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| **Model Curriculum** **QP Name: Vessel Operator Grade 1 (Electives – Deck Operations/ Engine Operations)****(Options – Passenger Vessel Operations)****QP Code: LSC/Q4101****QP Version: 2.0** **NSQF Level: 3****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 |

Table of Contents

[Training Parameters 2](#_Toc116477382)

[Program Overview 3](#_Toc116477383)

[Training Outcomes 3](#_Toc116477384)

[Compulsory Modules 3](#_Toc116477385)

[Elective Modules 5](#_Toc116477386)

[Option Modules 7](#_Toc116477387)

[Module 1: Introduction to Vessel Operator Grade 1 8](#_Toc116477388)

[Module 2: Basics of Vessel Navigation .9](#_Toc116477389)

[Module 3: Basics of Vessel Preventive Maintenance 10](#_Toc116477390)

[Module 4: Mooring and Ropework in Vessel 11](#_Toc116477391)

[Module 5: Basic fitting and welding operations in vessel 12](#_Toc116477392)

[Module 6 : Guidelines on integrity and ethics 13](#_Toc116477393)

[Module 7: Compliance to health safety and security procedures on vessel 14](#_Toc116477394)

[Module 8: Watchkeeping in Navigation 15](#_Toc116477395)

[Module 9: Cargo Handling Operations in Vessel 16](#_Toc116477396)

[Module 10: Deck Operations and it’s Maintenance 17](#_Toc116477397)

[Module 11: Basic Operation in Engine Room 18](#_Toc116477398)

[Module 12: Oiling and Fitting Operation in Engine Room 19](#_Toc116477399)

[Module 13 : Passenger Vessel Operations 20](#_Toc116477400)

 Module 14: Employability Skills........................................................................................................21

[Annexure 23](#_Toc116477401)

[Trainer Requirements 23](#_Toc116477402)

[Assessor Requirements 24](#_Toc116477403)

[Assessment Strategy 25](#_Toc116477404)

[References 27](#_Toc116477405)

[Glossary 27](#_Toc116477406)

[Acronyms and Abbreviations 28](#_Toc116477407)

# Training Parameters

|  |  |
| --- | --- |
| **Sector**  | Logistics |
| **Sub-Sector** | Inland Waterways |
| **Occupation** | Deck Operations, Vessel Operations, Engine Operations, Passenger Services |
| **Country** | India |
| **NSQF Level** | 3 |
| **Aligned to NCO/ISCO/ISIC Code** | NCO-2015 – 8162.90/8350/5120.04 |
| **Minimum Educational Qualiﬁcation and Experience**  | Grade 10 Or Grade 8 with two year of (NTC/ NAC) after 8thOr Grade 8 pass and pursuing continuous schooling in regular school with vocational subjectOr 8th grade pass + 2 year relevant experienceOr 5th grade pass + 5 year relevant experienceOr Previous relevant Qualification of NSQF Level 2 + 1 year relevant experienceOr Previous relevant Qualification of NSQF Level 2.5 + 6 months 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** | 03-08-2022 |
| **Model Curriculum Valid Up to Date** | 03-08-2025 |
| **Model Curriculum Version**  | 2.0 |
| **Minimum Duration of the Course** | 420 |
| **Maximum Duration of the Course** | 570 |

# 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:

* Perform watchkeeping activities in the vessel.
* Execute basic preventive maintenance in the vessel.
* Demonstrate mooring and rope work in vessel while berthing and loading/unloading of cargo.
* Execute basic welding and fitting of equipment in the vessel.
* Comply to work place integrity, ethical and regulatory practices.

Manage workplace for safe and healthy work environment by following and ensuring compliance to regulatory and safety norms

* Perform lookout duties and monitor weather, GPS/radar, temperature, pressure, humidity, oncoming vessels, lighthouses, buoys etc.
* Perform berthing and de-berthing of vessel and deck maintenance
* Execute loading/unloading and securing cargo in vessel
* Perform engine room equipment operations and basic equipment maintenance
* Report engine room operational parameters

Execute food catering, housekeeping, facility upkeep, and passenger management activities in a passenger vessel

## Compulsory Modules

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| Bridge Module | **20** | **10** |  |  | **30** |
| Module 1: Introduction to Vessel Operator Grade 1 | 20 | 10 |  |  | 30  |
| [**LSC/N4101 - Perform basic navigation**](file:///D%3A%5CReenaoffice%5CQP%20-%2033%5CLSCQ4101_Vessel%20Operator%20Grade%201_QP.docx#NOS1_navigation)V1.03 | **20** | **35** | **5** |  | **60** |
| Module 2: Basics of vessel navigation | 20 | 35 | 5 |  | 60 |
| [LSC/N4001- Perform basic preventive maintenance](file:///D%3A%5CReenaoffice%5CQP%20-%2033%5CLSCQ4101_Vessel%20Operator%20Grade%201_QP.docx#NOS2_maint)V1.03 | **20** | **35** | **5** |  | **60** |
| Module 3: Basics of Vessel Preventive Maintenance | 20 | 35 | 5 |  | 60 |
| [LSC/N4009 - Perform mooring and rope work](file:///D%3A%5CReenaoffice%5CQP%20-%2033%5CLSCQ4101_Vessel%20Operator%20Grade%201_QP.docx#NOS3_mooring)V1.03 | **20** | **35** | **5** |  | **60** |
| Module 4: Mooring and ropework in vessel  | 20 | 35 | 5 |  | 60 |
| LSC/N4002 - Perform basic welding and fittingV1.03 | **20** | **35** | **5** |  | **60** |
| Module 5: Basic fitting and welding operations in vessel | 20 | 35 | 5 |  | 60 |
| LSC/N9904 - Maintain integrity and ethics in operations V1.03 | **10** | **15** | **5** |  | **30** |
| Module 6: Guidelines on integrity and ethics | 10 | 15 | 5 |  | 30 |
| [LSC/N4102- Follow health, safety and security](#health_safety) procedures on vessel V1.03 | **10** | **15** | **5** |  | **30** |
| Module 7: Compliance to health, safety and security norms | 10 | 15 | 5 |  | 30 |
| Employability Skills | **15** | **15** |  |  | **30** |
| Total Duration | **155** | **235** | **30** |  | **360** |

##

## Elective Modules

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

**Elective 1: Deck Operations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| [LSC/N4103 - Perform look out duties in navigation](#NOS_E1_lookout)**V1.0****3** | **15** | **15** |  |  | **30** |
| Module 8: Watchkeeping in Navigation | 15 | 15 |  |  | **30** |
| [LSC/N4003 - Perform cargo handling](#NOS_E2_cargo)**V1.0**3 | **15** | **15** |  |  | **30** |
| Module 9: Cargo handling  | 15 | 15 |  |  | **30** |
| [LSC/N4004 Perform deck assistance](#NOS_E2_deck)**V1.0**3 | **15** | **15** |  |  | **30** |
| Module 10: Deck operations and it’s maintenance | 15 | 15 |  |  | **30** |
| Total Duration | **45** | **45** |  |  | **90** |

**Elective 2: Engine Operations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| [[LSC/N4201- Perform basic engine room operations](#NOS_E1_lookout)](#NOS_E2_1_engine) **V1.0****3** | **15** | **15** |  |  | **30** |
| Module 11: Watchkeeping in Navigation | 15 | 15 |  |  | **30** |
| LSC/N4202 [Perform oiler](#NOS_E2_2_oiler) and fitter dutiesV1.03 | **15** | **15** |  |  | **30** |
| Module 12: Cargo handling  | 15 | 15 |  |  | **30** |
| Total Duration | **30** | **30** |  |  | **60** |

## Option Modules

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

**Option 1: Passenger Vessel Operations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| **LSC/N3901 - Perform duties in a passenger vessel****V1.0****3** | **30** | **30** |  |  | **60** |
| Module 13: Passenger vessel operations | 30 | 30 |  |  | 60 |
| Total Duration | **30** | **30** |  |  | **60** |

**Module Details**

## Module 1: Introduction to Vessel Operator Grade 1

***Mapped to Bridge Module***

**Terminal Outcomes:**

* Describe the basic structure and function of supply chain
* Detail the various functions of a Vessel Operator Grade 1

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *10:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Classify the components of Supply Chain and Logistics sector
* Identify the various sub-sectors and the opportunities in them
* Identify various activities in warehouse, port yard, land, ship and air transportation
* Explain job roles in Inland waterways
* Describe your job role as Vessel operator grade 1 and its interface with other job roles
 | * Describe the duties of Vessel operator grade 1
* Explain the hierarchy in a vessel
* List the various activities in a vessel and inland port
* Discuss the various equipment used in a vessel
* Explain the basics of hazardous goods handling
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
|  |

## Module 2: Basics of Vessel Navigation

***Mapped to LSC/N4101, v1.0***

**Terminal Outcomes:**

* Detail the steps involved in basic vessel navigation

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe various call signs and flags used in vessel operations
* Identify latitude and longitude using GPS
* Map routes using navigational aids
* Trace navigational routes on a map
* Interpret navigational and nautical terms
* Describe various equipment and layout of vessel
* Identify safe and unsafe zones in vessel
* Explain weather conditions and corresponding action to be taken
* Draft watchkeeping reports
 | * Interpret call signs and flags used in vessel operations
* Use GPS and maps to locate latitude and longitude position
* Use navigation maps for location identification and route mapping
* Interpret navigational and nautical terms
* Explain safety measures for safe and unsafe zones in vessel
* Map weather changes and obstacles in course
* Prepare watchkeeping reports
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| PPEs, SOPs and manuals, vessel models, various simulations for deck and engine operations, cargo operations, vessel navigation, different equipment for deck and engine, model cargo, etc. |

## Module 3: Basics of Vessel Preventive Maintenance

***Mapped to LSC/N4001, V1.0***

**Terminal Outcomes:**

* Detail the steps to be followed for preventive maintenance of vessel

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe safety guidelines and PPE to be used for different operations
* List damages, fractures, corrosions and other faults
* Demonstrate hand tools and power tools
* Demonstrate surface cleaning methods like chipping, sanding, painting, greasing, oiling to clean surface of rust, paint, salt etc.
* Differentiate different types of wood working joints
* Perform different type of wood working joints
* Describe the electrical safety measures and corresponding PPE equipment to be used
* Explain basics of electrical maintenance
 | * Use the right PPE for different operations
* Identify the extent of damages, fractures, corrosions and other faults
* Use different hand tools and power tools
* Execute surface cleaning methods like chipping, sanding, painting, greasing, oiling to clean surface of rust, paint, salt etc.
* Perform different type of wood working joints to repair equipment and furniture
* Choose the right PPE for electrical
* Perform basic electrical works like changing bulbs, rigging lights, connecting severed wires etc.
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| PPEs, SOPs and manuals, maintenance tools, vessel models, various simulations for deck and engine operations, cargo operations, vessel navigation, different equipment for deck and engine, model cargo, etc |

## Module 4: Mooring and Ropework in Vessel

***Mapped to LSC/N4009, v1.0***

**Terminal Outcomes:**

* Demonstrate the procedure for mooring and ropework in vessel as per SOP

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Discuss mooring documentation
* Operate hand held radio for communication
* Demonstrate hand and rope signal communication
* Differentiate different types of heaving lines from vessel and berth
* Demonstrate different types of knots and rigging practices
* Discuss sequence of vessel mooring activities
* Describe sequence of rope work involved and tools/equipment used in mooring
* List the safety procedures to be undertaken during mooring
 | * Prepare mooring documentation
* Communicate with hand held radio
* Communicate with hand and rope signals for mooring activity
* Use the right type of heaving line for securing the vehicle
* Perform rigging of vessel using different types of knots
* Guide the deck for vessel mooring
* Perform rope work and for mooring the vessel
* Demonstrate the safety procedures to be undertaken during mooring
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| PPEs, SOPs and manuals, vessel models, various simulations for deck and engine operations, cargo operations, different types of ropes used in vessel, different equipment for deck and engine, model cargo, etc. |

## Module 5: Basic fitting and welding operations in vessel

***Mapped to LSC/N4002, v1.0***

**Terminal Outcomes:**

* Demonstrate the basic fitting and welding operations in vessel as per SOP

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Explain the use of various tools/PPE used for fitting and welding
* Describe the different types of welding process and the equipment used
* Demonstrate fitting process including measuring, marking, sawing, drilling, threading
* Perform pre and post cleaning of weld surface
* Operate welding machine safely to execute the necessary joints
* Describe safe storage of welding and related equipment
* Explain safe disposal of welding waste
 | * Choose the right tools and PPE for fitting and welding
* Perform fitting repairs including measuring, marking, sawing, drilling, threading
* Prepare the surface area to be welded using the necessary tools
* Perform butt join, corner joint, lap joint, tee joint, and edge joint welding
* Perform Metal Inert Gas Welding, Gas welding, Tungsten inert gas welding and Gas welding
* Clean welding slag from surface
* Apply painting on fitted, welded surface
* Explain safe disposal of welding waste
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| PPEs, SOPs and manuals, vessel models, cutting, chiselling, driving, gripping and twisting tools, scales, welding equipment, different equipment for deck and engine, model cargo, etc |

## Module 6 : Guidelines on integrity and ethics

***Mapped to LSC/N9904, v1.0***

**Terminal Outcomes:**

* Explain the concepts of integrity, ethics
* Detail the various regulatory requirements related to logistics industry

|  |  |
| --- | --- |
| Duration: *10:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe the concepts of integrity, ethics
* Detail the various regulatory requirements related to logistics industry
* Explain data and information security practices
* Discuss corrupt practices
* Discuss regulatory requirements, code of conduct and etiquettes
* Detail the procedure for documenting all integrity and ethics violations
* Explain escalation matrix for reporting deviation
 | * Practice the principles of integrity and ethics
* Follow the various regulatory requirements related to logistics industry
* Perform data and information security practices
* Identify corrupt practices
* Comply to regulatory requirements
* Practice code of conduct and etiquettes
* Document all integrity and ethics violations
* Report deviation as per the escalation matrix
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| SOP, Teaching board, computer, projector, video player, stationery, worksheets and TV |

## Module 7: Compliance to health safety and security procedures on vessel

***Mapped to LSC/N4102, v1.0***

**Terminal Outcomes:**

* Describe health, safety, and security procedures in vessel
* 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: *10:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe health, safety and security procedures in vessel
* Explain survival techniques
* Detail medical emergency assessment
* Explain medical procedures to be undertaken for various emergencies
* Describe different types of fire-fighting equipment
* Operate various fire-fighting equipment
* List fire safety inspection techniques
* Interpret fire safety plans and escape routes
* Describe fire safety measures to be undertaken in vessel
* Inspect fire equipment for safe handling and usage
* Explain safety and security measures to be under taken in vessel
 | * Explain health, safety and security procedures in vessel
* Demonstrate safe jumping from height
* Demonstrate usage of life jacket and life boats
* Perform emergency evacuation activities
* Assess medical emergency needs
* Explain medical procedures to be undertaken for various emergencies
* Perform Cardio Pulmonary Resuscitation (CPR)
* Explain treatment methods for burns
* Describe different types of fire-fighting equipment
* Operate water, foam, powder, carbon dioxide and wet chemical fire extinguishers
* Draft fire safety plans and escape routes
* Describe fire safety measures to be undertaken in vessel
* Inspect fire safety equipment for functionality and expiry
* Describe safety and security measures to be under taken in vessel
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| First aid kit, firefighting equipment, life jacket, safety jacket, raft etc. |

## Module 8: Watchkeeping in Navigation

***Mapped to LSC/N4103, v1.0***

**Terminal Outcomes:**

* Detail the various watchkeeping functions to be performed in navigation as per SOP

|  |  |
| --- | --- |
| Duration: *15:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe lookout function and the various details to be monitored
* Identify sound, light, buoys and flag signals pertaining to ships’ operations
* Explain flag and hand signals
* Explain oncoming vessel identification process
* Demonstrate usage of GPS and radar to locate the latitude and longitude of the vessel
* Describe usage of compass, thermometer, barometer, hygrometer and other measuring equipment
* Describe usage of Beaufort scale to measure waves/swell condition
 | * Perform lookout for other vessels, bunds, buoys, tides, weather, function and the various details to be monitored
* Assist navigation using various sound, light, and flag signals
* Use flag and hand signals
* Alert navigator on oncoming vessel type, route, and call signs
* Use GPS and radar to locate the latitude and longitude of the vessel
* Measure weather conditions using thermometer, barometer, hygrometer and other measuring equipment
* Estimate water state using Beaufort scale and waves/swell condition
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Navigation charts, maps buoys, flags, sound and light signals, GPS monitor, thermometer, barometer, hygrometer etc. |

## Module 9: Cargo Handling Operations in Vessel

***Mapped to LSC/N4003, v1.0***

**Terminal Outcomes:**

* Demonstrate the handling of cargo in vessel as per SOP

|  |  |
| --- | --- |
| Duration: *15:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe usage of various vessel and shore equipment for cargo loading and unloading
* List procedure for opening, closing and securing of cargo hatch/hold and coming
* Describe safety precautions to be undertaken during cargo movement
* List the PPE to be used in the process
* Demonstrate lashing, rigging, and securing operations for different types of cargo
* Explain hazardous cargo segregation and storage procedure
 | * Operate electric deck cranes, grabbing cranes, hydraulic deck cranes and hoists in vessel for cargo loading and unloading
* Perform safe opening, closing and securing of cargo hatch/hold and coming
* Execute cargo lifting, movement and storage operations
* Perform lashing, rigging, and securing operations for different types of cargo
* Practice the right safety precautions for cargo movement
* Use the right PPE for cargo movement
* Segregate hazardous cargo
* Explain HAZMAT codes for different types of cargo
* Prepare hazardous cargo storage reports
* Describe signages for identiying and hazardous cargo
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| PPEs, SOPs and manuals, vessel models, various simulations for deck and engine operations, cargo operations, different equipment for deck and engine, model cargo, etc. |

## Module 10: Deck Operations and it’s Maintenance

***Mapped to LSC/N4004, v1.0***

**Terminal Outcomes:**

* Demonstrate the various steps in deck operations and it’s maintenance as per SOP

|  |  |
| --- | --- |
| Duration: *15:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Explain vessel preparations for arrival and departure process
* Describe crowd control and cargo lining measures in a vessel
* Describe cargo disembarking procedure
* Explain cargo and vessel safety rules during arrival and departure
* Describe cleanliness standards to be maintained in vessel
* Demonstrate usage of cleaning equipment, and associated consumables
* List the maintenance requirement of deck equipment
* Demonstrate basic deck maintenance techniques
* Operate fire-fighting equipment
 | * Assist in navigation during vessel arrival and departure process
* Perform hand, flag, sound and light signals during arrival and departure
* Arrange barricades, chain links for crowd control
* Guide passengers using appropriate signages, signals and instructions
* Use various equipment for cargo disembarking
* Follow cargo and vessel safety rules during arrival and departure
* Clean vessels fore, aft, deck as per specifications using the right equipment and chemicals
* Differentiate the consumables for cleaning water, chemicals, oil, tar and other spillages
* Inspect deck equipment for identifying maintenance requirement
* Identify the tools and consumables required for different types of maintenance
* Perform basic deck maintenance such as dusting, de-rusting, chipping, sawing, fitting, riveting, buffing, painting etc.
* Operate fire hydrants, pipes & hoses, nozzles, and fire extinguishers
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Life jacket, VHF radio, cleaning equipment, crowd control equipment, vessel safety lines, maintenance equipment, tools and tackles, SOP, PPE, etc. |

## Module 11: Basic Operation in Engine Room

***Mapped to LSC/N4201, v1.0***

**Terminal Outcomes:**

* Detail the various steps to be followed for effective engine room operations

|  |  |
| --- | --- |
| Duration: *15:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe engine room equipment, safety precautions and PPE to be used
* Explain operating procedure of different machinery in engine room
* Discuss the various testing methods for engine room equipment
* Inspect and test engine room equipment
* Discuss operational parameters monitoring using gauges, meters and control panel equipment
* Demonstrate greasing procedure for engine room equipment
* Inspect fuel and ballast water level
* Prepare reports on engine operation parameters
* Describe escalation matrix to resolve issues
 | * Differentiate the pumps, winches, motors, engines, power supplies, drives, gear boxes and other equipment used in engine room
* Describe the safety precautions and PPE to be used in engine room
* Operate pumps, motors, hydraulic equipment, gear boxes, and other equipment in engine room
* Inspect and test engine room equipment for maintenance requirement
* Record operational parameters using gauges, meters and control panel equipment
* Describe the types of greases used for different applications
* Perform greasing operation for engine room equipment
* Record fuel and ballast water level
* Prepare reports on engine room operation
* Escalate maintenance issues for speedy resolution
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| PPEs, SOPs and manuals, vessel models, various simulations for engine operations, different equipment for deck and engine, model cargo, etc |

## Module 12: Oiling and Fitting Operation in Engine Room

***Mapped to LSC/N4202, v1.0***

**Terminal Outcomes:**

* Detail the various steps to be followed for effective oiling and fitting operations in engine room

|  |  |
| --- | --- |
| Duration: *15:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe different types of oils and greases used for different applications and equipment
* Describe equipment for operating parameters and corresponding adequacy of lubricant
* Describe cleaning of strainers, filters and engine room work area
* Describe usage of lubrication and greasing equipment
* Explain leaks, cracks, corrosion identification process
* List fitting instruments and their application
* Discuss fitting requirements in engine room
* Prepare reports on oiling, greasing and fitting
 | * Demonstrate the storage, securing and application of different types of oils and greases used for different applications and equipment
* Inspect equipment for operating parameters and apply adequate lubrication
* Perform cleaning of strainers, and oil filters
* Clean engine room work area to maintain safe working conditions
* Demonstrate usage of different types of lubrication and greasing equipment
* Inspect fitting joints for leaks, cracks, corrosion etc.
* Correct the joints using the right fitting equipment
* Prepare reports on oiling, greasing and fitting
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| PPEs, SOPs and manuals, vessel models, various simulations for deck and engine operations, different equipment for deck and engine, oiling equipment etc. |

## Module 13 : Passenger Vessel Operations

***Mapped to LSC/N3901, v1.0***

**Terminal Outcomes:**

* Detail the various steps to be followed for effective passenger vessel operations

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *30:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Discuss passenger handling etiquettes
* Explain food order recording process
* Exhibit food delivery and service skills
* Explain cutlery cleaning and storage norms
* Exhibit housekeeping skills such as bed making, cleaning, restocking necessities etc.
* Describe housekeeping and cleaning requirements for public areas in vessel such as gym, swimming pool etc.
* Discuss housekeeping documentation
* Explain the passenger safety requirements while they are on the vessel
 | * Demonstrate etiquettes to be followed while interacting with passengers
* Collate food orders from customers
* Communicate food orders to kitchen for preparation
* Demonstrate food delivery and service skills
* Clean cutlery for safe and secure storage
* Perform bed making, room cleaning, floor cleaning, restocking of essentials in passenger suites
* Demonstrate cleaning methods for public areas like gym, swimming pool etc.
* Discuss the types of consumables used for cleaning different types of area
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Housekeeping equipment, maintenance equipment, PPEs, SOPs and manuals, vessel models etc. |

**Module 14 : Employability Skills**

***Mapped to DGT/VSQ/N0101 , v1.0***

**Terminal Outcomes:**

* Appraise the significance of employability skills in meeting the job requirements
* Identify constitutional values, civic rights, duties, personal values and ethics and environmentally sustainable practices.
* Illustrate English and communication skills, customer service, entrepreneurship, and getting ready for jobs and apprenticeship.

|  |  |
| --- | --- |
| Duration: *15:00* | Duration: *15:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Detail the importance of Employability Skills in meeting the job requirements
* Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen.
* Describe positive attitude, self -motivation, problem solving, time management skills and continuous learning mindset in different situations.
* Discuss the significance of reporting sexual harassment issues in time
* Appraise the significance of using financial products and services safely and securely.
* Explain the importance of managing expenses, income, and savings.
* Detail the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws
* Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely
* Categorize the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges
* Discuss the significance of maintaining hygiene and dressing appropriately
* Discuss how to search and register for apprenticeship opportunities
 | * Analyze 21st century skills.
* Practice appropriate basic English sentences/phrases while speaking
* Demonstrate how to communicate in a well -mannered way with others.
* Illustrate working with others in a team
* Demonstrate how to conduct oneself appropriately with all genders and PwD
* Operate digital devices and use the associated applications and features, safely and securely
* Differentiate between types of customers
* Create a biodata
* Experiment with various sources to search and apply for jobs
* Identify customer needs and address them
* Compose the significance of dressing up neatly and maintaining hygiene for an 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

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| --- |
| Trainer Prerequisites |
| Minimum Educational Qualification | **Specialization** | **Relevant Industry Experience**  | **Training Experience** | **Remarks**  |
| ***Years*** | ***Specialization*** | ***Years*** | ***Specialization*** |  |
| 12th |  | 2 | Vessel operations | 1 | Vessel operations |  |

|  |
| --- |
| Trainer Certification |
| Domain Certification | **Platform Certification** |
| Certified for Job Role: “Vessel Operator Grade 1 ” mapped to QP: “LSC/Q4101, 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 | 1 | Vessel operations | 1 | Vessel operations |  |

|  |
| --- |
| Assessor Certification |
| Domain Certification | **Platform Certification** |
| Certified for Job Role: “Vessel Operator Grade 1 ” mapped to QP: “LSC/Q4101, 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 log book 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 |