Qualification Pack

Transportation Data Analyst

QP Code: LSC/Q0504

Version: 1.0

NSQF Level: 6

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Contents

LSC/Q0504: Transportation Data Analyst

Brief Job Description

The individual is responsible for working on the transportation monitoring, reporting, data analysis and bring business insights into the processes ensuring the transportation improves on a continuous basis.

Personal Attributes

The individual should have excellent communication skills, analytical skills and professional values. The person should have the ability to think critically and analytically to resolve problems. He/she needs to posses decision making skills to aid the management.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. LSC/N0515: Data Collection and Analysis for Transportation

2. LSC/N0516: Performance Monitoring in Transportation

3. LSC/N0517: Transportation Tool Analysis

4. LSC/N0518: Reporting and Visualization in Logistics Vertical

5. LSC/N0519: Data Optimization for Transportation

6. LSC/N0520: Transportation Data Quality Visualization

7. LSC/N9911: Follow health, safety, security procedures and maintain integrity, ethics at workplace

8. DGT/VSQ/N0103: Employability Skills (90 Hours)

Qualification Pack (QP) Parameters

Sector	Logistics
Sub-Sector	Land Transportation
Occupation	Technology, Transport Operations
Country	India
NSQF Level	6

Credits	21
Aligned to NCO/ISCO/ISIC Code	NCO-2015/2511
Minimum Educational Qualification & Experience	MBA (Operations Management/ Logistics/ Supply Chain) OR Post Graduate Diploma (Completed 2-year PG diploma in Logistics/ Supply Chain) OR B.E./B.Tech with 1 Year of experience in the transportation domain OR Completed 3 year UG degree (Operations Management/ Logistics/ Supply Chain) with 2 Years of experience in the transportation domain OR Previous relevant Qualification of NSQF Level (5) with 3 Years of experience in the transportation domain
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	NA
Minimum Job Entry Age	23 Years
Last Reviewed On	NA
Next Review Date	15/03/2027
NSQC Approval Date	15/03/2024
Version	1.0
Reference code on NQR	QG-06-TW-02190-2024-V1-LSC
NQR Version	1.0

LSC/N0515: Data Collection and Analysis for Transportation

Description

This unit is about collecting, cleaning, organizing, and analysing large volumes of data from various sources.

Scope

The scope covers the following :

- Data collection for transportation network
- Sanity of data and basic validations
- Organizing and analysing the data

Elements and Performance Criteria

Data collection for transportation network

To be competent, the user/individual on the job must be able to:

PC1. Collect information on traffic flow data which includes traffic volume, traffic speed and traffic density

PC2. Obtain information on vehicle location data, vehicle speed and acceleration using GPS data

PC3. Obtain information on road condition data along with weather condition

PC4. Obtain information on road surface quality

PC5. Collect population data which can help in understanding transportation demand

PC6. Collect data on the types of vehicles required on the network, including size and fuel type

PC7. Obtain information on vehicle emissions for environmental impact assessments

PC8. Obtain information on historical data to analyze trends, seasonality, and historical performance

Sanity of data and basic validations

To be competent, the user/individual on the job must be able to:

PC9. Process the data in system tools to validate the count of records against the manually collected data

PC10. Process the data in system tools to check for duplicate records

Organizing and analysing the data

To be competent, the user/individual on the job must be able to:

PC11. Organize the data collected from different sources in separate files/folders

PC12. Analyse the data to validate if the count of several data matches with physical data

PC13. Prepare flow charts to represent data and analyse any missing entity

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational procedure

KU2. different regions of the transportation

KU3. demography of the local workforce

KU4. advanced computer knowledge

KU5. data analysis

KU6. flow chart preparation

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. existing transportation design document

GS2. transportation network information

GS3. charts and maps

GS4. document on data and find the missing entity

GS5. transportation process flows

GS6. communicate with co-workers and supervisors

GS7. collect information from supervisors, associates, and peers

GS8. conduct advanced checks and verify the accuracy of the data provided

GS9. identify errors in data and identify correction and document the changes

GS10. draw inferences and conclusions based on trend analysis

GS11. maintain punctuality

GS12. plan for timely collection of data from transportation users

GS13. be a team player and achieve joint goals

GS14. adhere to customer timelines

GS15. address urgency of customers

GS16. speak politely with customer and take feedback constructively

GS17. identify common trends as per analysis and implement the same in new network

GS18. implement possible solutions for the common issues in daily operations based on information

GS19. identify the processes and layouts to mitigate possible future failures

GS20. analyse trends to identify defaults for corrective action as needed

GS21. observe the transportation network, interfaces and find best possible way to collect data

GS22. cross check the data and possibly find the optimum route optimization levels

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Data collection for transportation network	**16**	**33**	**-**	**5**
PC1. Collect information on traffic flow data which includes traffic volume, traffic speed and traffic density	2	4	-	1
PC2. Obtain information on vehicle location data, vehicle speed and acceleration using GPS data	2	4	-	1
PC3. Obtain information on road condition data along with weather condition	2	4	-	-
PC4. Obtain information on road surface quality	2	4	-	-
PC5. Collect population data which can help in understanding transportation demand	2	4	-	1
PC6. Collect data on the types of vehicles required on the network, including size and fuel type	2	4	-	1
PC7. Obtain information on vehicle emissions for environmental impact assessments	2	4	-	-
PC8. Obtain information on historical data to analyze trends, seasonality, and historical performance	2	5	-	1
Sanity of data and basic validations	**5**	**11**	**-**	**2**
PC9. Process the data in system tools to validate the count of records against the manually collected data	3	5	-	1
PC10. Process the data in system tools to check for duplicate records	2	6	-	1
Organizing and analysing the data	**9**	**16**	**-**	**3**
PC11. Organize the data collected from different sources in separate files/folders	3	5	-	1
PC12. Analyse the data to validate if the count of several data matches with physical data	3	6	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC13. Prepare flow charts to represent data and analyse any missing entity	3	5	-	1
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0515
NOS Name	Data Collection and Analysis for Transportation
Sector	Logistics
Sub-Sector	Land Transportation
Occupation	Technology, Transport Operations
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	15/03/2024
Next Review Date	15/03/2027
NSQC Clearance Date	15/03/2024

LSC/N0516: Performance Monitoring in Transportation

Description

This unit is about tracking and monitoring key performance indicators (KPIs) related to transportation operations, such as route optimization, vehicle availability, finding the cost effective carrier and levels, order fulfilment, cycle times, and optimum load factor.

Scope

The scope covers the following :

- Establishing the KPI
- Transportation Carrier Performance
- Transportation Vehicle Availability and Fuel Efficiency
- Transportation Load Factor
- Transportation Route Optimization

Elements and Performance Criteria

Establishing the KPI

To be competent, the user/individual on the job must be able to:

PC1. Collaborate with stakeholders, including Transportation planner, operations teams, and senior leadership, to define and establish relevant KPIs for optimum performance

PC2. Monitor KPIs regularly, track performance against targets, and identify areas of improvement or concern

Transportation Carrier Performance

To be competent, the user/individual on the job must be able to:

PC3. Measure the on time delivery of carriers delivering the loads

PC4. Measure the average time it takes for loads to travel from the point of origin to its destination

PC5. Maintain record of loading and unloading time for carrier at the dock doors

PC6. Calculate and measure the cost of delivery by the carrier

Transportation Vehicle Availability and Fuel Efficiency

To be competent, the user/individual on the job must be able to:

PC7. Calculate comparison of scheduled vehicle service times to actual departure and arrival times

PC8. Measure downtime of vehicle which is out of service

PC9. Calculate the percentage of scheduled trips or routes that are completed without cancellations or significant delays

PC10. Record the percentage of reserve or backup vehicles available in case of unexpected vehicle breakdowns

PC11. Measure amount of fuel consumed per unit of distance travelled (e.g. miles per gallon or liters per kilometer)

PC12. Record regular maintenance practices that ensure vehicles are operating at peak efficiency

Transportation Load Factor

To be competent, the user/individual on the job must be able to:

PC13. Calculate percentage of available cargo space that is utilized in freight vehicles

PC14. Calculate ratio of the weight of goods carried to the maximum weight capacity of a freight vehicle

PC15. Calculate efficiency of packing cargo to optimize cubic space in freight containers or trucks

PC16. Monitor load factor trends over time to identify areas for improvement

PC17. Calculate load factor comparisons between different shipping modes (e.g., Road, Rail, Air and Ocean)

Transportation Route Optimization

To be competent, the user/individual on the job must be able to:

PC18. Calculate reduction in travel time achieved through optimized routing compared to conventional route

PC19. Measure reduction in the total distance travelled by vehicles on optimized routes

PC20. Measure amount of fuel saved by using optimized routes compared to less efficient routes

PC21. Calculate reduction in transportation costs, including fuel, labour and vehicle maintenance expenses

PC22. Gather feedback from customers regarding the timeliness and accuracy of deliveries

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational procedure
KU2. different regions of the transportation
KU3. demography of the local workforce
KU4. advanced computer knowledge
KU5. data analysis
KU6. flow chart preparation

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. existing transportation design document
GS2. transportation network information
GS3. charts and maps
GS4. document on data and find the missing entity
GS5. transportation process flows
GS6. communicate with co-workers and supervisors
GS7. collect information from supervisors, associates, and peers
GS8. conduct advanced checks and verify the accuracy of the data provided
GS9. identify errors in data and identify correction and document the changes

GS10. draw inferences and conclusions based on trend analysis

GS11. maintain punctuality

GS12. plan for timely collection of data from transport users

GS13. be a team player and achieve joint goals

GS14. adhere to customer timelines

GS15. address urgency of customers

GS16. speak politely with customer and take feedback constructively

GS17. identify common trends as per analysis and implement the same in new network

GS18. implement possible solutions for the common issues in daily operations based on information

GS19. identify the processes and layouts to mitigate possible future failures

GS20. analyse trends to identify defaults for corrective action as needed

GS21. observe the transportation network, interfaces and find best possible way to collect data

GS22. cross check the data and possibly find the optimum route optimization levels

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Establishing the KPI	**2**	**5**	**-**	**-**
PC1. Collaborate with stakeholders, including Transportation planner, operations teams, and senior leadership, to define and establish relevant KPIs for optimum performance	1	2	-	-
PC2. Monitor KPIs regularly, track performance against targets, and identify areas of improvement or concern	1	3	-	-
Transportation Carrier Performance	**6**	**12**	**-**	**2**
PC3. Measure the on time delivery of carriers delivering the loads	1	3	-	-
PC4. Measure the average time it takes for loads to travel from the point of origin to its destination	2	3	-	1
PC5. Maintain record of loading and unloading time for carrier at the dock doors	1	3	-	-
PC6. Calculate and measure the cost of delivery by the carrier	2	3	-	1
Transportation Vehicle Availability and Fuel Efficiency	**7**	**15**	**-**	**3**
PC7. Calculate comparison of scheduled vehicle service times to actual departure and arrival times	1	3	-	1
PC8. Measure downtime of vehicle which is out of service	1	3	-	-
PC9. Calculate the percentage of scheduled trips or routes that are completed without cancellations or significant delays	2	2	-	-
PC10. Record the percentage of reserve or backup vehicles available in case of unexpected vehicle breakdowns	1	3	-	1
PC11. Measure amount of fuel consumed per unit of distance travelled (e.g. miles per gallon or liters per kilometer)	1	2	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Record regular maintenance practices that ensure vehicles are operating at peak efficiency	1	2	-	-
Transportation Load Factor	**8**	**14**	**-**	**3**
PC13. Calculate percentage of available cargo space that is utilized in freight vehicles	1	3	-	1
PC14. Calculate ratio of the weight of goods carried to the maximum weight capacity of a freight vehicle	2	3	-	1
PC15. Calculate efficiency of packing cargo to optimize cubic space in freight containers or trucks	1	3	-	-
PC16. Monitor load factor trends over time to identify areas for improvement	2	2	-	-
PC17. Calculate load factor comparisons between different shipping modes (e.g., Road, Rail, Air and Ocean)	2	3	-	1
Transportation Route Optimization	**7**	**14**	**-**	**2**
PC18. Calculate reduction in travel time achieved through optimized routing compared to conventional route	1	3	-	-
PC19. Measure reduction in the total distance travelled by vehicles on optimized routes	2	3	-	1
PC20. Measure amount of fuel saved by using optimized routes compared to less efficient routes	1	3	-	-
PC21. Calculate reduction in transportation costs, including fuel, labour and vehicle maintenance expenses	2	3	-	1
PC22. Gather feedback from customers regarding the timeliness and accuracy of deliveries	1	2	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0516
NOS Name	Performance Monitoring in Transportation
Sector	Logistics
Sub-Sector	Land Transportation
Occupation	Technology, Transport Operations
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	15/03/2024
Next Review Date	15/03/2027
NSQC Clearance Date	15/03/2024

LSC/N0517: Transportation Tool Analysis

Description

This unit is about conducting technical tool analysis which involves evaluating and selecting appropriate tools and technologies to manage and analyse data within the transportation network efficiently and effectively.

Scope

The scope covers the following :

- Technical Tool Selection and Uses

Elements and Performance Criteria

Technical Tool Selection and Uses

To be competent, the user/individual on the job must be able to:

PC1. Conduct research to identify relevant data analytics, data warehousing and data management tools available in the market.

PC2. Evaluate tools features, capabilities, and suitability for the transportation network requirements.

PC3. Assess the strengths and weaknesses of different tools and technologies after considering technical factors such as scalability, performance, ease of use, integration capabilities, and compatibility with existing systems.

PC4. Prepare a report with SWOT analysis of each of the shortlisted tools. Present the report to stakeholders and conduct meeting to finalize the tool after considering the organization's budget, long-term data requirements, and the skillset of the data team.

PC5. Evaluate ETL tools that facilitate data extraction, transformation, and loading processes to ensure that data is prepared and made available for analysis.

PC6. Evaluate statistical analysis software that can be used to perform advanced analytics and predictive modelling on transportation data.

PC7. Investigate business intelligence tools that enable ad-hoc querying, reporting, and data exploration for better decision-making.

PC8. Ensure that the selected tools comply with data security and governance requirements, especially when dealing with sensitive or confidential data.

PC9. Evaluate how well the chosen tools can integrate with the organization's existing IT infrastructure and data management systems.

PC10. Conduct testing and proof of concept projects to validate the effectiveness and compatibility of the selected tools in the transportation network.

PC11. Coordinate training sessions for the data team to ensure they can effectively use the chosen tools for their data analysis tasks.

PC12. Ensure effective transition of tools to the vendor and responsible stakeholders.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational procedure
KU2. different regions of the transportation
KU3. demography of the local workforce
KU4. advanced computer knowledge
KU5. data analysis
KU6. flow chart preparation

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. existing transportation design document
GS2. transportation network information
GS3. charts and maps
GS4. document on data and find the missing entity
GS5. transportation process flows
GS6. communicate with co-workers and supervisors
GS7. collect information from supervisors, associates, and peers
GS8. conduct advanced checks and verify the accuracy of the data provided
GS9. identify errors in data and identify correction and document the changes
GS10. draw inferences and conclusions based on trend analysis
GS11. maintain punctuality
GS12. plan for timely collection of data from transport users
GS13. be a team player and achieve joint goals
GS14. adhere to customer timelines
GS15. address urgency of customers
GS16. speak politely with customer and take feedback constructively
GS17. identify common trends as per analysis and implement the same in new transportation network
GS18. implement possible solutions for the common issues in daily operations based on information
GS19. identify the processes and layouts to mitigate possible future failures
GS20. analyse trends to identify defaults for corrective action as needed
GS21. observe the transportation network, interfaces and find best possible way to collect data
GS22. cross check the data and possibly find the optimum route optimization levels

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Technical Tool Selection and Uses	**30**	**60**	**-**	**10**
PC1. Conduct research to identify relevant data analytics, data warehousing and data management tools available in the market.	2	5	-	1
PC2. Evaluate tools features, capabilities, and suitability for the transportation network requirements.	3	5	-	1
PC3. Assess the strengths and weaknesses of different tools and technologies after considering technical factors such as scalability, performance, ease of use, integration capabilities, and compatibility with existing systems.	2	5	-	1
PC4. Prepare a report with SWOT analysis of each of the shortlisted tools. Present the report to stakeholders and conduct meeting to finalize the tool after considering the organization's budget, long-term data requirements, and the skillset of the data team.	3	5	-	1
PC5. Evaluate ETL tools that facilitate data extraction, transformation, and loading processes to ensure that data is prepared and made available for analysis.	3	5	-	1
PC6. Evaluate statistical analysis software that can be used to perform advanced analytics and predictive modelling on transportation data.	3	5	-	1
PC7. Investigate business intelligence tools that enable ad-hoc querying, reporting, and data exploration for better decision-making.	2	5	-	-
PC8. Ensure that the selected tools comply with data security and governance requirements, especially when dealing with sensitive or confidential data.	2	5	-	1
PC9. Evaluate how well the chosen tools can integrate with the organization's existing IT infrastructure and data management systems.	3	5	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. Conduct testing and proof of concept projects to validate the effectiveness and compatibility of the selected tools in the transportation network.	3	5	-	1
PC11. Coordinate training sessions for the data team to ensure they can effectively use the chosen tools for their data analysis tasks.	2	5	-	-
PC12. Ensure effective transition of tools to the vendor and responsible stakeholders.	2	5	-	1
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0517
NOS Name	Transportation Tool Analysis
Sector	Logistics
Sub-Sector	Land Transportation
Occupation	Technology, Transport Operations
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	15/03/2024
Next Review Date	15/03/2027
NSQC Clearance Date	15/03/2024

LSC/N0518: Reporting and Visualization in Logistics Vertical

Description

This unit is about reports, dashboards, and visual representations of data to present insights and trends to stakeholders, management, and cross-functional teams.

Scope

The scope covers the following :

- Designing and Developing Reports, Dashboard and Visual Representations

Elements and Performance Criteria

Designing and Developing Reports, Dashboard and Visual Representations

To be competent, the user/individual on the job must be able to:

PC1. Collect the requirement about Reports from Business users after discussing the different processes like shipment tracking, On time performance, fuel and energy consumption.

PC2. Perform As-Is analysis of the existing reports.

PC3. Perform Fit-Gap analysis on how to enhance existing reports (if any) to fulfil the business needs.

PC4. Prepare Business Requirement Document (BRD) for new reports.

PC5. Prepare a design document for each of new reports.

PC6. Prepare design document which shall consist of Report Layout, Dashboard Requirement, Visual Representations, data requirements.

PC7. Provide guidance to developer to prepare technical design document. Finalize the data set required to present the data in Reports.

PC8. Perform unit test of reports, dashboards.

PC9. Work with Business users to perform user acceptance test for reports.

PC10. Deploy the reports for business end users.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational procedure

KU2. different regions of the transportation

KU3. demography of the local workforce

KU4. advanced computer knowledge

KU5. data analysis

KU6. flow chart preparation

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1.   existing transportation design document

GS2.   transportation network information

GS3.   charts and maps

GS4.   document on data and find the missing entity

GS5.   transportation process flows

GS6.   communicate with co-workers and supervisors

GS7.   collect information from supervisors, associates, and peers

GS8.   conduct advanced checks and verify the accuracy of the data provided

GS9.   identify errors in data and identify correction and document the changes

GS10. draw inferences and conclusions based on trend analysis

GS11. maintain punctuality

GS12. plan for timely collection of data from transport users

GS13. be a team player and achieve joint goals

GS14. adhere to customer timelines

GS15. address urgency of customers

GS16. speak politely with customer and take feedback constructively

GS17. identify common trends as per analysis and implement the same in new transportation network

GS18. implement possible solutions for the common issues in daily operations based on information

GS19. identify the processes and layouts to mitigate possible future failures

GS20. analyse trends to identify defaults for corrective action as needed

GS21. observe the transportation network, interfaces and find best possible way to collect data

GS22. cross check the data and possibly find the optimum route optimization levels

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Designing and Developing Reports, Dashboard and Visual Representations	**30**	**60**	**-**	**10**
PC1. Collect the requirement about Reports from Business users after discussing the different processes like shipment tracking, On time performance, fuel and energy consumption.	3	6	-	1
PC2. Perform As-Is analysis of the existing reports.	3	6	-	1
PC3. Perform Fit-Gap analysis on how to enhance existing reports (if any) to fulfil the business needs.	3	6	-	1
PC4. Prepare Business Requirement Document (BRD) for new reports.	3	6	-	1
PC5. Prepare a design document for each of new reports.	3	6	-	1
PC6. Prepare design document which shall consist of Report Layout, Dashboard Requirement, Visual Representations, data requirements.	3	6	-	1
PC7. Provide guidance to developer to prepare technical design document. Finalize the data set required to present the data in Reports.	3	6	-	1
PC8. Perform unit test of reports, dashboards.	3	6	-	1
PC9. Work with Business users to perform user acceptance test for reports.	3	6	-	1
PC10. Deploy the reports for business end users.	3	6	-	1
NOS Total	**30**	**60**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0518
NOS Name	Reporting and Visualization in Logistics Vertical
Sector	Logistics
Sub-Sector	Land Transportation
Occupation	Technology, Transport Operations
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	15/03/2024
Next Review Date	15/03/2027
NSQC Clearance Date	15/03/2024

LSC/N0519: Data Optimization for Transportation

Description

This unit is about data modelling and forecasting as they are essential aspects of the transportation industry for demand forecasting and route optimization modelling.

Scope

The scope covers the following :

- Forecast Transportation Needs
- Identify Demand Patterns

Elements and Performance Criteria

Forecast Transportation Needs

To be competent, the user/individual on the job must be able to:

PC1. Gather historical transportation data, various mode of transportation, and any other relevant data sources from the transportation management system, or enterprise resource planning (ERP) system.

PC2. Clean the data to remove any inconsistencies, errors, or missing values. Pre-process the data to make it suitable for analysis, such as aggregating it into relevant time periods (e.g., daily, weekly, monthly).

PC3. Analyse past demand patterns to identify any seasonal trends, cyclic patterns, or significant events that might have affected demand for transportation to form the basis of Forecasting model.

PC4. Select appropriate forecasting methods based on the demand analysis and the characteristics of your data. Common methods include time series forecasting techniques like moving averages, exponential smoothing.

PC5. Use the selected forecasting method(s) to generate future demand forecasts for each product or product category in the warehouse. These forecasts will serve as estimates of the transportation needs in the upcoming periods.

PC6. Work closely with the sales and marketing teams to gather insights into upcoming promotions, new product launches, or any other factors that could impact future demand and thus impacting freight volume projections. Incorporate these insights into forecasting model.

PC7. Analyse the lead time for each mode of transportation and its related cost to understand the lead time it takes. Incorporate this lead time information into transportation mode calculations.

Identify Demand Patterns

To be competent, the user/individual on the job must be able to:

PC8. Gather relevant data from various sources such as transportation management systems, shipment records, customer orders, and other related databases.

PC9. Gather historical transportation data, transportation mode level information, seasonal factors, and any other relevant data.

PC10. Cleanse and pre-process the collected data to ensure accuracy and consistency.

PC11. Cleanse and identify missing values, removing outliers, standardizing units, and transforming data into a suitable format for analysis.

PC12. Identify seasonal demand patterns and trends to understand how demand varies throughout the year.

PC13. Analyse inventory levels and turnover rates to optimize stock levels and reduce carrying costs while ensuring product availability to meet demand.

PC14. Monitor demand patterns continuously and forecast accuracy to assess the effectiveness of the implemented strategies and models.

PC15. Collaborate with other teams, such as supply chain management, sales, marketing, and finance, to align demand forecasts with business strategies and plans.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational procedure
KU2. different regions of the transportation
KU3. demography of the local workforce
KU4. advanced computer knowledge
KU5. data analysis
KU6. flow chart preparation

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. existing transportation design document
GS2. transportation network information
GS3. charts and maps
GS4. document on data and find the missing entity
GS5. transportation process flows
GS6. communicate with co-workers and supervisors
GS7. collect information from supervisors, associates, and peers
GS8. conduct advanced checks and verify the accuracy of the data provided
GS9. identify errors in data and identify correction and document the changes
GS10. draw inferences and conclusions based on trend analysis
GS11. maintain punctuality
GS12. plan for timely collection of data from transport users
GS13. be a team player and achieve joint goals
GS14. adhere to customer timelines
GS15. address urgency of customers
GS16. speak politely with customer and take feedback constructively

GS17. identify common trends as per analysis and implement the same in new transportation network

GS18. implement possible solutions for the common issues in daily operations based on information

GS19. identify the processes and layouts to mitigate possible future failures

GS20. analyse trends to identify defaults for corrective action as needed

GS21. observe the transportation network, interfaces and find best possible way to collect data

GS22. cross check the data and possibly find the optimum route optimization levels

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Forecast Transportation Needs	**14**	**28**	**-**	**3**
PC1. Gather historical transportation data, various mode of transportation, and any other relevant data sources from the transportation management system, or enterprise resource planning (ERP) system.	2	4	-	-
PC2. Clean the data to remove any inconsistencies, errors, or missing values. Pre-process the data to make it suitable for analysis, such as aggregating it into relevant time periods (e.g., daily, weekly, monthly).	2	4	-	1
PC3. Analyse past demand patterns to identify any seasonal trends, cyclic patterns, or significant events that might have affected demand for transportation to form the basis of Forecasting model.	2	4	-	1
PC4. Select appropriate forecasting methods based on the demand analysis and the characteristics of your data. Common methods include time series forecasting techniques like moving averages, exponential smoothing.	2	4	-	1
PC5. Use the selected forecasting method(s) to generate future demand forecasts for each product or product category in the warehouse. These forecasts will serve as estimates of the transportation needs in the upcoming periods.	2	4	-	-
PC6. Work closely with the sales and marketing teams to gather insights into upcoming promotions, new product launches, or any other factors that could impact future demand and thus impacting freight volume projections. Incorporate these insights into forecasting model.	2	4	-	-
PC7. Analyse the lead time for each mode of transportation and its related cost to understand the lead time it takes. Incorporate this lead time information into transportation mode calculations.	2	4	-	-
Identify Demand Patterns	**16**	**32**	**-**	**7**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC8. Gather relevant data from various sources such as transportation management systems, shipment records, customer orders, and other related databases.	2	4	-	1
PC9. Gather historical transportation data, transportation mode level information, seasonal factors, and any other relevant data.	2	4	-	1
PC10. Cleanse and pre-process the collected data to ensure accuracy and consistency.	2	4	-	1
PC11. Cleanse and identify missing values, removing outliers, standardizing units, and transforming data into a suitable format for analysis.	2	4	-	1
PC12. Identify seasonal demand patterns and trends to understand how demand varies throughout the year.	2	4	-	1
PC13. Analyse inventory levels and turnover rates to optimize stock levels and reduce carrying costs while ensuring product availability to meet demand.	2	4	-	1
PC14. Monitor demand patterns continuously and forecast accuracy to assess the effectiveness of the implemented strategies and models.	2	4	-	1
PC15. Collaborate with other teams, such as supply chain management, sales, marketing, and finance, to align demand forecasts with business strategies and plans.	2	4	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0519
NOS Name	Data Optimization for Transportation
Sector	Logistics
Sub-Sector	Land Transportation
Occupation	Technology, Transport Operations
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	15/03/2024
Next Review Date	15/03/2027
NSQC Clearance Date	15/03/2024

LSC/N0520: Transportation Data Quality Visualization

Description

This unit is about ensuring data integrity and quality control in a transportation network maintaining the accuracy, consistency, and reliability of the data stored in the TM (Transportation Management).

Scope

The scope covers the following :

- Maintaining Data Integrity
- Maintaining Data Quality Control

Elements and Performance Criteria

Maintaining Data Integrity

To be competent, the user/individual on the job must be able to:

PC1. Implement data validation rules to check the integrity of incoming data.

PC2. Implement validation checks for data types, ranges, and constraints to ensure that only valid and correctly formatted data is entered into the TM.

PC3. Standardize and transform data to ensure uniformity across different sources.

PC4. Convert data into a common format, consistent units of measurement, and handling data from various systems or file types.

PC5. Maintain comprehensive documentation about data sources, data definitions, and any transformations applied.

PC6. Establish data governance after collaborating with several teams including IT teams and other stakeholders ensuring defined responsibilities and accountability.

PC7. Ensure data security and compliance with relevant data protection regulations. Implement measures to protect sensitive data and restrict access to authorized personnel only.

PC8. Optimize data storage and retrieval processes to enhance the overall performance of the transportation system, ensuring that queries and reports run efficiently.

PC9. Conduct periodic data audits to assess the overall data quality and identify areas for improvement.

Maintaining Data Quality Control

To be competent, the user/individual on the job must be able to:

PC10. Profile the data in the TM to understand its structure, content, and quality.

PC11. Assess data types, distributions, and identifying any potential data quality issues.

PC12. Clean and pre-process the data regularly to handle missing values including deduplication, and error correction.

PC13. Generate data quality reports and dashboards to communicate data quality metrics and issues to stakeholders and management.

PC14. Provide training and support to data users to promote data quality awareness and best practices for data entry and maintenance.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. organizational procedure
KU2. different regions of the transportation
KU3. demography of the local workforce
KU4. advanced computer knowledge
KU5. data analysis
KU6. flow chart preparation

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. existing transportation design document
GS2. transportation network information
GS3. charts and maps
GS4. document on data and find the missing entity
GS5. transportation process flows
GS6. communicate with co-workers and supervisors
GS7. collect information from supervisors, associates, and peers
GS8. conduct advanced checks and verify the accuracy of the data provided
GS9. identify errors in data and identify correction and document the changes
GS10. draw inferences and conclusions based on trend analysis
GS11. maintain punctuality
GS12. plan for timely collection of data from transport users
GS13. be a team player and achieve joint goals
GS14. adhere to customer timelines
GS15. address urgency of customers
GS16. speak politely with customer and take feedback constructively
GS17. identify common trends as per analysis and implement the same in new transportation network
GS18. implement possible solutions for the common issues in daily operations based on information
GS19. identify the processes and layouts to mitigate possible future failures
GS20. analyse trends to identify defaults for corrective action as needed
GS21. observe the transportation network, interfaces and find best possible way to collect data
GS22. cross check the data and possibly find the optimum route optimization levels

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Maintaining Data Integrity	**19**	**38**	**-**	**5**
PC1. Implement data validation rules to check the integrity of incoming data.	2	4	-	-
PC2. Implement validation checks for data types, ranges, and constraints to ensure that only valid and correctly formatted data is entered into the TM.	2	4	-	1
PC3. Standardize and transform data to ensure uniformity across different sources.	2	4	-	-
PC4. Convert data into a common format, consistent units of measurement, and handling data from various systems or file types.	2	4	-	1
PC5. Maintain comprehensive documentation about data sources, data definitions, and any transformations applied.	2	4	-	1
PC6. Establish data governance after collaborating with several teams including IT teams and other stakeholders ensuring defined responsibilities and accountability.	2	4	-	1
PC7. Ensure data security and compliance with relevant data protection regulations. Implement measures to protect sensitive data and restrict access to authorized personnel only.	3	5	-	-
PC8. Optimize data storage and retrieval processes to enhance the overall performance of the transportation system, ensuring that queries and reports run efficiently.	2	4	-	1
PC9. Conduct periodic data audits to assess the overall data quality and identify areas for improvement.	2	5	-	-
Maintaining Data Quality Control	**11**	**22**	**-**	**5**
PC10. Profile the data in the TM to understand its structure, content, and quality.	2	4	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Assess data types, distributions, and identifying any potential data quality issues.	2	4	-	1
PC12. Clean and pre-process the data regularly to handle missing values including deduplication, and error correction.	2	4	-	1
PC13. Generate data quality reports and dashboards to communicate data quality metrics and issues to stakeholders and management.	2	5	-	1
PC14. Provide training and support to data users to promote data quality awareness and best practices for data entry and maintenance.	3	5	-	1
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N0520
NOS Name	Transportation Data Quality Visualization
Sector	Logistics
Sub-Sector	Land Transportation
Occupation	Technology, Transport Operations
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	15/03/2024
Next Review Date	15/03/2027
NSQC Clearance Date	15/03/2024

LSC/N9911: Follow health, safety, security procedures and maintain integrity, ethics at workplace

Description

This unit deals in detail with application of health, safety, security procedures at workplace and maintaining integrity, ensuring data security, professional and ethical practice.

Scope

The scope covers the following :

- Follow health, safety and security measures during all activities
- Maintain a healthy and hygienic workplace
- Handle emergency situations
- Maintain integrity and ensure data security
- Professional and ethical practice
- Ensure regulatory compliance

Elements and Performance Criteria

Follow health, safety and security measures during all activities

To be competent, the user/individual on the job must be able to:

PC1. Comply with safety regulations and procedures to avoid fire hazards, biohazards, etc.

PC2. Wear all safety equipment including protective gear, helmets etc., in relevant bay areas.

PC3. Follow organisation procedures concerning documentation.

PC4. Recognise unsafe workplace conditions and safety practices and report them to concerned authorities.

Maintain a healthy and hygienic workplace

To be competent, the user/individual on the job must be able to:

PC5. Ensure that the work area and supplies are organised and cleaned regularly.

PC6. Comply with data safety regulations of the organisation and follow clear worktable area policy.

PC7. Maintain personal hygiene and wash hands regularly using soap and water or alcohol-based sanitizer.

PC8. Undertake periodical preventive health check-ups.

PC9. Participate in fire drills and follow 5S at workplace.

Handle emergency situations

To be competent, the user/individual on the job must be able to:

PC10. Act immediately during emergencies and move to safety.

PC11. Provide first aid to affected victims e.g., in case of bleeding, burns, choking, electric shock, poisoning etc.

PC12. In case of fire, follow fire safety practices taught during fire drills.

PC13. Follow procedures to rescue victims of fire without endangering self.

Maintain integrity and ensure data security

To be competent, the user/individual on the job must be able to:

PC14. Refrain from indulging in corrupt practices.

PC15. Protect customers' information and ensure acquired information is not used for personal advantage.

PC16. Protect data and information related to business or commercial decisions.

Professional and ethical practice

To be competent, the user/individual on the job must be able to:

PC17. Sensitize the workforce towards ethical behaviour in the workplace and performing jobs with integrity.

PC18. Conduct regular reviews, check reports for unethical behaviour and corrupt practices and promptly report all violations of the code of ethics.

PC19. Consult senior management when in an ethical dilemma.

Ensure regulatory compliance

To be competent, the user/individual on the job must be able to:

PC20. Check that documentation concerning operations is up to date and in accordance with the regulations.

PC21. Coordinate with regulatory authorities and assist in inspections and clearances.

PC22. Report any issues with regulatory compliance.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Company's policies on the use of language, Human Resources policies, code of ethics and business

KU2. Company's whistle-blower policy and rules related to sexual harassment

KU3. Company's reporting structure and documentation policy

KU4. Principles of code of ethics and business ethics

KU5. Different regulations and acts that are applicable for the sub-sector and logistics sector as a whole

KU6. The documentary compliance required for different type of products for Health Safety and Environment (HSE) practices

KU7. Relevant Occupational Health and Safety (OHS) regulations

KU8. Enterprise /site emergency procedures and techniques

KU9. Procedures for recording, reporting and maintenance of workplace safety and hygiene

KU10. Health and safety hazards commonly present in the work environment and related precautions

KU11. Possible causes of risk, hazard or accident in the workplace

KU12. Where to find all the general health and safety equipment in the workplace

KU13. Various dangers associated with the use of electrical equipment

KU14. Preventative and remedial actions to be taken in the case of exposure to toxic materials

KU15. Importance of using protective clothing/equipment while working

KU16. Various causes of fire and precautionary activities to prevent the fire accident

KU17. Different methods of extinguishing fire and techniques of using the different fire extinguishers

KU18. Rescue techniques applied during a fire hazard and safe lifting and carrying practices

KU19. Various types of safety signs and their meaning

KU20. Appropriate basic first aid treatment relevant to the condition e.g., shock, electrical shock, bleeding, breaks to bones, minor burns, resuscitation, poisoning, eye injuries

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Read policy documents, work-related documents, various acts and regulations

GS2. Write instructions, communications to internal staff, emails and letters, and reports

GS3. Interact with internal and external stakeholders

GS4. Communicate with peers and subordinates

GS5. Take appropriate action in a vulnerable situation

GS6. Identify breaches and take necessary actions

GS7. Identify the documentary requirement for a specific product or regulation and take necessary action

GS8. Plan and organise steps/ actions as per the company's guidelines, if any violation of the code of ethics is noticed in the company

GS9. Plan and organise training sessions and sensitisation sessions for workforce

GS10. Plan review meetings to monitor compliance with ethics and regulations

GS11. Prevent company and customer information leakage

GS12. Provide proper advice or guidance to colleagues to deal with sensitive issues

GS13. Suggest solutions to managers and workers when in an ethical dilemma

GS14. Identify conflict of interests and take necessary actions

GS15. Review reports to identify common trends of defaults

GS16. Conduct a review to analyse the reasons for the default

GS17. Check that all regulatory compliances are adhered to

GS18. Check that any unethical behaviour gets captured before damage or negative impact happens

GS19. Write Health and safety compliance report

GS20. Interpret general health and safety guidelines

GS21. Communicate general health and safety guidelines to co-workers

GS22. Decide on the corrective action to be taken in case of any potential hazards

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Follow health, safety and security measures during all activities	**6**	**10**	**-**	**2**
PC1. Comply with safety regulations and procedures to avoid fire hazards, biohazards, etc.	1	2	-	-
PC2. Wear all safety equipment including protective gear, helmets etc., in relevant bay areas.	2	3	-	1
PC3. Follow organisation procedures concerning documentation.	1	2	-	-
PC4. Recognise unsafe workplace conditions and safety practices and report them to concerned authorities.	2	3	-	1
Maintain a healthy and hygienic workplace	**5**	**14**	**-**	**3**
PC5. Ensure that the work area and supplies are organised and cleaned regularly.	1	3	-	1
PC6. Comply with data safety regulations of the organisation and follow clear worktable area policy.	1	3	-	-
PC7. Maintain personal hygiene and wash hands regularly using soap and water or alcohol-based sanitizer.	1	2	-	1
PC8. Undertake periodical preventive health check-ups.	1	3	-	1
PC9. Participate in fire drills and follow 5S at workplace.	1	3	-	-
Handle emergency situations	**6**	**9**	**-**	**2**
PC10. Act immediately during emergencies and move to safety.	2	2	-	1
PC11. Provide first aid to affected victims e.g., in case of bleeding, burns, choking, electric shock, poisoning etc.	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. In case of fire, follow fire safety practices taught during fire drills.	2	3	-	-
PC13. Follow procedures to rescue victims of fire without endangering self.	1	2	-	1
Maintain integrity and ensure data security	**4**	**8**	**-**	**-**
PC14. Refrain from indulging in corrupt practices.	2	3	-	-
PC15. Protect customers' information and ensure acquired information is not used for personal advantage.	1	2	-	-
PC16. Protect data and information related to business or commercial decisions.	1	3	-	-
Professional and ethical practice	**4**	**8**	**-**	**1**
PC17. Sensitize the workforce towards ethical behaviour in the workplace and performing jobs with integrity.	1	2	-	-
PC18. Conduct regular reviews, check reports for unethical behaviour and corrupt practices and promptly report all violations of the code of ethics.	2	4	-	1
PC19. Consult senior management when in an ethical dilemma.	1	2	-	-
Ensure regulatory compliance	**5**	**11**	**-**	**2**
PC20. Check that documentation concerning operations is up to date and in accordance with the regulations.	1	3	-	-
PC21. Coordinate with regulatory authorities and assist in inspections and clearances.	2	4	-	1
PC22. Report any issues with regulatory compliance.	2	4	-	1
NOS Total	**30**	**60**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N9911
NOS Name	Follow health, safety, security procedures and maintain integrity, ethics at workplace
Sector	Logistics
Sub-Sector	Generic
Occupation	Generic
NSQF Level	6
Credits	1
Version	1.0
Last Reviewed Date	15/03/2024
Next Review Date	15/03/2027
NSQC Clearance Date	15/03/2024

DGT/VSQ/N0103: Employability Skills (90 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

PC1. understand the significance of employability skills in meeting the current job market requirement and future of work

PC2. identify and explore learning and employability relevant portals

PC3. research about the different industries, job market trends, latest skills required and the available opportunities

Constitutional values – Citizenship

To be competent, the user/individual on the job must be able to:

PC4. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.

PC5. follow environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

PC6. recognize the significance of 21st Century Skills for employment

PC7. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

PC8. adopt a continuous learning mindset for personal and professional development

Basic English Skills

To be competent, the user/individual on the job must be able to:

PC9. use basic English for everyday conversation in different contexts, in person and over the telephone

PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English

PC11. write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

To be competent, the user/individual on the job must be able to:

PC12. identify career goals based on the skills, interests, knowledge, and personal attributes

PC13. prepare a career development plan with short- and long-term goals

Communication Skills

To be competent, the user/individual on the job must be able to:

PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings

PC15. use active listening techniques for effective communication

PC16. communicate in writing using appropriate style and format based on formal or informal requirements

PC17. work collaboratively with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

PC18. communicate and behave appropriately with all genders and PwD

PC19. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.

PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook

PC22. identify common components of salary and compute income, expenses, taxes, investments etc

PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

PC24. operate digital devices and use their features and applications securely and safely

PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.

PC26. display responsible online behaviour while using various social media platforms

PC27. create a personal email account, send and process received messages as per requirement

PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications

PC29. utilize virtual collaboration tools to work effectively

Entrepreneurship

To be competent, the user/individual on the job must be able to:

PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research

PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion

PC32. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

To be competent, the user/individual on the job must be able to:

PC33. identify different types of customers and ways to communicate with them

PC34. identify and respond to customer requests and needs in a professional manner

PC35. use appropriate tools to collect customer feedback

PC36. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC37. create a professional Curriculum vitae (Résumé)

PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC39. apply to identified job openings using offline /online methods as per requirement

PC40. answer questions politely, with clarity and confidence, during recruitment and selection

PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. components of salary and how to compute income and expenditure

KU12. importance of maintaining safety and security in offline and online financial transactions

KU13. different legal rights and laws

KU14. different types of digital devices and the procedure to operate them safely and securely

KU15. how to create and operate an e- mail account

KU16. use applications such as word processors, spreadsheets etc.

KU17. how to identify business opportunities

KU18. types and needs of customers

KU19. how to apply for a job and prepare for an interview

KU20. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and write different types of documents/instructions/correspondence in English and other languages

GS2. communicate effectively using appropriate language in formal and informal settings

GS3. behave politely and appropriately with all to maintain effective work relationship

GS4. how to work in a virtual mode, using various technological platforms

GS5. perform calculations efficiently

GS6. solve problems effectively

GS7. pay attention to details

GS8. manage time efficiently

GS9. maintain hygiene and sanitization to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	1	1	-	-
PC1. understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-	-
PC2. identify and explore learning and employability relevant portals	-	-	-	-
PC3. research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
Constitutional values – Citizenship	1	1	-	-
PC4. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC5. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	1	3	-	-
PC6. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC7. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
PC8. adopt a continuous learning mindset for personal and professional development	-	-	-	-
Basic English Skills	3	4	-	-
PC9. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC11. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
Career Development & Goal Setting	**1**	**2**	**-**	**-**
PC12. identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
PC13. prepare a career development plan with short- and long-term goals	-	-	-	-
Communication Skills	**2**	**2**	**-**	**-**
PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
PC15. use active listening techniques for effective communication	-	-	-	-
PC16. communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
PC17. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	**1**	**1**	**-**	**-**
PC18. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	**2**	**3**	**-**	**-**
PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC22. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills	**3**	**5**	**-**	**-**
PC24. operate digital devices and use their features and applications securely and safely	-	-	-	-
PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-	-
PC26. display responsible online behaviour while using various social media platforms	-	-	-	-
PC27. create a personal email account, send and process received messages as per requirement	-	-	-	-
PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-	-
PC29. utilize virtual collaboration tools to work effectively	-	-	-	-
Entrepreneurship	**2**	**3**	**-**	**-**
PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC32. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service	**1**	**2**	**-**	**-**
PC33. identify different types of customers and ways to communicate with them	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC34. identify and respond to customer requests and needs in a professional manner	-	-	-	-
PC35. use appropriate tools to collect customer feedback	-	-	-	-
PC36. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**2**	**3**	**-**	**-**
PC37. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC39. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC40. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0103
NOS Name	Employability Skills (90 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	5
Credits	3
Version	1.0
Last Reviewed Date	31/08/2021
Next Review Date	31/08/2024
NSQC Clearance Date	31/08/2021

Assessment Guidelines and Assessment Weightage

Assessment Guidelines

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.

5. To pass the Qualification Pack, every trainee should score a minimum of 70% for NSQF level 4 & above job roles and 50% for NSQF level 1 to 3 job roles.

6. In case of unsuccessful completion, the trainee may seek re-assessment on the Qualification Pack.

Minimum Aggregate Passing % at QP Level : 70

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Minimum Passing % at NOS Level: 70

(**Please note**: A Trainee must score the minimum percentage for each NOS separately as well as on the QP as a whole.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N0515.Data Collection and Analysis for Transportation	30	60	-	10	100	15
LSC/N0516.Performance Monitoring in Transportation	30	60	-	10	100	15
LSC/N0517.Transportation Tool Analysis	30	60	-	10	100	10
LSC/N0518.Reporting and Visualization in Logistics Vertical	30	60	-	10	100	15
LSC/N0519.Data Optimization for Transportation	30	60	-	10	100	15
LSC/N0520.Transportation Data Quality Visualization	30	60	-	10	100	10
LSC/N9911.Follow health, safety, security procedures and maintain integrity, ethics at workplace	30	60	-	10	100	10
DGT/VSQ/N0103.Employability Skills (90 Hours)	20	30	-	-	50	10
Total	**230**	**450**	**-**	**70**	**750**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.

Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/ Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. These skills are typically needed in any work environment. In the context of the OS, these include communication related skills that are applicable to most job roles.
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a QP for each specialized job role. Trainees must select at least one elective for the successful completion of a QP with Electives.
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. There may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.