|  |
| --- |
| **Model Curriculum**  **QP Name: Cold Chain Lead**  **QP Code: LSC/Q8702**  **QP Version: 2.0**  **NSQF Level: 7**  **Model Curriculum Version: 2.0** |
| **­**  Logistics Sector Skill Council|| Logistics Sector Skill Council, Ground Floor, Temple Tower, No.476, Anna Salai, Nandanam, Chennai, Tamil Nadu 600035 |

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# Training Parameters

|  |  |
| --- | --- |
| **Sector** | Logistics |
| **Sub-Sector** | Cold Chain |
| **Occupation** | Cold Chain Operations |
| **Country** | India |
| **NSQF Level** | 7 |
| **Aligned to NCO/ISCO/ISIC Code** | NCO-2015/ NIL |
| **Minimum Educational Qualiﬁcation and Experience** | Pursuing PhD Or Pursuing 2nd year of 2 year PG- Eng Or Completed 3 year UG degree + 3 year of relevant experience  Or Completed 4 year UG degree with Honours/ Honours with research + 2 year of relevant experience Or Previous relevant Qualification of NSQF Level 6 (Cold Chain Engineering Specialist) + 3 years of relevant experience |
| **Pre-Requisite License or Training** | NA |
| **Minimum Job Entry Age** | 18 |
| **Last Reviewed On** | NA |
| **Next Review Date** | NA |
| **NSQC Approval Date** | NA |
| **QP Version** | 2.0 |
| **Model Curriculum Creation Date** | 21-08-2022 |
| **Model Curriculum Valid Up to Date** | 21-08-2022 |
| **Model Curriculum Version** | 2.0 |
| **Minimum Duration of the Course** | 750 |
| **Maximum Duration of the Course** | 750 |

# 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 will be able to:

* Administer manpower planning and design effective training methodology to improve performance
* Implement preventive and corrective actions to ensure smooth working of cold chain operations
* Track and improvise perishable product handling activities
* Instruct and manage data entry/ MIS reports management
* Manage workplace for safe and healthy work environment by following and ensuring compliance to regulatory and safety norms
* Communicate effectively with colleagues and clients for proper information flow
* Facilitate route planning and reefer/non reefer vehicle coordination

## Compulsory Modules

The table lists the modules, their duration and mode of delivery.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | Theory  Duration | Practical  Duration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| Bridge Module | **20** | **10** |  |  | **30** |
| Module 1: Introduction to Cold Chain Lead | 20 | 10 |  |  | 30 |
| LSC/N8708 - Administer manpower planning and labor management across cold chain operations  V2.0  7 | **20** | **65** | **5** |  | **90** |
| Module 2: Manpower planning and management | 20 | 65 | 5 |  | 90 |
| [LSC/N8709 - Ensure smooth and effective execution of cold chain operation](#NOS2)  V2.0  7 | **30** | **85** | **5** |  | **120** |
| Module 3: Managing cold chain operations | 30 | 85 | 5 |  | 120 |
| [LSC/N8710 - Monitor and improvise perishable product handling activities](#NOS3)  V2.0  7 | **30** | **85** | **5** |  | **120** |
| Module 4: Supervision of perishable product handling activities | 30 | 85 | 5 |  | 120 |
| [LSC/N8711 - Oversee route planning and reefer/non-reefer vehicle coordination](#NOS4)  V2.0  7 | **20** | **65** | **5** |  | **90** |
| Module 5: Route planning and coordination | 20 | 65 | 5 |  | 90 |
| [LSC/N8712 - Supervise Data entry/MIS reports management](#NOS5)  V1.0  7 | **20** | **65** | **5** |  | **90** |
| Module 6: Supervise data entry/MIS reports management | 20 | 65 | 5 |  | 90 |
| LSC/N9901 – Maintain food and personal safety, health, and hygiene in cold storage plant  V1.0  7 | **20** | **40** |  |  | **60** |
| Module 7: Compliance to health, safety and security norms | 20 | 40 |  |  | 60 |
| LSC/9902 Communicate effectively with colleagues and clients  V1.0  7 | **20** | **35** | **5** |  | **60** |
| Module 8: Effective Communication | 20 | 35 | 5 |  | 60 |
| DGT/VSQ/N0103 Employability Skills | **30** | **60** |  |  | **90** |
| Total Duration | **210** | **510** | **30** |  | **750** |

**Module Details**

## Module 1: Introduction to Cold Chain Lead

***Mapped to Bridge Module***

**Terminal Outcomes:**

* Describe the basic structure and function of supply chain
* Detail the various functions of a Cold Chain Lead

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *10:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Classify the components of supply chain and logistics sector * Detail the various sub-sectors and the opportunities in them * Identify various activities in cold chain, warehousing, port yard, land, ship and air transportation * Explain job roles in cold chain * Detail your job role as cold chain lead and its interface with other job roles * Describe the various sorting, grading, storage and cold room equipment’s used in cold chain operations * Discuss the documentation requirements in cold chain operations | * Demonstrate the use of evaporators, compressor etc. * Explain the various documentation involved in cold chain maintenance operation |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
|  | |

## Module 2: Manpower planning and management

***Mapped to LSC/N8708, v2.0***

**Terminal Outcomes:**

* Demonstrate the steps to be followed in effective manpower planning and management

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *65:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Discuss the process of evaluating requirements based on HACCP, HAZMAT compliances and any other certifications * Create the training methodology for effective delivery * Explain the process of identifying training requirements for new technological developments * State the effective skill sets for workers to facilitate effective hiring * Discuss the reasons for attrition * State the criteria’s to check the fitness levels of employees for carrying out cold chain operations | * Evaluate training requirements based on HACCP, HAZMAT compliances and any other certifications * Design the training methodology for effective delivery * Identify training requirements for new technological developments * Inform quality assurance department and workers on updates in training requirements * Support head HR in recruitment and attrition decisions * Identify skill sets for workers to facilitate effective hiring * Analyse reasons for attrition * Provide support in designing corrective mechanism to reduce attrition * Assess fitness levels of employees for carrying out cold chain operations |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
| MS Project, MS Office, Computer, Projector, TV, Stationery, Worksheets, Statistical Tools, Budgeting tools, ERP, MIS tools, Business Planning software | |

## Module 3: Managing cold chain operations

***Mapped to LSC/N8709, V1.0***

**Terminal Outcomes:**

* Demonstrate the steps to be followed for effective management of cold chain operations

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *85:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Detail the preventive and corrective actions to avoid microbiological non conformities at different stages of cold chain operations * Recommend actions for overcoming operational delays * Explain the inspection process of implementation of cleaning schedules for equipment and machines * Discuss the various expenses to be considered while calculating budget * Develop budget considering OPEX and CAPEX requirements * Discuss the inspection process for compliance to calibration schedule for equipment * Explain the process of managing upgradation of evaporators, compressors, etc. | * Demonstrate the preventive and corrective actions to avoid microbiological non conformities at different stages of cold chain operations * Propose actions for overcoming operational delays * Inspect implementation of cleaning schedules for equipment and machines * Identify various expenditures related to maintenance, salaries, upgradation, emergency etc. * Prepare budget considering OPEX and CAPEX requirements * Manage budgetary control over operations * Inspect compliance to calibration schedule for equipment * Collaborate with maintenance department to ensure effective functioning of equipment * Administer upgradation of evaporators, compressors, etc. |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
| MS Project, MS Office, Computer, Projector, TV, Stationery, Worksheets, Statistical Tools, Budgeting tools, ERP, MIS tools, Business Planning software | |

## Module 4: Supervision of perishable product handling activities

***Mapped to LSC/N8710, v1.0***

**Terminal Outcomes:**

* Detail the appropriate steps for supervision of perishable product handling activities as per SOP

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *85:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * State the latest updates in refrigeration technology to reduce carbon footprints * Select the right mix of multi modal transport to meet quality and timeline requirements * Explain the process of selecting the appropriate cooling method and systems based on the volume and type of commodity * Discuss the inspection procedure of ripening chamber operations, temperature management and documentation * Explain the management of resource integrations and cross functional utilization of equipment across cold chain * Explain the management of back end integrated pack house activities such as grading, washing, sorting etc. * Contribute relevant inputs to reduce hazards involved with each process step during the design of process flow diagram * Determine proper application of CCP to control hazards * Discuss the process of setting target levels and monitoring systems for controlling CCP | * Apply the latest updates in refrigeration technology to reduce carbon footprints * Identify the right mix of multi modal transport to meet quality and timeline requirements * Identify appropriate cooling method and systems based on the volume and type of commodity * Inspect ripening chamber operations, temperature management and documentation * Manage resource integrations and cross functional utilization of equipment across cold chain * Manage back end integrated pack house activities such as grading, washing, sorting etc. * Determine proper application of CCP to control hazards * Establish target levels and monitoring systems for controlling CCP * Develop system for documenting procedures and records |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
| MS Project, MS Office, Computer, Projector, TV, Stationery, Worksheets, Statistical Tools, ERP, MIS tools, HACCP standards, Product handling standards, different types of trolleys and stacking equipment, sorting, grading, packaging and handling equipment | |

**Module 5: Route planning and coordination**

***Mapped to LSC/N8711, v1.0***

**Terminal Outcomes:**

* Demonstrate the steps to be followed for effective route planning and coordination

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *65:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Detail the steps to be followed for route planning * State client requirements on the types of products, quantity etc. * Explain the inspection process of reefer vehicle for complaince to safety standards, appropriate temperature, vehcile papers etc. * State the quality standards wrt to products * Explain delivery details and responsibility to the reefer/non reefer vehicle operator * Discuss the inspection process of reefer/ non reefer vehicle operations as per SOP * Discuss the factors to be considered while planning delivery routes * Discuss the importance of resolving customer queries effectively * Explain the standards for safe delivery of products by reefer/non reefer vehicle operator | * Understand client requirements on the types of products, quantity etc. * Track availability of products as per order * Revise transportation and delivery schedules based on priority basis * Develop good relationship with clients * Match order details with products * Inspect reefer vehicle for compliance to safety standards, appropriate temperature, vehicle papers etc. * Inspect adherence to quality standards wrt to products * Explain delivery details and responsibility to the reefer/non reefer vehicle operator * Examine reefer/ non reefer vehicle operations as per SOP * Plan delivery routes for on time delivery * Verify trip sheets for mileage and fuel usage * Solve customer complaints to ensure customer satisfaction * Track safe delivery of products by reefer/non reefer vehicle operator * Track receivables and payments |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
| MS Project, MS Office, Computer, Projector, TV, Stationery, Worksheets, Statistical Tools | |

**Module 6: Supervise data entry/MIS reports management**

***Mapped to LSC/N8712, v1.0***

**Terminal Outcomes:**

* Detail the steps for effective supervision of data entry/MIS reports management

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *65:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Explain the process of revising transportation and delivery schedules based on priority basis * Discuss the importance of maintaining good client relationships * State the safety standards to be followed * State the quality standards to be followed during inspection of products * Explain delivery details and responsibility to the reefer/non reefer vehicle operator * Discuss the reefer/ non reefer vehicle operations as per SOP * Explain the process of planning delivery routes for on time delivery * Describe the process of verifying trip sheets for mileage and fuel usage * Discuss the process of tracking safe delivery of products by reefer/non reefer vehicle operator * Explain the process of tracking receivables and payments | * Understand client requirements on the types of products, quantity etc. * Track availability of products as per order * Revise transportation and delivery schedules based on priority basis * Develop good relationship with clients * Match order details with products * Inspect reefer vehicle for compliance to safety standards, appropriate temperature, vehicle papers etc. * Inspect adherence to quality standards wrt to products * Examine reefer/ non reefer vehicle operations as per SOP * Plan delivery routes for on time delivery * Verify trip sheets for mileage and fuel usage * Solve customer complaints to ensure customer satisfaction * Track safe delivery of products by reefer/non reefer vehicle operator * Track receivables and payments |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
| MS Project, MS Office, Computer, Projector, TV, Stationery, Worksheets, Statistical Tools | |

## Module 7: Compliance to health, safety and security norms

***Mapped to LSC/N9901, v1.0***

**Terminal Outcomes:**

* Describe health, safety, and security procedures in cold storage plants
* Demonstrate the inspection procedure to ensure appropriate and safe conditions of activity area and equipment
* Illustrate the standard protocol to be followed during emergency situations, accidents and breach of safety

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *40:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Detail health, safety and security procedures in cold storage plants * Explain the inspection procedure to ensure appropriate and safe conditions of activity area and equipment * Detail hygiene and sanitation standards as per regulatory bodies such as FSSAI, APEDA * Evaluate protective devices, pipelines and cold storage areas as per SOP * Detail the pest control methods to be followed to ensure zero pest infestation * Describe the SOP for safe handling of goods * Explain the protocol to be followed during accident, emergency etc. | * Perform health and safety procedure in cold storage plants * Follow safety precautionary methods * Check the activity area and equipment for compliance to safety * Check the pipeline and cold storage area are as per SOP * Perform pest control as per SOP to avoid infestation * Inspect adherence to standard operating procedures (SOP) while handling goods * Implement standard protocol in case of emergency situations, accidents, and breach of safety |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
| MS Project, MS Office, Computer, Projector, TV, Stationery, Worksheets, Statistical Tools  compressor, condenser, evaporator, temperature and humidity sensor, simulator, tools and tackles, consumables | |

## Module 7: Effective Communication

***Mapped to LSC/N9902, v1.0***

**Terminal Outcomes:**

* Demonstrate effective communication skills to understand targets and performance indicators
* Establish good client relationships and maintain them effectively

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Understand the target and performance indicator from seniors * Detail the progress to superiors * Explain the behavior to be followed in workplace * Breakdown issues among colleagues * Interpret cooperation, coordination to be established with colleagues and clients * Recognize the client requirement * Manage client escalation immediately * Manage good client relationship | * Communicate effectively with seniors to understand targets, performance indicators * Practice responsible, disciplined and respectful behavior in the workplace * Resolve conflicts amongst colleagues * Practice cooperation, coordination, etiquette and collaboration with colleagues and clients * Provide expert inputs and guide colleagues * Communicate effectively with clients to understand work requirements * Solve client escalations effectively * Establish and maintain good client relationships |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser | |
| **Tools, Equipment and Other Requirements** | |
| MS Project, MS Office, Computer, Projector, TV, Stationery, Worksheets, Statistical Tools  compressor, condenser, evaporator, temperature and humidity sensor, simulator, tools and tackles, consumables | |

## Module 8 : Employability Skills

***Mapped to*** ***DGT/VSQ/N0103, v1.0***

**Terminal Outcomes:**

* Discuss the Employability Skills required for jobs in various industries
* Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
* Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *60:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Outline the importance of Employability Skills for the current job market and future of work * List different learning and employability related GOI and private portals and their usage * Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen * Discuss relevant 21st century skills required for employment * Highlight the importance of practicing 21st century skills like Self-Awareness, Behaviour 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 * Explain the importance of communication etiquette including active listening for effective communication * Discuss the significance of escalating sexual harassment issues as per POSH act * Discuss various financial institutions, products, and services * Explain the common components of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), tax deductions * Discuss the legal rights, laws, and aids * Describe the role of digital technology in day-to-day life and the workplace * Discuss the significance of displaying responsible online behaviour while using various social media platforms * 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 * Discuss various tools used to collect customer feedback * Discuss the significance of maintaining hygiene and dressing appropriately * Discuss the significance of maintaining hygiene and dressing appropriately for an interview * List the steps for searching and registering for apprenticeship opportunities | * Research and prepare a note on different industries, trends, required skills and the available opportunities * Demonstrate how to practice different environmentally sustainable practices * Create a pathway for adopting a continuous learning mindset for personal and professional development * Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone * Read and understand text written in basic English * Write a short note/paragraph / letter/e -mail using correct basic English * Create a career development plan * Identify well-defined short- and long-term goals * Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette * Write a brief note/paragraph on a familiar topic * Role play a situation on how to work collaboratively with others in a team * Demonstrate how to behave, communicate, and conduct appropriately with all genders and PwD * Demonstrate how to conduct offline and online financial transactions, safely and securely and check passbook/statement * Calculate income and expenditure for budgeting * Demonstrate how to operate digital devices and use the associated applications and features, safely and securely * Demonstrate how to connect devices securely to internet using different means * Follow the dos and don’ts of cyber security to protect against cyber crimes * Create an e-mail id and follow e- mail etiquette to exchange e -mails * Show how to create documents, spreadsheets and presentations using appropriate applications * Utilize virtual collaboration tools to work effectively * Create a sample business plan, for the selected business opportunity * Classify different types of customers * Demonstrate how to identify customer needs and respond to them in a professional manner * Draft a professional Curriculum Vitae (CV) * Use various offline and online job search sources to find and apply for jobs * Role play a mock interview |
| **Classroom Aids** | |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser, UPS, LCD Projector, Computer Tables & chairs | |
| **Tools, Equipment and Other Requirements** | |
| Computer (PC) with latest configurations – and Internet connection with standard operating system and standard word processor and worksheet software (Licensed) (all software should either be latest version or one/two version below), Scanner cum Printer | |

# Annexure

## Trainer Requirements

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Trainer Prerequisites | | | | | | |
| Minimum Educational Qualification | **Specialization** | **Relevant Industry Experience** | | **Training Experience** | | **Remarks** |
| ***Years*** | ***Specialization*** | ***Years*** | ***Specialization*** |  |
| Graduate or Diploma | Engineering | 6 | cold storage/refrigeration / air conditioning equipment maintenance operations | 1 | cold storage/refrigeration / air conditioning equipment maintenance operations |  |

|  |  |
| --- | --- |
| Trainer Certification | |
| Domain Certification | **Platform Certification** |
| Certified for Job Role: “Cold Chain Lead” mapped to QP: “LSC/Q8702, v2.0”. 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 score is 80% |

## Assessor Requirements

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Assessor Prerequisites | | | | | | |
| Minimum Educational Qualification | **Specialization** | **Relevant Industry Experience** | | **Training/Assessment Experience** | | **Remarks** |
| ***Years*** | ***Specialization*** | ***Years*** | ***Specialization*** |  |
| 12th Pass | NA | 2 | cold storage/refrigeration / air conditioning equipment maintenance operations | 1 | cold storage/refrigeration / air conditioning equipment maintenance operations | Graduation is preferred |

|  |  |
| --- | --- |
| Assessor Certification | |
| Domain Certification | **Platform Certification** |
| Certified for Job Role: “Cold Chain Lead” mapped to QP: “LSC/Q8702, v2.0”. Minimum accepted score is 80% | Recommended that the Assessor is certified for the Job Role: “Assessor”, mapped to the Qualification Pack: “MEP/Q2601”. Minimum accepted score is 80% |

## Assessment Strategy

The emphasis is on ‘learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria. Accordingly, assessment criteria for each job role is set and made available in qualification pack.

The assessment papers for both theory and practical would be developed by Subject Matter Experts (SME) hired by Logistics Sector Skill Council or with the LSC accredited Assessment Agency as per the assessment criteria mentioned in the Qualification Pack. The assessments papers would also be checked for the various outcome-based parameters such as quality, time taken, precision, tools & equipment requirement etc.

Each NOS in the Qualification Pack (QP) is assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Element/Performance Criteria in the NOS is assigned marks on relative importance, criticality of function and training infrastructure.

The following tools would be used for final assessment:

1. **Practical Assessment:** This comprises of a creation of mock environment in the skill lab which is equipped with all equipment required for the qualification pack.

Candidate's soft skills, communication, aptitude, safety consciousness, quality consciousness etc. is ascertained by observation and marked in observation checklist. The outcome is measured against the specified dimensions and standards to gauge the level of their skill achievements.

1. **Viva/Structured Interview:** This tool is used to assess the conceptual understanding and the behavioral aspects with regard to the job role and the specific task at hand. It also includes questions on safety, quality, environment, and equipment etc.
2. **On-Job Training:** OJT would be evaluated based on standard logbook capturing departments worked on, key observations of learner, feedback and remarks of supervisor or mentor.
3. **Written Test:** Question paper consisting of 100 MCQs (Hard:40, Medium:30 and Easy: 30) with questions from each element of each NOS. The written assessment paper is comprised of following types of questions:
   1. True / False Statements
   2. Multiple Choice Questions
   3. Matching Type Questions.
   4. Fill in the blanks
   5. Scenario based Questions
   6. Identification Questions

**QA Regarding Assessors:**

Assessors are selected as per the “eligibility criteria” laid down by LSC for assessing each job role. The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to LSC Assessment Framework, competency-based assessments, assessors guide etc. LSC conducts “Training of Assessors” program from time to time for each job role and sensitize assessors regarding assessment process and strategy which is outlined on following mandatory parameters:

* + 1. Guidance regarding NSQF
    2. Qualification Pack Structure
    3. Guidance for the assessor to conduct theory, practical and viva assessments
    4. Guidance for trainees to be given by assessor before the start of the assessments.
    5. Guidance on assessments process, practical brief with steps of operations practical observation checklist and mark sheet
    6. Viva guidance for uniformity and consistency across the batch.
    7. Mock assessments
    8. Sample question paper and practical demonstration

# 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 Outcome | 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 task. It is the ability to work, or produce a tangible work output by applying cognitive, affective or psychomotor skills. |
| 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 | 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 |
| QP | Qualification Pack |
| NSQF | National Skills Qualification Framework |
| NSQC | National Skills Qualification Committee |
| NOS | National Occupational Standards |