



Model Curriculum

QP Name: Calibration Technician

QP Code: CSC/Q0801

Version: 3.0

NSQF Level: 4

Model Curriculum Version: 3.0

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Training Parameters

Sector	Capital Goods
Sub-Sector	Machine Tools, Plastics Manufacturing Machinery, Textile Manufacturing Machinery, Process Plant Machinery, Electrical and Power Machinery
Occupation	Calibration and Instrumentation
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/7311.1001
Minimum Educational Qualification and Experience	<p>10th Grade Pass with 2 years of relevant experience OR 11th Grade Pass with 1 year of relevant experience OR 10th grade pass and pursuing continuous schooling OR 8th pass plus 2-year NTC plus 1-Year NAC plus 1-Year CITS OR 10th grade pass with two years of any combination of NTC/NAC/CITS or equivalent OR Pursuing 2nd year of 3-year regular Diploma (after 10th) OR Completed 2nd year of 3-year diploma (after 10th) OR 12th grade pass OR Operator - Calibration and Instrumentation of NSQF Level 3.0 with 3 years of relevant experience</p>
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 Years
Last Reviewed On	NA
Next Review Date	NA
NSQC Approval Date	NA
QP Version	3.0
Model Curriculum Creation Date	NA
Model Curriculum Valid Up to Date	NA
Model Curriculum Version	3.0

Minimum Duration of the Course	480 Hours
Maximum Duration of the Course	480 Hours

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills to:

- Explain the importance of following the health and safety practices at work.
- Demonstrate ways to coordinate with co-workers to achieve work efficiency.
- Demonstrate the process of calibrating hydraulic, pneumatic and mechanical measuring and control equipment.
- Demonstrate the process of calibrating electrical and electronic measuring and control equipment.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
CSC/N1335 Follow the health and safety practices at work NSQF Level- 3	25:00	35:00	0:00	00:00	60:00
Module 1: Introduction to the role of a Calibration Technician	05:00	0:00	0:00	00:00	05:00
Module 2: Health and safety practices	20:00	35:00	0:00	00:00	55:00
CSC/N1336 Coordinate with co-workers to achieve work efficiency NSQF Level- 3	10:00	20:00	0:00	00:00	30:00
Module 3: Process of coordinating with co-workers to achieve work efficiency	10:00	20:00	0:00	00:00	30:00
CSC/N0801 Calibrate hydraulic, pneumatic and mechanical measuring and control equipment NSQF Level- 4	45:00	105:00	0:00	00:00	150:00

Module 4: Process of calibrating hydraulic, pneumatic and mechanical measuring and control equipment	45:00	105:00	0:00	00:00	150:00
CSC/N0802 Calibrate electrical and electronic measuring and control equipment NSQF Level- 4	40:00	80:00	0:00	00:00	120:00
Module 5: Process of calibrating electrical and electronic measuring and control equipment	40:00	80:00	0:00	00:00	120:00
DGT/VSQ/N0102 - Employability Skills (60 hours) NSQF Level – 5	24:00	36:00	00:00	00:00	60:00
Module 6: Introduction to Employability Skills	0.5:00	1:00	00:00	00:00	1.5:00
Module 7: Constitutional values - Citizenship	0.5:00	1:00	00:00	00:00	1.5:00
Module 8: Becoming a Professional in the 21st Century	1:00	1.5:00	00:00	00:00	2.5:00
Module 9: Basic English Skills	4:00	6:00	00:00	00:00	10:00
Module 10: Career Development & Goal Setting	1:00	1:00	00:00	00:00	2:00
Module 11: Communication Skills	2:00	3:00	00:00	00:00	5:00
Module 12: Diversity & Inclusion	1:00	1.5:00	00:00	00:00	2.5:00
Module 13: Financial and Legal Literacy	2:00	3:00	00:00	00:00	5:00
Module 14: Essential Digital Skills	4:00	6:00	00:00	00:00	10:00
Module 15: Entrepreneurship	3:00	4:00	00:00	00:00	7:00
Module 16: Customer Service	2:00	3:00	00:00	00:00	5:00
Module 17: Getting ready for apprenticeship & Jobs	3:00	5:00	00:00	00:00	8:00
Total Duration	144:00	276:00	60:00	00:00	480:00

Module Details

Module 1: Introduction to the role of a Calibration Technician

Bridge Module

Terminal Outcomes:

- Discuss the job role of a Calibration Technician.

Duration: 05:00	Duration: 0:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the size and scope of the capital good industry and its sub-sectors. • Discuss the role and responsibilities of a Calibration Technician. • Identify various employment opportunities for a Calibration Technician. 	
Classroom Aids	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop, Video Films	
Tools, Equipment and Other Requirements	
NA	

Module 2: Health and safety Practices

Mapped to CSC/N1335 v2.0

Terminal Outcomes:

- Demonstrate ways to maintain personal health and safety.
- Describe the process of assisting in hazard management.
- Explain how to check the first aid box, firefighting and safety equipment.
- Describe the process of assisting in waste management.
- Explain the importance of following the fire safety guidelines.
- Explain the importance of following the emergency and first-aid procedures.
- Demonstrate the process of carrying out relevant documentation and review.

Duration: 20:00	Duration: 35:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the recommended practices to be followed to ensure protection from infections and transmission to others, such as the use of hand sanitizer and face mask. • Explain the importance and process of checking the work conditions, assessing the potential health and safety risks, and take appropriate measures to mitigate them. • Explain the importance and process of selecting and using the appropriate PPE relevant to the task and work conditions. • Explain the recommended techniques to be followed while lifting and moving heavy objects to avoid injury. • Explain the importance of following the manufacturer's instructions and workplace safety guidelines while working on heavy machinery, tools and equipment. • Explain the importance and process of identifying existing and potential hazards at work. • Describe the process of assessing the potential risks and injuries associated with the various hazards. • Explain how to prevent or minimise different types of hazards. 	<ul style="list-style-type: none"> • Demonstrate the use of appropriate Personal Protective Equipment (PPE) relevant to the task and work conditions. • Demonstrate how to handle hazardous materials safely. • Demonstrate the process of testing the firefighting and various safety equipment to ensure they are in usable condition. • Demonstrate the process of recycling and disposing different types of waste appropriately. • Demonstrate how to use the appropriate type of fire extinguisher to extinguish different types of fires safely. • Demonstrate how to administer appropriate first aid to the injured personnel. • Demonstrate the process of performing Cardiopulmonary Resuscitation (CPR) on a potential victim of cardiac arrest. • Demonstrate the process of carrying out appropriate documentation following a health and safety incident at work, including all the required information.

- Explain how to handle and store hazardous materials safely.
- Explain the importance of ensuring the first aid box is updated with the relevant first aid supplies.
- Describe the process of checking and testing the firefighting and various safety equipment to ensure they are in a usable condition.
- Explain the criteria for segregating waste into appropriate categories.
- Describe the appropriate methods for recycling the recyclable waste.
- Describe the process of disposing of the non-recyclable waste safely and the applicable regulations.
- Explain the use of different types of fire extinguishers to extinguish different types of fires.
- State the recommended practices to be followed for a safe rescue during a fire emergency.
- Explain how to request assistance from the fire department to extinguish a serious fire.
- Explain the appropriate practices to be followed during workplace emergencies to ensure safety and minimise loss to organisational property.
- State the common health and safety hazards present in a work environment, associated risks, and how to mitigate them.
- State the safe working practices to be followed while working at various hazardous sites and using electrical equipment.
- Explain the importance of ensuring easy access to firefighting and safety equipment.
- Explain the appropriate preventative and remedial actions to be taken in the case of exposure to toxic materials, such as poisonous

chemicals and gases.

- Explain various causes of fire in different work environments and the recommended precautions to be taken to prevent fire accidents.
- Describe different methods of extinguishing fire.
- List different materials used for extinguishing fire.
- Explain the applicable rescue techniques to be followed during a fire emergency.
- Explain the importance of placing safety signs and instructions at strategic locations in a workplace and following them.
- Explain different types of first aid treatment to be provided for different types of injuries.
- State the potential injuries associated with incorrect manual handling.
- Explain how to move an injured person safely.
- State various hazards associated with the use of various machinery, tools, implements, equipment and materials.
- Explain the importance of ensuring no obstruction and free access to fire exits.
- Explain how to free a person from electrocution safely.
- Explain how to administer appropriate first aid to an injured person.
- Explain how to perform Cardiopulmonary Resuscitation (CPR).
- Explain the importance of coordinating with the emergency services to request urgent medical assistance for persons requiring professional medical attention or hospitalisation.
- State the appropriate documentation

<p>to be carried out following a health and safety incident at work, and the relevant information to be included.</p> <ul style="list-style-type: none"> • Explain the importance and process of reviewing the health and safety conditions at work regularly or following an incident. • Explain the importance and process of implementing appropriate changes to improve the health and safety conditions at work. 	
<p>Classroom Aids</p>	
<p>Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator’s Guide, Participant’s Handbook.</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask</p>	

Module 3: Process of coordinating with co-workers to achieve work efficiency

Mapped to NOS CSC/N1336 v2.0

Terminal Outcomes:

- Demonstrate ways to Work and communicate effectively with co-workers.
- Discuss ways to promote diversity and inclusion at the workplace.

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the importance and process of effective communication in the workplace. • Explain the barriers to effective communication and how to overcome them. • Explain the importance of teamwork in an organisation’s and individual’s success. • Explain the importance of active listening in the work environment. • State the appropriate techniques to be followed for active listening. • Explain the importance of tone and pitch ineffective communication. • Explain the importance of avoiding casual expletives and unpleasant terms while communicating professional circles. • Explain the importance of maintaining discipline and ethical behaviour at work. • State the common reasons for interpersonal conflict and how to resolve them. • Explain the importance of developing effective working relationships for professional success. • Describe the process of expressing and addressing grievances appropriately and effectively. • Explain the importance and process of planning daily tasks to ensure their timely completion and efficient use of 	<ul style="list-style-type: none"> • Demonstrate the process of preparing the relevant documents and reports as per the supervisor’s instructions, providing appropriate information clearly and systematically. • Demonstrate how to mentor and assist subordinates in the execution of their work responsibilities. • Demonstrate the process of using various resources efficiently to ensure maximum utilisation and minimum wastage. • Demonstrate how to communicate clearly and politely to ensure effective communication with co-workers. • Demonstrate appropriate verbal and non-verbal communication that is respectful of genders and disability.

<p>time.</p> <ul style="list-style-type: none"> • Explain the importance of adhering to the limits of authority at work. • Explain the importance of following the applicable quality standards and timescales at work. • Explain the importance of coordinating with co-workers to achieve the work objectives efficiently. • Explain the relevant documentation requirements. • Explain the importance of providing appropriate information clearly and systematically in work documents. • State the escalation matrix to be followed to deal with out of authority tasks and concerns. • Explain the importance and process of mentoring and assisting subordinates in the execution of their work responsibilities. • Explain how to identify possible disruptions to work prevent them. • Explain how to use various resources efficiently to ensure maximum utilisation and minimum wastage. • Explain the recommended practices to be followed at work to avoid and resolve conflicts at work. • Explain the importance and process of efficient and timely dissemination of information to the authorised personnel. • Explain the procedure to report inappropriate behaviour e.g., harassment. 	
<p>Classroom Aids:</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>NA</p>	

Module 4: Process of calibrating hydraulic, pneumatic and mechanical measuring and control equipment

Mapped to CSC/N0801 v2.0

Terminal Outcomes:

- Describe the process of preparing for testing and calibration activities.
- Demonstrate the process of testing the measuring and control equipment.
- Demonstrate the process of analysing and reporting the test results.
- Demonstrate the process of calibrating the measuring and control equipment.
- Explain the importance of using resources optimally.

Duration: 45:00	Duration: 105:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • State the applicable standards and regulations regarding the use of measuring equipment. • Explain the concepts and benefits of Industry 4.0 and Industrial Internet of Things (IIoT). • Describe the process of testing and calibrating the measuring equipment, and the use of relevant tools and equipment such as pressure gauge, standard test gauges, micrometre, jigs and fixtures, insulation tester, Vernier calliper, deadweight tester, manometers, gyroscope, etc. • Describe the standard procedure for commissioning and recommissioning measuring equipment. • Explain the specifications, components and operations of various measuring equipment. • List the appropriate checks to be conducted on the measuring equipment. • List common faults found in measuring equipment and how to rectify them. • Explain the use of the relevant techniques for checking the calibration of measuring equipment for conformance to specifications. • Describe the process of calibrating the measuring equipment according 	<ul style="list-style-type: none"> • Demonstrate how to repair and replace the testing tools and equipment, as appropriate. • Demonstrate the process of conducting various tests such as standard serviceability/calibration test; special-to-type test; operational/function checks; gauge repeatability and reliability test, etc. • Demonstrate how to inspect and test the operation of instruments and systems using the appropriate testing devices. • Demonstrate the process of carry out appropriate documentation with respect to the testing/calibration activities. • Demonstrate the process of calibrating the measuring and control equipment according to the manufacturer specifications, applicable physical standards and requirements. • Show how to use the appropriate calibration tools, equipment, and techniques as per the standard procedure. • Show how to conduct zero and span check on indicators/controllers using the appropriate configuration. • Demonstrate the use of various industry 4.0 manufacturing

<p>to the applicable physical standards.</p> <ul style="list-style-type: none"> • Explain the effects of various faults on the performance and accuracy of measuring equipment. • List various hazards and controls associated with calibrating measuring equipment. • Explain the functions of various measuring equipment and applicable tolerance levels for calibration. • State the applicable instrumentation principles such as controlling density, level, flow, temperature, composition, etc. • State the principles of hydraulic and pneumatic flow. • State the application principles for assessing the operation of instrumentation systems/ equipment and components. • Explain the use of relevant equipment for inspecting and testing the instrumentation system. • Describe the procedures to be followed for calibrating the instrumentation systems/ equipment and components. • State the relevant dismantling, reassembly and testing techniques. • Explain the operations and specifications of the instrumentation system/equipment and acceptable deviations. • Describe the applicable procedures for isolating instrumentation systems. • List various faults found in the instrumentation system/equipment components. • Describe the process of checking and verifying the operational function of the instrumentation system/equipment. • Describe the process of recording and completing service reports. 	<p>technologies.</p> <ul style="list-style-type: none"> • Demonstrate the process of carry out appropriate documentation such as job cards, progress records, incident reports, calibration and test reports as per the organisational procedures. • Demonstrate how to use electricity and other resources optimally in various tasks and processes.
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<ul style="list-style-type: none"> • Explain how to deal with variations between test results and operational specifications. • List various faults found in the instrumentation system/equipment and components. • Describe the process of repairing faulty instrumentation system/equipment. • Describe the process of conducting zero and span checks on instrumentation systems/equipment. • Explain functions of load cells/strain gauges, transducers, mechanical governors, control valves, valve actuators, positioners, etc. • Explain the benefits and methods of resource optimisation. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Load Cells, Strain Gauges, Transducers, Mechanical Governors, Pressure Gauges, Micrometers, Jigs and Fixtures, Templates and Patterns, Insulation Testers, Vernier Calliper, Dead Weight Tester, Manometers, Gyroscope, Screw Driver, Testers etc.</p>	

Module 5: Process of calibrating electrical and electronic measuring and control equipment

Mapped to CSC/N0802 v2.0

Terminal Outcomes:

- Describe the process of planning and carrying out the testing activities.
- Demonstrate the process of analysing and reporting the test results.
- Demonstrate the process of calibrating the measuring and control equipment.

Duration: 40:00	Duration: 80:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • State the applicable standards and regulations with respect to the electrical and electronic measuring and control equipment and their calibration. • Describe the standard procedures for testing and calibrating the electrical and electronic measuring and control equipment, and the use of relevant tools and equipment. • Describe the process of commissioning and recommissioning electrical and electronic measuring and control equipment. • State the recommended electrical and electronic measuring and control equipment specifications to be maintained. • Describe the process of testing and calibrating various components such as sensors, transmitters, converters, indicators, analysers, controllers, power supply units, removable circuit boards, sensor units, etc. • Explain the functions of various sensor units that determine/control density, level, flow, temperature, composition etc. • List the appropriate techniques to be used to check the calibration of measuring and control equipment and ensure their conformance to the recommended/ manufacturer specifications and physical standards. • List the common faults found in the 	<ul style="list-style-type: none"> • Demonstrate the process of conducting the relevant tests such as gauge repeatability and reliability tests; special-to-type tests; etc. • Demonstrate how to test the operation of instruments and systems to diagnose faults using the appropriate testing devices. • Demonstrate how to test various components such as sensors, transmitters, converters, indicators, analysers, controllers, circuit boards to determine faults/ wear and tear/ damage. • Demonstrate how to test the sensor units associated with determining/controlling density, level, flow, temperature, the composition of a range of materials, for the correct functioning. • Demonstrate the process of carrying out relevant documentation regarding the testing activities. • Demonstrate the process of calibrating the control and measuring equipment according to the applicable physical standards and manufacturer specifications. • Show how to use the relevant calibration tools and equipment such as oscilloscope, pressure gauge, current injection device, voltmeter, analogue and digital meter appropriately. • Demonstrate the process of carrying

electrical and electronic measuring and control equipment, their effects on the performance/accuracy on equipment performance, and how to rectify them.

- List various hazards associated with calibration of electrical and electronic measuring and control equipment and how to minimise them.
- State the appropriate tolerance levels for calibration of electrical and electronic measuring and control equipment.
- Explain the effects of resistance, capacitance, inductance and impedance upon electrical circuit including Resistance-Inductance-Capacitance (RLC) series circuit.
- Explain how to interpret schematics, wiring and block diagrams.
- Explain the principles of electrical flow.
- Explain the purpose/operational functions of the instrumentation system.
- Describe the process for inspecting, testing, calibrating and repairing instrumentation systems and equipment/ components.
- State the recommended specifications for the relevant instrumentation system and acceptable deviations.
- Explain the applicable dismantling, reassembly and testing techniques.
- Describe the process of isolating instrumentation systems.
- List various faults found in instrumentation system/equipment components, their causes and how to rectify them.
- Describe the procedure for checking and verifying the operational function of the instrumentation system/equipment.
- Explain how to deal with variations

out appropriate documentation such as job cards, as per the organisational procedures.

<p>between test results and operational specifications of the instrumentation system.</p> <ul style="list-style-type: none"> • List various errors indicated by built-in devices and how to rectify them. • Describe the process for documenting test and calibration results. • Explain the function and process of conducting zero and span checks on instrumentation systems/equipment. 	
<p>Classroom Aids</p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p>Tools, Equipment and Other Requirements</p>	
<p>Sensors, Transmitters, Converters, Indicators, Analyzers, Controllers, Power Supplies, Removable Circuit Boards, Absolute Gauge, Orifice Plate, Venturi Tube, Pressure Cell, Load Cells, Thermo Couples, Fiscal Metering Equipment, Speed Control Equipment, Speed Measurement Equipment, Vibration Switches, Proximity Probes, Linear Variable Differential Transducer, Oxygen Analyzer, Telemetry Systems, Potentiometer, Multimeter, Cathode Ray Oscilloscope</p>	

Module 6: Introduction to Employability Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements

Duration: <0.5:00>	Duration: <1:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss the importance of Employability Skills in meeting the job requirements 	<ul style="list-style-type: none"> • List different learning and employability related GOI and private portals and their usage
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 7: Constitutional values - Citizenship

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Discuss about constitutional values to be followed to become a responsible citizen

Duration: <0.5:00>	Duration: <1:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. 	<ul style="list-style-type: none"> • Show how to practice different environmentally sustainable practices
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 8: Becoming a Professional in the 21st Century

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate professional skills required in 21st century

Duration: <1:00>	Duration: <1.5:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss 21st century skills. • Describe the benefits of continuous learning 	<ul style="list-style-type: none"> • Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 9: Basic English Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic English speaking.

Duration: <4:00>	Duration: <6:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe basic communication skills • Discuss ways to read and interpret text written in basic English 	<ul style="list-style-type: none"> • Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone • Read and interpret text written in basic English • Write a short note/paragraph / letter/e - mail using basic English
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 10: Career Development & Goal Setting

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate Career Development & Goal Setting skills.

Duration: <1:00>	Duration: <1:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss need of career development plan 	<ul style="list-style-type: none"> • Demonstrate how to communicate in a well-mannered way with others. • Create a career development plan with well-defined short- and long-term goals
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 11: Communication Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Practice basic communication skills.

Duration: <2:00>	Duration: <3:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the importance of active listening for effective communication • Discuss the significance of working collaboratively with others in a team 	<ul style="list-style-type: none"> • Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 12: Diversity & Inclusion

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe PwD and gender sensitisation.

Duration: <1:00>	Duration: <1.5:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss the significance of reporting sexual harassment issues in time 	<ul style="list-style-type: none"> • Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 13: Financial and Legal Literacy

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of managing expenses, income, and savings.

Duration: <2:00>	Duration: <3:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • List the common components of salary and compute income, expenditure, taxes, investments etc. • Discuss the legal rights, laws, and aids 	<ul style="list-style-type: none"> • Outline the importance of selecting the right financial institution, product, and service • Demonstrate how to carry out offline and online financial transactions, safely and securely
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 14: Essential Digital Skills

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Demonstrate procedure of operating digital devices and associated applications safely.

Duration: <4:00>	Duration: <6:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the role of digital technology in today's life • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely 	<ul style="list-style-type: none"> • Show how to operate digital devices and use the associated applications and features, safely and securely • Create sample word documents, excel sheets and presentations using basic features • Utilize virtual collaboration tools to work effectively
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 15: Entrepreneurship

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe opportunities as an entrepreneur.

Duration: <3:00>	Duration: <4:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the types of entrepreneurship and enterprises • Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan • Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement 	<ul style="list-style-type: none"> • Create a sample business plan, for the selected business opportunity
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 16: Customer Service

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of maintaining customer.

Duration: <2:00>	Duration: <3:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the significance of identifying customer needs and addressing them. • Explain the significance of identifying customer needs and responding to them in a professional manner. • Discuss the significance of maintaining hygiene and dressing appropriately. 	<ul style="list-style-type: none"> • Demonstrate how to maintain hygiene and dressing appropriately.
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Module 17: Getting ready for apprenticeship & Jobs

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe ways of preparing for apprenticeship & Jobs appropriately.

Duration: <3:00>	Duration: <5:00>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Discuss the significance of maintaining hygiene and confidence during an interview List the steps for searching and registering for apprenticeship opportunities 	<ul style="list-style-type: none"> Create a professional Curriculum Vitae (CV) Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively Perform a mock interview
Classroom Aids:	
Whiteboard, marker pen, projector	
Tools, Equipment and Other Requirements	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma /Degree	Diploma /Degree in Mechanical Engineering	4	Calibration Technician	0		Practical skills and knowledge required in the relevant field

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Calibration Technician” mapped to QP: “CSC/Q0801, v1.0” . Minimum accepted score is 80%	Recommended that the Trainer is certified for the Job Role: “Trainer” , mapped to the Qualification Pack: “MEP/Q2601” . Minimum accepted as per respective SSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Diploma /Degree	Diploma /Degree in Mechanical Engineering	4	Calibration Technician	0		Practical skills and knowledge required in the relevant field

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Calibration Technician” mapped to QP: “CSC/Q0801, v1.0” . Minimum accepted score is 80%	Certified for the Job Role: “Assessor” (VET and skills, mapped to the Qualification Pack: “MEP/Q2701, v2.0” , with a minimum score of 80%.

Assessment Strategy

1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- The assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

2. Testing Environment

To ensure a conducive environment for conducting a test, the trainer will:

- 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 10 a.m. and 5 p.m. respectively
- Ensure there are 2 Assessors if the batch size is more than 30.
- 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.

3. Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME verified by the other subject Matter Experts
- Questions are mapped with NOS and PC
- Question papers are prepared considering that levels 1 to 3 are for the unskilled & semi-skilled individuals, and levels 4 and above are for the skilled, supervisor & higher management
- The assessor must be ToA certified and the trainer must be ToT Certified
- The assessment agency must follow the assessment guidelines to conduct the assessment

4. 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

5. Method of verification or validation:

To verify the details submitted by the training centre, the assessor will undertake:

- A surprise visit to the assessment location
- A random audit of the batch
- A random audit of any candidate

6. Method for assessment documentation, archiving, and access

To protect the assessment papers and information, the assessor will ensure:

- Hard copies of the documents are stored

- Soft copies of the documents & photographs of the assessment are uploaded/accessed from Cloud Storage
- Soft copies of the documents & photographs of the assessment are stored on the Hard drive

References

Glossary

Term	Description
Declarative knowledge	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
Key Learning	The key learning outcome is the statement of what a learner needs to know, understand and be able to do in order to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training outcome is specified in terms of knowledge, understanding (theory) and skills (practical application).
OJT (M)	On-the-job training (Mandatory); trainees are mandated to complete specified hours of training on-site
OJT (R)	On-the-job training (Recommended); trainees are recommended the specified hours of training on-site
Procedural Knowledge	Procedural knowledge addresses how to do something, or how to perform a
Training Outcome	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
Terminal Outcome	The terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome.

Acronyms and Abbreviations

Term	Description
NOS	National Skills Qualification Committee
NSQF	National Skills Qualification Framework
OJT	On-the-Job Training
OMR	Optical Mark Recognition
PC	Performance Criteria
PwD	Persons with Disabilities
QP	Qualification Pack
SDMS	Skill Development & Management System
SIP	Skill India Portal
SSC	Sector Skill Council
TC	Trainer Certificate
ToA	Training of Assessors
ToT	Training of Trainers
TP	Training Provider