handlingand Storage V1

Course Code: CO072200022

☒NAPS ☐Non-NAPS

NSQF Level: 3



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Course Details

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<tr><td>1.</td><td>Course Name</td><td>Assistant Operator – Material Handlingand Storage V1</td></tr>
<tr><td>2.</td><td>Course Code</td><td>CO072200022</td></tr>
<tr><td rowspan="2">3.</td><td>Apprenticeship Training Duration:
(2 to 4 weeks of BT is embedded in this duration as per the requirement of the establishment)</td><td>Months: 12 Months</td></tr>
<tr><td>Remarks</td><td></td></tr>
<tr><td>4.</td><td>Credit</td><td>TBD</td></tr>
<tr><td>5.</td><td>NSQF Level (Mandatory for NAPS)</td><td>3 NSQC Approval Date: 31st Match 2022</td></tr>
<tr><td>6.</td><td>Related NSQF aligned qualification details</td><td>
<table>
<tr><th>S. No.</th><th>QP/ Qualification/ NOS Name (As applicable)</th><th>QP/ NOS Code & Version</th><th>NQR Code</th></tr>
<tr><td>1.</td><td>Assistant Operator - Material Handling and Storage</td><td>RSC/Q1608_V1</td><td>2022/RUB/RSDC/05747</td></tr>
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</td></tr>
<tr><td>7.</td><td>Brief Job Role Description</td><td>Material Handling and Storage Operators are responsible to work for the proper loading/ unloading, locating in assigned locations, assembling of rubber products, packaging and storage of the material. He is responsible for sending the approved material to manufacturing by ensuring quality, quantity, FIFO and age limits and also to send the packaged final product as per the delivery order/order sheet to the internal and external customer/s.</td></tr>
<tr><td>8.</td><td>NCO-2015 Code & Occupation (Access the NCO 2015 volumes from: https://labour.gov.in/organizationsofmole/directorate-general-employment-training-dget)</td><td>NCO-2015/NIL
Storage and Warehousing</td></tr>
<tr><td>9.</td><td>Minimum Eligibility Criteria
(Educational and/ or Technical Qualification)</td><td>8th Class (1 year of relevant experience)
OR</td></tr>
</table>

		5th Class (3 years of relevant experience)
10.	**Entry Age for Apprenticeship**	*18 Years*
11.	**Any Licensing Requirements** (*wherever applicable*)	NA
12.	**Is the Job Role amenable to Persons with Disability**	☐ **Yes** ☒ **No** **If yes, check the applicable type of Disability** ☐ **Locomotor Disability** ☐ **Leprosy Cured Person** ☐ **Cerebral Palsy** ☐ **Dwarfism** ☐ **Muscular Dystrophy** ☐ **Acid Attack Victims** ☐ **Blindness** ☐ **Low Vision** ☐ **Deaf** ☐ **Hard of Hearing** ☐ **Speech and Language Disability** ☐ **Intellectual Disability** ☐ **Specific Learning Disabilities** ☐ **Autism Spectrum Disorder** ☐ **Mental Illness** ☐ **Multiple Sclerosis** ☐ **Parkinson's Disease** ☐ **Haemophilia** ☐ **Thalassemia** ☐ **Sickle Cell Disease** ☐ **Multiple Disabilities**
		Remarks:
13.	**Submitting Body Details**	**Name:** Rubber, Chemical & Petrochemical Skill Development Council **E-mail ID:** ceo@rcpsdc.in **Contact Number:** 011-41009347- 48
14.	**Certifying Body**	Rubber, Chemical & Petrochemical Skill development Council
15.	**Employment Avenues/Opportunities**	**Self-Employment:**

		Trainees can also start their own business and also provide jobs to other people. **Rubber Product Finishing** Jobs Opportunities in private companies: The trainees can get a job in a corporate as Assistant Operator - Material Handling and Storage.
16.	**Career Progression**	Assistant Operator - Material Handling and Storage role leads to Supervisory level inMaterial Handling and Storage processes.
17.	**Trainer's Qualification & Experience:**	ITI/Diploma /Graduate in any engineering stream with 3 years of industry experience The trainer should have relevant experience in domain and knowledge on the particular job role and about the relevant equipment and machinery which is used for the job role.
18.	**Curriculum Creation Date**	15/07/2022
19.	**Curriculum Valid up to Date**	31/03/2025

Module Details

S.no	Module/NOS Name, Code, Version	Outcomes	Assessment Marks		Passing Percentage	
			Th.	Pr.	Th.	Pr.
1	**Introduction to Rubber Industry**	• Describe various stages of development of rubber. • Explain current industrial scenario of rubber and its prospects in future. • State the rubber consumption pattern in different sectors. • List the source of different types of rubber. • Describe usage of rubber for making different products. • Recognize major rubber industrial associations and their functions. • Recall the job responsibilities of a Rubber Product Finishing Operator. • Identify the rubber products from the given product samples. • Tell the source of rubber for given rubber raw material samples. • Differentiate between the given rubber compounds samples.	0	0	0	0
2	**Perform rubber product loading/unloading activity** **NOS RSC/N1617** **Version: 1.0**	• Classify the types of material handling equipment used in rubber industry. • Explain the operating mechanism of different material handling equipment. • State the importance of cleaning process to maintain working condition of a material handling equipment. • Outline the purpose of using different material handling equipment in rubber industry. • List the safety hazards associated with material handling equipment. • Describe the safety instructions during use of material handling equipment. • Interpret the MSDS (material safety data sheet) of rubber raw materials and chemicals.	40	60	50%	50%

		• Identify the type of material handling equipment from the given set of equipment. • Demonstrate the working process of the assigned material handling equipment. • Demonstrate the weighing of rubber product with the help of weighing scale. • Demonstrate the identification tag making process of rubber raw material, semi-finished products and finished products. • Select the tools required for rubber product loading/unloading. • Perform the verification process of the loading/unloading equipment working. • Select material, compound mix, semi-finished and finished products to be loaded / unloaded as per plan. • Perform the visual inspection of material, compound mix, semi- finished and finished products to be loaded / unloaded. • Perform weight checks as per standard operating procedure (SOP). • Select the space for the unloaded material. • Perform the recording in the documents for the quantity of the loaded/unloaded material. • Demonstrate the process of identification of the loaded/unloaded material. • Demonstrate the safety measures while loading/unloading of the material. Interpret MSDS (material safety data sheet) of each raw material under usage				
3	**Carry out rubber product assembling and packaging NOS RSC/N1618 Version: 1.0**	• Describe the importance of cleaning process to maintain working condition of a rubber product assembly equipment. • Name the lubrication chemicals used during rubber product assembly. • List the in-process checks to carry out to ensure quality of assembled • rubber products. • Explain the use of different types of packaging material for rubber product packaging.	40	60	50%	50%

		• List the safety hazards associated with rubber parts assembly process. • Describe the safety measures to be followed during rubber parts assembly process. • Outline the importance of safe disposal of process waste. • Demonstrate the rubber part assembly equipment parameter setting process for the given equipment. • Demonstrate the in-process inspection for the given rubber part assembly, as per the given check sheet. • Demonstrate the process of rubber parts assembly with the help of given assembly machines. • Demonstrate the process of rubber parts packing with the help of given packing machines. • Perform the cleaning process of the equipment to be used for assembling and packaging. • Demonstrate the start up checks of the packaging machine. • Perform parameters setting for the packaging machine. • Perform visual checks for quality status of the products available for assembling.				
4	**Undertake Storage of Rubber Product NOS RSC/N1619 Version: 1.0**	• List the material storage aids used in rubber industry. • • Categorise the material storage aids based on their application and use. • State the importance of cleaning process to maintain contamination free material storage. • Describe the use of cold storage in rubber industry. • Explain the common inventory management concepts, such as: Min/Max (Minimum/ Maximum level). • Discuss the common material storage concepts used in rubber industry, such as: fixed location storage, flexible location storage, etc.	40	60	50%	50%

		• List the common inventory man//agreement software used in rubber industry. • Outline the importance of shelf life in ensuring the quality of a material. • List the safety hazards associated with material storage. • Describe the safety instructions during use of different material storage system. • Identify the material storage aid from the given equipment. • Demonstrate the stacking of given rubber part as per recommended stacking instructions. • Choose the sample for inspection as per given sampling plan. • Demonstrate the concept of FIFO (First in First Out) while storing and issuing of the given material. Demonstrate the concept of FIFO (First in First Out) while storing and issuing of the given material. • Select the tools required for rubber product loading/unloading. • Perform the verification process of the loading/unloading equipment working. • Determine the required appropriate conditions as per the storage requirement for different materials. • Determine and follow the safety requirements during rubber product loading/unloading. • Demonstrate the process of FIFO (First in First Out) during loading/unloading. • Perform visual inspection of the to-be-stored material, compound mix, semi-finished and finished products. • Demonstrate the process of documentation during storage process. • Demonstrate the process of rubber product loading/unloading without supervision. • Demonstrate the identification process during rubber product storage. • Perform the process of sampling and obtaining the release from LAB. • Demonstrate the process of handling the contaminated/ off spec/ rejected material/ component/ semi-finished/ finished material. details.				
5	**Undertake rubber product dispatch activities NOS RSC/N1620 Version: 1.0**	• List the constituents of a dispatch order sheet. • Name the equipment used in rubber parts dispatch process. • Describe the requirements of truck/ material carrier for safe transport of the material. • State the checks for ensuring dispatch of right material and quantity against customer order. • List the common documents required for dispatch a material lot.	40	60	50%	50%

		• Describe post-dispatch activities, such as: filing of documents, informing customer for dispatch details, etc. • Outline the importance of POD (Proof of delivery) to ensure timely payment from customer. • State the common issues related to dispatch and their remedies. • List the safety hazards associated with material storage. • Describe the safety instructions during use of different material storage system. • Demonstrate the process of pre- dispatch inspection of a given packed product. • Prepare a dispatch tag for a given rubber product. • Demonstrate the shipment preparation process for a rubber product lot as per given instruction. • Perform the process of receiving the order sheet for dispatch. • Perform the process of sending information to the stores/finished goods warehouse head. • Determine the requirement of equipment for transporting goods to the transporting vehicle. • Perform the process of arranging the transportation for material. • Demonstrate the process of the inspection of the truck or any other carrier of goods. • Perform the process of guidance to the helpers involved in the dispatch activity. Corresponding NOS Code RSC/N1620 • Determine the correct mode of dispatch as per customer requirement. • Demonstrate the documentation process for dispatch activity. • Perform the process of communicating to the customer for the details of the dispatch. • Perform the process of the receiving from the customer's end. • Perform the dispute settlement due to issue in order delivery.				
6	**Carry out housekeeping NOS RSC/N5001 Version: 1.0**	• Describe what is housekeeping. • Explain the importance of housekeeping in rubber assembly and stores activities. • List the cleaning equipment and chemicals used for cleaning process. • Describe what is '5S.' • Define each 'S' and its meaning. • Identify the cleaning equipment from the given set of equipment. • Demonstrate the cleaning process of a given material handling device with the specified cleaning aid and chemicals. • Demonstrate the segregation of unwanted material as per 1S principal in the assigned work area.	40	60	50%	50%

		• Describe what is housekeeping. • Explain the importance & purpose of housekeeping. • Explain benefits of housekeeping. • Describe what is '5S.' • Define each 'S' and its meaning. • Perform the process of cleaning of machine and work area with specified equipment and material. • Perform housekeeping activities independently without supervision.				
7	**Carry out reporting and documentation NOS RSC/N5002 Version: 1.0**	• Outline the importance of reporting production performance for rubber product finishing. • List the information given in a standard production report for rubber product finishing. • Recall the documents used during rubber product finishing production process. • Describe the purpose of using work instructions for rubber product finishing. • Explain the ways of overcoming general problems encountered in communication at workplace. • Describe the traits of active listening. • Explain the importance of documentation. • Interpret the common • documentation used in the rubber industry. • Explain the importance of reporting. • Discuss of organization policies and guidelines. Describe the purpose of procedures in an organization. • Use work instruction for working in an organization. • Use the communication process during day to day work. • Demonstrate the process of overcoming problems in communication. • Apply the traits of active listening.	40	60	50%	50%

		• Apply the best practices used for good writing skill. • Apply process of resolving conflict with a team member. • Determine priority of work from pending work list. • Perform reporting for daily operations independently without supervision.				
8	**Carry out quality checks** **NOS RSC/N5003** **Version: 3.0**	• List the measuring equipment used for inspection during rubber parts assembly. • Describe the importance of calibration in accuracy of parts measurement. • Explain the basic concept of AQL (Acceptable Quality Level) for sample drawing process for product testing. • Describe the defects getting generated during rubber parts assembly, such as: • - Wrong parts assembly • - Assembly dimensional issue • - Push out force less • Discuss the causes of defects in a rubber assembled product and their probable corrective actions. • Select the inspection equipment for carrying out given in-process quality parameters during rubber parts assembly. • Demonstrate the verification of the calibration status of the given testing equipment. • Draw sample of the material from the given lot to be tested as per the specified AQL. • Demonstrate labelling/ numbering on the given testing samples as per the given specifications. • Demonstrate the assembled rubber part inspection as per given check sheet. • Conduct visual inspection of the given assembled rubber part sample, as per the given visual inspection check sheet. • Describe the need of quality control in material handling and storage operations. • Identify various defects generated during material handling and storage operations.	35	65	50%	50%

		• Demonstrate in-process inspection during material handling and storage operations. • Use methodology of problem- solving. • Describe implication of quality issues generated during material handling and storage operations. • Perform in-process quality checks independently without supervision.				
9	**Carry out problem identification and escalation RSC/N5004 NOS**	• Describe regular problems encountered during rubber parts assembly and storage process, such as: • - Machine maintenance issue • - Raw material non-availability • - Manpower non-availability • - Quality issue in input raw material • - Quality issue in material produced • Recall the root cause analysis methods available to analyse the problem. • List the wrong practices which may lead to quality issue in produced • material. • List the wrong practices which may lead to poor production performance. • Explain how to deal with common problems during rubber parts assembly and storage operation. • Explain the process of escalating problem during rubber parts assembly and storage operation. • Create a fish bone diagram for a given rubber product quality problem. • Illustrate the hierarchy for escalating problem of a rubber parts assembly and storage machine. • Describe regular problems encountered during material handling and storage operation. • Explain how to deal various problem during material handling and storage operation. • Describe hierarchy of a rubber industry. • Describe the need for problem escalation. • Demonstrate the process of escalating problem during material handling and storage operation	45	55	50%	50%
		Total Marks	**320**	**480**	**50%**	**50%**

Glossary

Term	Description
Sector	Sector is a conglomeration of different business operations
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.

Acronyms

Acronym	Description
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Annexure 1: Tools and Equipment

List of Tools and Equipment

The tools and equipment required are:

S. No.	Tool / Equipment Name	Specification (as per batch of 30 trainees)
1	Gloves	2
2	Safety Shoes	2
3	Tyre Wrapping Machine	1
4	Mask	2
5	Tyre Compression Machine	1
6	Flow Packing Machine	1
7	Shrink Wrapping Machine	1
8	Bag Sewing/Closure Machine	1
9	Materials And Products For Packing	1

Classroom Aids

The aids required to conduct sessions in the classroom are:

1 Projector
2 Computer/laptops
3 Internet connectivity
4 Whiteboard

Annexure 2: Assessment Strategy

This section includes the processes involved in identifying, gathering and interpreting information to evaluate the learner on the required competencies of the program.

Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDSM/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- Assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records
- If the batch size is more than 30, then there should be 2 Assessors.

Testing Environment: Assessor must:

- Confirm that the centre is available at the same address as mentioned on SDMS or SIP
- Check the duration of the training.
- Check the Assessment Start and End time to be as 10 a.m. and 5 p.m.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
- Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
- Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
- Check the availability of the Lab Equipment for the particular Job Role.

Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME should be verified by the other subject Matter Experts along with the approval required from SSC
- Questions are mapped with NOS and PC

- Question papers are prepared considering that level 1 to 3 is for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management Apprenticeship Curriculum: NAPS Jr. Machine Operator – CNC Milling of Plastic Page 20 of 14
- Assessor must be ToA certified
- Assessment agency must follow the assessment guidelines to conduct the assessment

Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre photographs with signboards and scheme specific branding
- Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
- Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos.

Method of verification or validation:

- Surprise visit to the assessment location
- Random audit of the batch
- Random audit of any candidate

Method for assessment documentation, archiving, and access

- Hard copies of the documents are stored
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage and are stored in the Hard Drive

On the Job:

1. Assessment for on the job training to be conducted by the industry partner on the practical competency output defined in the NOS/QP and the assessment criteria.
2. The candidate must score 70% in each module to complete the OJT.
3. Tools of Assessment that can be used are:
   a. Videos of Trainees during OJT should be shared by employer to RCPSDC.
4. Assessment will ensure that the apprentice will be able to:
   a. Work effectively and efficiently as per schedules and timelines while complying with the health and hygiene norms.
   b. Implement safety practices.
   c. Optimize the use of resources to ensure less wastage and maximum conservation.
   d. Communicate effectively and develop interpersonal skills.