Model Curriculum

QP Name: CNC Operator Turning

QP Code: CSC/Q0115

Version: 2.0

NSQF Level: 4

Model Curriculum Version: 1.0

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Table of Contents

Training Parameters

Sector	Capital Goods
Sub-Sector	Machine Tools, Dies, Moulds and Press Tools, Plastics Manufacturing Machinery, Textile Manufacturing Machinery, Process Plant Machinery, Electrical and Power Machinery, Light Engineering Goods
Occupation	Machining
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 7223.40
Minimum Educational Qualification and Experience	8th Class Pass + ITI (2years) with 2 years of experience in the relevant field OR 10th Class Pass with 2 years of experience in the relevant field OR 10th Class Pass + ITI (1 year) with 1 year experience in the relevant field OR 10th Class Pass + ITI (2 years) OR 12th Class Pass with 6 months of experience in the relevant field OR Certified in NSQF-L3 Operator - Conventional Turning with 2 years of experience in the relevant field
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	2.0
Model Curriculum Creation Date	NA

Model Curriculum Valid Up to Date	NA
Model Curriculum Version	1.0
Minimum Duration of the Course	450 Hours
Maximum Duration of the Course	450 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 setting up the CNC turning machine for operations.
- Demonstrate the process of carrying out turning operations using the CNC machine.

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
Bridge Module	**04:00**	**00:00**	**0:00**	**00:00**	**04:00**
Module 1: Introduction to the role of a CNC Operator Turning	04:00	0:00	0:00	00:00	04:00
CSC/N1335 Follow the health and safety practices at work **NOS Version- 2.0** **NSQF Level- 3**	**20:00**	**60:00**	**0:00**	**00:00**	**80:00**
Module 2: Health and safety practices	20:00	60:00	0:00	00:00	80:00
CSC/N1336 Coordinate with co-workers to achieve work efficiency **NOS Version-2.0** **NSQF Level- 3**	**20:00**	**60:00**	**0:00**	**00:00**	**80:00**
Module 3: Process of coordinating with co-workers to achieve work efficiency	20:00	60:00	0:00	00:00	80:00
CSC/N0120: Set up the CNC turning machine for operations **NOS Version- 2.0** **NSQF Level- 4**	**36:00**	**98:00**	**0:00**	**00:00**	**134:00**

Module 4: Process of setting up the CNC turning machine for operations	36:00	98:00	0:00	00:00	134:00
CSC/N0115 Carry out turning operations using the CNC machine **NOS Version- 2.0** **NSQF Level- 4**	**40:00**	**112:00**	**0:00**	**00:00**	**152:00**
Module 5: Process of carrying out turning operations using the CNC machine	40:00	112:00	0:00	00:00	152:00
Total Duration	**120:00**	**330:00**	**0:00**	**00:00**	**450:00**

Module Details

Module 1: Introduction to the role of a CNC Operator Turning

Bridge Module

Terminal Outcomes:

- Discuss the job role of a CNC Operator Turning.

Duration: 04:00	Duration: 0:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Describe the size and scope of the capital goods industry and its sub-sectors. • Discuss the role and responsibilities of a CNC Operator Turning. • Identify various employment opportunities for a CNC Operator Turning.	
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: 60:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the recommended practices to be followed to ensure protection from infections and transmission to others, such as the use of hand sanitiser 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. • Explain how to handle and store	• 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.

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 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 to be carried out following a health and safety incident at work, and the relevant information to be included.	

• 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.	
Classroom Aids	
Computer, Projection Equipment, PowerPoint Presentation and Software, Facilitator's Guide, Participant's Handbook.	
Tools, Equipment and Other Requirements	
Personal Protective Equipment, Cleaning Equipment and Materials, Sanitizer, Soap, Mask	

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: 20:00	Duration: 60:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• 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	• 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.

time. • 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.	
Classroom Aids:	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
NA	

Module 4: Process of setting up the CNC turning machine for operations

Mapped to CSC/N0120 v2.0

Terminal Outcomes:

- Describe the process of preparing for setting the CNC turning machine.
- Demonstrate the process of setting the CNC turning machine.

Duration: 36:00	Duration: 98:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• State the relevant environmental regulations that must be observed. • Explain the relevant safe working practices to be followed such as ensuring that no one operates the CNC turning machine while it is being set. • Explain how to fit and adjust machine guards on the CNC turning machine. • Explain the importance of operating a CNC turning machine in closed-door conditions. • Explain the importance of ensuring the tooling is free from any workpiece before starting the machine. • Explain how to secure the workpiece on the CNC turning machine. • Explain the importance of determining the job specifications by referring to a valid source before setting the CNC turning machine. • Explain the applications of CNC Turning machines. • Explain the terminology relevant to CNC turning operations. • Explain the importance of ensuring the suitability of workpieces/materials and consumables for the specified job and related procedures. • Explain the importance and process of checking that tools and equipment are in a safe and usable condition. • Describe different workholding methods and devices used on CNC machines such as chucks with hard jaws chuck with soft jaws, fixtures,	• Demonstrate how to pre-set the tooling appropriately using setting jigs/fixtures. • Demonstrate how to enter all the relevant tool data in the operating program and also part-program for cutting parts using the appropriate commands. • Show how to set tool datum, position, length, offset and radius compensation. • Show how to mount the work holding device/fixture onto the machine and set it according to the machine datum and reference points. • Demonstrate the process of setting the machine tool operating parameters such as hydraulic pressure and clamping according to the component requirements. • Demonstrate the process of setting the CNC machine in the correct operating mode, and enter the tooling data by accessing the program edit facility. • Demonstrate the process of conduct trial runs using single block run, dry run, and feed and speed override controls. • Demonstrate the process of performing the necessary checks before allowing the machine to operate in full program run mode. • Demonstrate the process of carrying out necessary documentation as per the organisational procedure for the handover of the machine. • Demonstrate the process of carrying

drive centres, collet chucks, faceplates, magnetic/pneumatic devices, etc. • Explain how to set the workholding devices. • State the appropriate machine specifications such as power, Revolutions Per Minute (RPM), torque, cutting speed, etc. • Explain how to set and use various tools such as turning tool (OD and ID), grooving tool (OD and ID), parting tool, threading tool, form tools, centre drills, twist/insert drills, reamers. • Explain the use of various tool holding devices. • Describe the method of mounting and securing the cutting tools to the tool holders appropriately. • Explain the advantages of using pre-set tooling, and how to set the tooling using setting jigs/fixtures. • Explain the use of tool posts, magazines and carousels. • Explain how to position and identify the tools in relation to the operating program. • List various errors messages displayed by a CNC machine and the appropriate action to be taken. • Explain the importance of proving the program and the process of doing it. • Explain how to part-program for cutting a part; related commands and how to transfer the program to the CNC machine. • Describe the applicable quality control procedures, inspection checks to be carried out, and the equipment required for the purpose. • List various materials used in common engineering applications, such as ferrous and non-ferrous metals, and non-metals e.g., plastic. • Explain how to identify materials by	out appropriate documentation with respect to the setting of the machine and checks conducted.

their physical properties.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
Safety Glasses, Safety Shoes, Face Mask, Work Holding Devices, CNC Machine with All Accessories, Engineering Drawings, Sample Instruction Sheets, Sample Daily Check Sheet, Turning Tool, Threading Tool, Centre Drills, Threading Tools, Reamers, Vernier Caliper, Micrometer Screw Gauge, Depth Gauge, Work Holding Devices	

Module 5: Process of carrying out turning operations using the CNC machine

Mapped to CSC/N0115 v2.0

Terminal Outcomes:

- Describe the process of preparing for carrying out turning operations.
- Demonstrate the process of carrying out turning operations.

Duration: 40:00	Duration: 112:00
Theory – Key Learning Outcomes	**Practical – Key Learning Outcomes**
• Explain the concepts and benefits of Industry 4.0 and Industrial Internet of Things (IIoT). • Describe the appropriate CNC turning procedures, safe working practices, and environmental regulations to be observed. • Explain how to isolate the machine before mounting work holding devices and tooling. • Describe the process of fitting and adjusting machine guards. • Explain the importance of securing the workpiece before starting the machine. • List various hazards associated with the use of CNC turning machines and how to minimize them. • Explain the use of relevant Personal Protective Equipment (PPE) during the CNC turning activities, such as overalls, face shields with safety glasses, steel toe boots, gloves made from the recommended grade of rubber, etc. • Explain how to use the relevant safety mechanism on the CNC turning machine, such as emergency stop buttons/ brakes. • List the valid sources to get the job specifications such as job instruction sheet/job card; work drawings and instructions; planning documentation; quality control documents; operation sheets; process specifications; instructions	• Demonstrate the process of repairing and replacing the worn-out PPE, tools and equipment. • Show how to check the process sheet and match it with the received drawings and other specifications. • Demonstrate the process of carrying out daily maintenance of turning machines, following the maintenance checklist and applicable procedures. • Demonstrate the process of carrying out minor repairs and maintenance on the CNC turning machine. • Show how to load and unload component(s) using the appropriate fixtures or work holding devices as appropriate. • Demonstrate the process of conducting a dry run and single block check to check the correctness of the program. • Demonstrate the process of carrying out first part cutting trials by setting tool offsets to get oversize parts. • Demonstrate the process of adjusting the feed and Revolutions Per Minute (RPM). • Show how to measure the critical parameters of the machined components without removing them from the machine. • Demonstrate the process of carrying out a range of turning operations to ensure the machined components have the required features, faces, undercuts, profiles, holes, parting-off

from supervisor, etc. • Explain the terminology relevant to CNC turning. • Explain how to read and interpret first and third angle component drawings. • Explain how to extract relevant information from engineering drawings, such as dimensioning and labelling data orthographic, isometric, first and third angle projections, sectional view data, reference points, lines, edges and surfaces. • List the symbols and conventions appropriate to the relevant ISO standards. • Explain the features, working parts of the CNC turning machine. • List the preliminary checks to be conducted on the CNC turning machine such as machine cleanliness, lubricant and coolant levels, functioning of sub-systems, etc. • State the relevant information about thread sizes; feeds and speeds; machining symbols and tolerances; surface finish symbols; etc. • Explain the use of relevant accessories. • Explain the importance of following the established machining sequences and procedures. • Explain the importance of ensuring the suitability of workpieces/materials and consumables for the specified job and related procedures. • Explain the use of relevant tools and equipment used for machining operations on CNC machines. • Explain the importance and procedure to ensure that tools and equipment are in a safe and usable condition. • Explain various CNC turning operations such as turning (OD and	and threads, etc. • Show how to inspect the machine and machined components as per recommended frequency given in the inspection plan. • Show how to record the measured values as per the organisational standards and complete the post-machining inspection sheet. • Demonstrate the process of repairing or replacing the worn tool and damaged tools and equipment. • Demonstrate the use of various industry 4.0 manufacturing technologies.

ID), facing, grooving (OD and ID), face grooving, thread cutting (OD and ID), drilling, boring and tapping. • Describe the appropriate techniques and procedures for carrying out specific turning operations on a CNC lathe. • Explain the importance of following the correct procedures according to the raw material and form of supply/shapes. • List various error messages displayed on a CNC turning machine and the appropriate corrective action to be taken. • Explain the importance of securing the workpieces/raw material correctly using the appropriate devices and mechanisms. • Explain the importance of setting the work holding device according to the machine axis and reference points. • List the implications of common problems encountered during CNC turning operations and how to resolve them. • Describe the process of checking the machined components against the relevant quality standards, such as components free from false tool cuts, burrs and sharp edges; recommended dimensions and tolerances. • List various ferrous and non-ferrous metals such as steel, stainless steel, cast iron, aluminium, aluminium alloys, copper and copper alloys machined using CNC turning machine and their machinability. • Explain the metric systems of measurement. • Explain the absolute and incremental systems of tool positioning and offsetting. • Explain the relevance and effect of machine zero, workpiece zero, work offsets, tool offsets in the CNC	

program. • List the necessity and effects of not using tool nose radius compensation. • Explain the use of High-speed steels, Tungsten carbide, Ceramic and Diamond indexable tips, and factors that determine their selection and use such as hardness, cutting characteristics, tolerances to be achieved, component surface finish, and component specifications. • Explain the use of various work holding devices such as tailstock, steady rest, chucks with hard jaws, chucks with soft jaws, fixtures, drive centres, collet chucks, faceplates, magnetic/pneumatic devices, etc. • Explain the 1st and 2nd setup operation. • Explain how to decide holding length and jaw pressure setting. • Explain the importance of conducting a cutting trial. • Describe the process of conducting trial dry run and single block checks. • Explain how to set cutting with offset adjustment. • Explain the parameters to be checked before operating CNC turning machine in auto mode dimensions and surface finishes. • Explain the importance of conducting periodic checks and maintenance on the machine such as replenishing the coolant; cleaning the machine; removing and disposing of swarf, etc. • Explain the importance of calculating and adhering to the estimated production cost, machine hour rate, raw material cost, tool cost, coolant cost, overheads, cycle time, idle time, cost of machine idling, part rejection cost, etc. • Describe the process of selecting the cutting tools. • Describe the process of selecting the appropriate cutting tool catalogues	

such as turning tool (OD and ID), grooving tool (OD and ID), parting tool, threading tool, form tools, centre drills, twist/insert drills and reamers. • Explain the relationship between surface finish, tool nose radius and feed rate. • List the factors that affect feed and speed, such as type and condition of material, work-holding method, tooling, tolerance and finish to be achieved. • Explain the impact of depth of cut on chatter and surface finish. • Explain the importance of leaving the work area and machine in a safe condition on the completion of daily activities. • List the safe conditions to be ensured concerning the CNC machine. • Explain the importance of complying with the applicable health, safety, environmental regulations.	
Classroom Aids	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
Tools, Equipment and Other Requirements	
CNC Turning Machines (2- Axis CNC Lathe Machine), Cutting Tools Measuring Tools, Hand Tools, Power Tools, PPE, Drawing Tools, Drilling Machines, Cutting Machines, Hand Grinders, GD&T, Safety Glasses, Safety Shoes, Face Mask, Work Holding Devices, CNC Machine with all Accessories, Engineering Drawings, Sample Instruction Sheets, Sample Daily Check Sheet, Turning Tool, Threading Tool, Centre Drills, Threading Tools, Reamers, Vernier Caliper, Micrometer Screw Gauge, Depth Gauge, Work Holding Devices. Etc.	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	**Specialization**	**Relevant Industry Experience**		**Training Experience**		**Remarks**
		Years	***Specialization***	***Years***	***Specialization***	
10th Class	Class 10th	4	CNC Operator-Vertical Machining Centre	0		Practical skills and knowledge required in the relevant job role
ITI	ITI	4	CNC Operator-Vertical Machining Centre	0		Practical skills and knowledge required in the relevant job role

Trainer Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "**CNC Operator Turning**" mapped to QP: "CSC/Q0115, v1.0". The minimum accepted score is 80%	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q0102". The 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***	
10th Class	Class 10th	4	CNC Operator-Vertical Machining Centre	0		Practical skills and knowledge required in the relevant job role
ITI	ITI	4	CNC Operator-Vertical Machining Centre	0		Practical skills and knowledge required in the relevant job role

Assessor Certification	
Domain Certification	**Platform Certification**
Certified for Job Role: "**CNC Operator Turning**" mapped to QP: "CSC/Q0115, v1.0". The minimum accepted score is 80%	Certified for the Job Role: "Assessor", mapped to the Qualification Pack: "MEP/Q2701, v1.0", 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