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| **Model Curriculum**  **QP Name:**  **Vessel Operator Grade 3****(Electives – Near Coastal Vessel Operations/ Tug Vessel Operations /Passenger Vessel Operations) (Options – Ship and Yard Planning)****QP Code:**  **LSC/Q4103****QP Version: 2.0** **NSQF Level: 5****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 |

![Feeder Vessels and the Biggest Feeder Operators [Overview]]()

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#  Training Parameters

|  |  |
| --- | --- |
| **Sector**  | Logistics |
| **Sub-Sector** | INLAND WATERWAYS |
| **Occupation** | DECK OPERATIONS, VESSEL OPERATIONS, NAVIGATION AND PLANNING |
| **Country** | India |
| **NSQF Level** | 5 |
| **Aligned to NCO/ISCO/ISIC Code** | Currently N/A for inland waterway vessels |
| **Minimum Educational Qualiﬁcation and Experience**  | Completed 2nd year of UGOr Pursuing 2nd year of UG and continuous educationOr Completed 2nd year of diploma (after 12th)Or Pursuing 2nd year of 2-year diploma after 12th Or 12th pass with 1 year Vocational Education & training (NTC or NAC or CITS)Or Completed 3 year diploma after 10th + 1 year relevant experienceOr 12th Grade pass + 2 year relevant experienceOr 10th Grade pass + 4 year relevant experienceOr Certificate - NSQF (Vessel Operator Grade 2 - Level 4) with minimum education as 8th Grade pass + 3 year relevant experienceOr Previous relevant Qualification of NSQF Level 4.5 + 1.5 year relevant experience |
| **Pre-Requisite License or Training**  | NA |
| **Minimum Job Entry Age** | 21 |
| **Last Reviewed On**  | NA |
| **Next Review Date** | NA |
| **NSQC Approval Date** | NA |
| **QP Version**  | 2.0 |
| **Model Curriculum Creation Date** | 28-09-2022 |
| **Model Curriculum Valid Up to Date** | NA |
| **Model Curriculum Version**  | 2.0 |
| **Minimum Duration of the Course** | 570 |
| **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:

* Plan, budget, allocate resource and manage vessel operations.
* Approve navigation plan, supervise adherence and provide course correction.
* Inspect vessel and its equipment to budget and manage maintenance activities.
* Generate business for the organisation and manage relationships with stakeholders including clients, customs, PGAs etc.
* Review performance review of vessel operations and take the necessary corrective and preventive actions.
* Manage business profitably by analysing profit and loss and undertaking operations improvement initiatives.
* 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.

**Electives**:

* Navigate, operate and manage cargo movement using near coastal vessel
* Plan, navigate and operate tug vessel to move the attached vessel to the desired location
* Plan, navigate and ensure safety of passenger vessel
* Budget and manage food catering, housekeeping, facility upkeep, and passenger management activities in a passenger vessel

**Options**:

Plan and manage yard for optimal and efficient storage and compliance to regulatory requirements

**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: Vessel Operator Grade 3 role | 20 | 10 |  |  | 30  |
| LSC/N4107 Plan and oversee operationsV1.05 | **20** | **35** | **5** |  | **60** |
| Module 2: Vessel operations management | 20 | 35 | 5 |  | 60 |
| LSC/ N4108 Inspect and maintain vessel and equipment V1.05 | **20** | **35** | **5** |  | **60** |
| Module 3: Vessel equipment inspection and maintenance | 20 | 35 | 5 |  | 60 |
| LSC/ N9701 Business development and stakeholder relations V1.05 | **20** | **35** | **5** |  | **60** |
| Module 4: Business development and stakeholder relations | 20 | 35 | 5 |  | 60 |
| LSC/N9602 Review performance and develop performance improvement plan V1.05 | **20** | **35** | **5** |  | **60** |
| Module 5: Performance management system | 20 | 35 | 5 |  | 60 |
| LSC/N9603 Profit and loss account management and cost accounting V1.05 | **20** | **35** | **5** |  | **60** |
| Module 6: Profit and loss account management and cost accounting | 20 | 35 | 5 |  | 60 |
| LSC/N9904- Maintain integrity and ethics in operations V1.05 | **20** | **40** |  |  | **60** |
| Module 7: Guidelines on integrity and ethics | 20 | 40 |  |  | 60 |
| LSC/N9905 - Follow health, safety and security procedures V1.05 | **20** | **35** | **5** |  | **60** |
| Module 8: Compliance to health, safety and security norms | 20 | 35 | 5 |  | 60 |
| DGT/VSQ/N0102 Employability Skills | **30** | **30** |  |  | **60** |
| Total Duration | **190** | **290** | **30** |  | **510** |

**ELECTIVES (Mandatory to select at least one)**

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

**ELECTIVE 1: Near Coastal Vessel Operations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| **LSC/N4109 Manage near coastal vessel operations****V1.0****5** | **30** | **30** |  |  | **60** |
| Module 9: Near coastal vessel operations | 30 | 30 |  |  | 60 |
| Total Duration | **30** | **30** |  |  | **60** |

**ELECTIVE 2: Tug Vessel Operations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| **LSC/N4106 Manage tug vessel operations****V1.0****5** | **30** | **30** |  |  | **60** |
| Module 10: Tug vessel operations | 30 | 30 |  |  | 60 |
| Total Duration | **30** | **30** |  |  | **60** |

**ELECTIVE 3: Passenger Vessel Operations**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| **LSC/** **N3902 Manage passenger vessel operations****V1.0****5** | **30** | **30** |  |  | **60** |
| Module 11: Passenger vessel operations | 30 | 30 |  |  | 60 |
| Total Duration | **30** | **30** |  |  | **60** |

## Optional Modules

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

**Option 1: Ship and Yard Planning**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| NOS and Module Details | TheoryDuration | PracticalDuration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
| **LSC/** **N3511 Perform ship and yard planning****V1.0****5** | **30** | **30** |  |  | **60** |
| Module 9: Ship and yard planning operations | 30 | 30 |  |  | 60 |
| Total Duration | **30** | **30** |  |  | **60** |

**Module Details**

## Module 1: Introduction to Vessel Operator Grade 3 role

***Mapped to Bridge Module***

**Terminal Outcomes:**

* Describe the basic structure and function of supply chain
* Detail the various functions of a Vessel Operator Grade 3

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *10:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe the basic structure and function of supply chain.
* Explain the various sub-sectors and the opportunities in them
* Explain job roles found in inland waterways
* Describe your job role as vessel operator grade 3 and its interface with other job roles
* Detail the various activities involved in a vessel and inland port
* List down the various equipment used in a vessel
* Explain the basics for handling hazardous goods.
 | * Classify the components of supply chain and logistics sector
* Identify various activities in warehouse, port yard, land, ship and air transportation
* Demonstrate your job role as vessel operator grade 3 and interface with other job roles
* Discuss the various activities in a vessel and inland port
* Operate various equipment used in a vessel
* Discuss 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**  |
| Teaching board, Computer, Projector, video player or TV |

## Module 2: Vessel operations management

***Mapped to LSC/*** ***N4107, v1.0***

**Terminal Outcomes:**

* Describe the factors to be accounted while preparing budget.
* Explain the documentation requirements for vessel operations and cargo transportations

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe the checkpoints for vessel fitness
* Define vessel sailing plan factoring in weather and tide forecasts
* Describe the factors to be accounted while preparing budget.
* Explain the documentation requirements for vessel operations and cargo transportations
* Detail the cargo movement operations and cargo documentation to be checked.
* Describe how to prepare work schedule.
* Analyse maintenance plan of the vessel and engine equipment
* Explain the emergency procedures undertaken in the vessel
 | * Inspect vessel fitness for operation
* Demonstrate vessel sailing with different forecasts.
* Budget for ration, spares, consumables and manage stocking
* Prepare documentation for vessel operations and cargo transportations
* Supervise cargo movement operations
* Inspect the cargo documentation prepared
* Review work scheduling plan for the vessel staff
* Analyse maintenance plan of the vessel and engine equipment
* Demonstrate the procedures followed in the vessel during emergency.
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| MIS, navigation aids, SOP, computer, projector, worksheets, stationery etc. |

##

## Module 3: Vessel equipment inspection and maintenance

***Mapped LSC/*** ***N4108, V1.0***

**Terminal Outcomes:**

* Describe the housekeeping and cleanliness requirements of the vessel
* Detail the requirements for vessel and engine overhauling

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe the checkpoints for engine room equipment fitness.
* Describe the housekeeping and cleanliness requirements of the vessel
* Detail the requirements for vessel and engine overhauling
* Describe post maintenance inspection process.
 | * Inspect functioning of vessel and engine room equipment
* Demonstrate the housekeeping and cleanliness inspection.
* Inspect vessel and engine overhauling requirements
* Inspect maintenance work executed
* Assess repaired/serviced equipment for operational fitness
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Vessel, vessel and engine room equipment, checklist, SOP, computer, projector, stationery, worksheets, etc. |

##

## Module 4: Business development and stakeholder relations

##  *Mapped to LSC/N9701, v1.0*

**Terminal Outcomes:**

* Explain all the available solutions based on sales pitch
* Detail the etiquettes to be followed for effective oral and written business communication

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Detail different approach methods for business development
* Describe various lead generation process.
* Discuss the diversity in client requirements
* Explain all the available solutions based on sales pitch
* Detail the etiquettes to be followed for effective oral and written business communication
* Detail the procedure for preparing costing sheets for service delivery
* Describe the nuances in building rapport with clients, customs, government agencies, insurance for healthy relationship
* Discuss the process of writing service level agreements
 | * Identify target population to approach for business development
* Assess prospective clients based on leads.
* Demonstrate methods for identifying client requirements
* Offer customised or bundled solutions based on sales pitch
* Demonstrate effective oral and written business communication
* Prepare costing sheets for service delivery
* Use ERP for updating client data
* Estimate when to upsell and cross-sell services to existing clients
* Establish rapport with clients, customs, government agencies, insurance for healthy relationship
* Prepare service level agreements

Schedule resources as per operational requirement |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Computers, MIS, ERP, business lead software, teaching board, computer, projector, video player and TV |

## Module 5: Performance management system

***Mapped to LSC/N9602, v1.0***

**Terminal Outcomes:**

* Detail the appropriate steps for performance management as per SOP

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Define performance measurement metrics for assigned activities
* Explain how performance review process is prepared.
* Describe what is root cause analysis and its impact.
* Detail the importance of performance improvement plan
* Define KPIs as per organisational metrics and expectations
* Explain effective ways for resolving employee grievances
 | * Allocate performance measurement metrics for assigned activities
* Demonstrate performance review process with a subordinate.
* Perform root cause analysis for non-performing areas
* Develop corrective and preventive actions to avoid recurrence
* Design performance improvement plan
* Communicate performance improvement plan
* Appraise the KPIs as per organisational metrics and expectations
* Examine employee grievances and undertake corrective actions
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| SOP, MIS, ERP, worksheets, stationery, computer, projector etc. |

## Module 6: Profit and loss account management and cost accounting

***Mapped to LSC/N9603, v1.0***

**Terminal Outcomes:**

* Demonstrate the process of profit and loss account management and cost accounting

|  |  |
| --- | --- |
| Duration: *20:00* | Duration: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe P&L analysis process
* Explain budgeting and monitoring process
* Explain methods to analyse variance between budget and actual expenditure
* Detail the key factors to be taken to consideration while preparing budget.
* Describe the procedure for making budget amendments
* Explain the risk management procedures.
* Detail the procedure for performing Activity Based Costing (ABC)
* Discuss the audit process to identify reasons for deviation from costing
* Explain the process to rationalize cost by undertaking improvement activities
 | * Prepare P&L analysis based on performance.
* Perform budgeting and monitoring process
* Analyse variance between budget and actual expenditure
* Compare budget with actual physical output
* Prepare budget amendments according to p&l.
* Demonstrate risk management procedures
* Perform Activity Based Costing (ABC) in budget.
* Audit and identify reasons for deviation from costing.
* Implement improvement activities to rationalize cost
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Computers, MIS, ERP, performance review software |

## Module 7: 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: *20:00* | Duration: *40:00* |
| **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 about the corrupt practices
* Describe 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
* Illustrate various regulatory requirements related to logistics industry
* Perform data and information security practices
* Identify corrupt practices and methods to curb the same.
* Comply to regulatory requirements of the organization.
* 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 8: Compliance to health, safety and security norms

***Mapped to LSC/N9905, v1.0***

**Terminal Outcomes:**

* Describe health, safety, and security procedures in warehouse
* 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: *35:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Detail health, safety and security procedures in warehouse.
* Describe the 5S to be followed in industry.
* Explain the inspection procedure to ensure appropriate and safe conditions of activity area and equipment
* Discuss what are unsafe working conditions
* Describe the inspection procedure to check safe handling of hazardous goods
* Discuss the standard protocol to be followed during emergency situations, accidents and breach of safety
* Document health, safety and security violations
* Explain the escalation matrix for reporting deviation
 | * Demonstrate the health, safety and security procedures to be followed in warehouse
* Implement 5S at workplace
* Inspect the activity area and equipment, for appropriate and safe conditions
* Identify unsafe working conditions
* Inspect adherence to standard operating procedures (SOP) while handling dangerous and hazardous goods
* Implement standard protocol in case of emergency situations, accidents, and breach of safety
* Prepare report on health, safety and security 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**  |
| PPEs, MHEs like Forklift, Reach stacker, pallet truck, barcode scanner, packaging devices, packing material, markers and stationery, etc |

##

**Module 9: Employability Skills**

***Mapped to DGT/VSQ/N0102, 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: *30:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Discuss the Employability Skills required for jobs in various industries
* 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 importance of relevant 21st century skills.
* Describe the benefits of continuous learning.
* Explain the importance of active listening for effective communication
* Discuss the significance of working collaboratively with others in a team
* Discuss the significance of escalating sexual harassment issues as per POSH act.
* List the common components of salary and compute income, expenditure, taxes, investments etc.
* Discuss the legal rights, laws, and aids
* Describe the role of digital technology in today’s life
* Discuss the significance of displaying responsible online behaviour while browsing, using various social media platforms, e-mails, etc., safely and securely
* 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
* Detail the significance of analysing different types and needs of customers
* Explain the significance of identifying customer needs and responding to them in a professional manner.
* Discuss the significance of maintaining hygiene and dressing appropriately
* Explain the significance of maintaining hygiene and confidence during an interview
 | * Practice different environmentally sustainable practices.
* Exhibit 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.
* Demonstrate to use basic English sentences for everyday conversation in different contexts, in person and over the telephone
* Read and interpret text written in basic English
* Write a short note/paragraph / letter/e -mail using basic English
* Create a career development plan with well-defined short- and long-term goals
* Communicate effectively using verbal and nonverbal communication etiquette.
* Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD
* Outline the importance of selecting the right financial institution, product, and service
* Demonstrate how to carry out offline and online financial transactions, safely and securely
* Operate digital devices and use the associated applications and features, safely and securely
* Create sample word documents, excel sheets and presentations using basic features
* Utilize virtual collaboration tools to work effectively
* Devise a sample business plan, for the selected business opportunity
* Create a professional Curriculum Vitae (CV)
* Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively
* Perform a mock interview
* List the steps for searching and registering for apprenticeship opportunities
 |
| **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 |

## Module 10: Near coastal vessel operations

##  *Mapped to LSC/* *N4109, v1.0*

**Terminal Outcomes:**

* Explain the documentation process for cargo handling and transportation
* Detail the safety measure to be followed

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *30:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe coordinates, navigational aids and their uses.
* Detail the checklist to be followed for course correction.
* Explain the precautions to be followed according to different conditions.
* Describe the cargo handling, loading and unloading process
* Explain the documentation process for cargo handling and transportation
* Detail the safety measure to be followed
* Describe vessel berthing process and its prerequisites.
 | * Draft vessel course using various navigational aids and destination coordinates
* Estimate weather and tide conditions to undertake course corrections
* Use barometer, thermometer, Beaufort scale, Mercator maps, Global Positioning System (GPS) and Electronics Charts Display and Information System (ECDIS) etc. for aiding in navigation
* Demonstrate safe manoeuvring of vessel under different water and weather conditions
* Illustrate basic cargo handling, loading and unloading.
* Prepare documents for cargo handling and transportation.
* Coordinate cargo loading/unloading, stowage, lashing, safety and security measures
* Review cleaning and maintenance of oil tanks, piping arrangement and pumps during voyage
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| NCV, navigation charts and aids, simulator, worksheets, stationery, computer, projector etc. |

## Module 11: Tug vessel operations

##  *Mapped to LSC/* *N4106, v1.0*

**Terminal Outcomes:**

* Describe the process to be followed for preparing tow plan.
* Explain precautions to be undertaken before tug operations

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *30:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe tug operation procedure for single and multiple tugs
* Detail the regulatory requirements for tug and its power systems.
* Describe the process to be followed for preparing tow plan.
* Explain precautions to be undertaken before tug operations
* Describe calculation methods for deriving displacement and speed of tug.
* Detail the parameters to be monitored during tugging operations
* Describe the various emergency situations that might arise and contingency plan for them
 | * Prepare vessel for towing operation
* Inspect tug and its power systems’ fitness for operation as per regulatory requirements
* Draft tow plan based on load to be pulled, time of operation, tide level, weather conditions, coastal berths, bends etc.
* Prepare checklist of precautions to be undertaken before tug operations.
* Compute displacement and speed of tug operations
* Identify the parameters to be monitored during tugging operations
* Demonstrate single and multiple tug operation
* Illustrate the various emergency situations that might arise.
* Devise contingency plan according to situations.
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Tug vessel and its equipment, navigation aids, simulator, SOP, worksheet, etc. |

## Module 12: Passenger vessel operations

***Mapped to LSC/*** ***N3902, v1.0***

**Terminal Outcomes:**

* Describe the safety and security procedures in handling passengers
* Explain how to prepare a navigation plan.

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *30:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe the process for preparing a forecast and the factors taken into account.
* Explain the hospitality procedures and guest handling etiquettes
* Detail the daily checklist to be followed by crew for maintenance.
* Describe the inspection procedure to be followed by management
* Detail the management and maintenance procedure of common areas such as gym, swimming pool, restaurant etc
* Describe the safety and security procedures in handling passengers
* Explain how to prepare a navigation plan.
 | * Budget provisions and other consumables based on vessel population
* Practice hospitality etiquettes with staff.
* Inspect the vessel crew’s adherence to guest handling, hospitality and etiquette practices
* Prepare inspection process for housekeeping and cleanliness management on a daily basis.
* Devise maintenance plan for common areas such as gym, swimming pool, restaurant etc
* Demonstrate safety and security drill long with passengers
* Develop a navigation plan to destination
* Assess safe navigation of vessel as per plan
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Passenger vessel, MIS, budgeting and planning documents, supervision checklists, fire-fighting equipment, life jackets, raft boats, SOP, computer, projector, stationery, worksheets, etc. |

**Module 13: Ship and Yard Planning**

***Mapped to LSC/N3511, v1.0***

**Terminal Outcomes:**

* Describe planning storage space allocation, hazardous cargo segregation and yard usage.
* Detail about developing cargo movement plan based on cargo ageing in yard as a corrective action
* Detail the report preparation process for capturing damages, plan vs performance, accidents, ageing etc.

|  |  |
| --- | --- |
| Duration: *30:00* | Duration: *30:00* |
| **Theory – Key Learning Outcomes** | **Practical – Key Learning Outcomes** |
| * Describe the process of allocating storage space based on goods/container and yard usage.
* Detail about developing cargo movement plan based on cargo ageing in yard as a corrective action
* Elaborate recording cargo movement operational metrics and cargo movement transactions.
* Detail the report preparation process for capturing damages, plan vs performance, accidents, ageing etc.
* Explain hazardous cargo segregation and storage procedure
 | * Analyse how the yard is being used
* Allocate storage space based on goods/container category
* Compute cargo ageing in yard to take corrective action
* Develop cargo movement plan based on ageing.
* Measure cargo movement operational metrics
* Record the cargo movement transactions daily
* Report cargo movement metrics, damages, plan vs performance, accidents, ageing etc.
* Inspect yard for segregation of bays and cargo storage as per plan
* Inspect yard for adherence to cleanliness, safety precaution and PPE usage
* Prepare cargo movement documentation
 |
| **Classroom Aids** |
| Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser |
| **Tools, Equipment and Other Requirements**  |
| Stationery, SOP, RFID scanner, bar code scanner, markers, PPEs, ERP, computer, display board, printer, MHEs, etc |

# Annexure

## Trainer Requirements

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| Trainer Prerequisites |
| Minimum Educational Qualification | **Specialization** | **Relevant Industry Experience**  | **Training Experience** | **Remarks**  |
| ***Years*** | ***Specialization*** | ***Years*** | ***Specialization*** |  |
| 12th Pass |  | 4 | Logistics | 1 | Logistics |  |

|  |
| --- |
| Trainer Certification |
| Domain Certification | **Platform Certification** |
| Certified for Job Role: “Vessel Operator Grade 3” mapped to QP: “LSC/Q4103, 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

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| Assessor Prerequisites |
| Minimum Educational Qualification  | **Specialization** | **Relevant Industry Experience** | **Training/Assessment Experience** | **Remarks**  |
| ***Years*** | ***Specialization*** | ***Years*** | ***Specialization*** |  |
| 12th Pass |  | 2 | Logistics | 1 | Logistics |  |

|  |
| --- |
| Assessor Certification |
| Domain Certification | **Platform Certification** |
| Certified for Job Role: “Vessel Operator Grade 3” mapped to QP: “LSC/Q4103, 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 |