NATIONAL SKILLS QUALIFICATION

LEVEL 4

TITLE:

Data Analytics with Python

YEAR: 2024

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4- Data Analytics with Python

GENERAL INFORMATION

QUALIFICATION PURPOSE

This qualification aims to equip learners with appropriate Data Analytical skills, focusing on designing and implementing elementary Data Analytics solutions.

QUALIFICATION OBJECTIVES

The learner should be able to: -

i. Understand the fundamentals of data analytics.
ii. Create data-driven decisions and successful business outcomes.
iii. Classify key stages in the Data Analysis process.
iv. Recognize the skills needed by an analyst.
v. Communicate reports to stakeholders
vi. Create dashboards
vii. Make informed data driven decision.

Mandatory Units

Unit No	Reference Number	NOS Title	Credit Value	Guided Learning Hours	Remark
001	ICT/GSS/001/L3	Occupational Health and Safety	1	10	Mandatory
002	ICT/GSS/002/L3	Teamwork	1	10	Mandatory
003	ICT/GSS/003/L3	Communication	1	10	Mandatory
004	ICT/DAP/004/L4	Fundamentals of Data Analytics	1	10	Mandatory
005	ICT/DAP/005/L4	Python for Data Science	2	20	Mandatory
006	ICT/DAP/006/L4	Data Analysis with Python	3	30	Mandatory
007	ICT/DAP/007/L4	Creating and Interpreting Visualizations in Data Science	2	20	Mandatory
008	ICT/DAP/008/L4	SQL for Data Analytics	2	20	Mandatory
009	ICT/DAP/009/L4	Data Analysis Using spreadsheets	2	20	Mandatory
010	ICT/DAP/010/L4	Data visualization and reporting using Power BI	4	40	Mandatory
			19	190	

NOTE:

Mandatory Units

Learners must complete all mandatory units to gain advanced skills in Data Analytics. These units are designed to provide a comprehensive understanding of data analysis principles, techniques, and tools, enabling learners to perform complex data analysis tasks independently. The credit hours for mandatory units are non-negotiable and must be fully completed to obtain the NSQ Level 4 Data Analytics qualification.

Total Credit Hours from Mandatory Units: 190

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 3**- Data Analytics with Python**

Unit 001: OCUPATIONAL HEALTH AND SAFETY

Unit Reference Number: ICT/GEN/001/L4

NSQ Level: 4

Credit Value: 1

Guided Learning Hours: 10

Unit Purpose:

To equip learners with the knowledge and skills to implement and maintain safe working practices in the IT environment, ensuring personal and team safety while adhering to industry regulations and standards.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 001: Occupational Health and Safety

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Understand Workplace Health and Safety Regulations	1.1	Explain key OHS legislation and regulations relevant to the IT sector.									
	1.2	Identify the roles and responsibilities of individuals and organizations in maintaining a safe work environment									
	1.3	Describe the process for reporting health and safety risks and incidents.									
LO 2: Identify Workplace Hazards and Implement Control Measures	2.1	Identify common hazards in IT work environments, including electrical, ergonomic, and data-related risks									
	2.2	Assess the severity and likelihood of potential hazards in specific IT tasks.									
	2.3	Implement appropriate control measures, such as safe cabling practices, ergonomic workstation setup, and electrical safety protocols.									
LO 3: Apply Emergency Procedures and First Aid in the Workplace	3.1	Demonstrate the correct procedure for responding to workplace emergencies, such as electrical fires or equipment malfunctions.									
	3.2	Perform basic first aid techniques, including treating minor injuries and using first aid equipment									
	3.3	Communicate and coordinate effectively with emergency services and other relevant personnel during a workplace incident.									

Learner's Signature	Date
Assessor's Signature	Date
IQA's Signature	Date
EQA's Signature	Date

Unit 002: Teamwork

Unit Reference Number: ICT/GEN/002/L2

NSQ Level: 4

Credit Value: 1

Guided Learning Hours: 10

Unit Purpose:

To develop learners' abilities to work effectively within IT teams, fostering collaboration, problem-solving, and the achievement of shared goals.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 002: Teamwork

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Understand the Roles and Responsibilities within a Team	1.1	Identify the different roles and functions within an IT team (e.g., network engineers, system administrators, software developers).									
	1.2	Describe the key responsibilities and contributions of each team member.									
	1.3	Recognize the importance of each role in achieving the team's objectives.									
LO 2: Foster Positive Working Relationships within a Team	2.1	Demonstrate techniques for effective interpersonal communication and conflict resolution in a team environment.									
	2.2	Show the ability to provide constructive feedback and actively listen to others' contributions									
	2.3	Promote inclusivity and collaboration among team members to ensure participation and engagement from all.									
LO 3: Contribute to Team Problem-Solving and Decision-Making	3.1	Participate in group discussions to identify and analyse IT-related problems.									
	3.2	Suggest innovative solutions and support team decision-making processes.									
	3.3	Evaluate the effectiveness of team decisions and propose improvements where necessary.									

Learner's Signature	Date
Assessor's Signature	Date
IQA's Signature	Date
EQA's Signature	Date

Unit 003: Communication

Unit Reference Number: ICT/GEN/003/L2

NSQ Level: 4

Credit Value: 1

Guided Learning Hours: 10

Unit Purpose:

To enhance learners' communication skills, enabling them to convey technical information effectively and collaborate with both technical and non-technical stakeholders.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

UNIT 003: Communication

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO 1: Communicate Technical Information Clearly and Accurately	1.1	Explain IT concepts, procedures, and solutions in a manner appropriate to the audience, whether technical or non-technical.									
	1.2	Use industry-standard terminology correctly when describing technical processes									
	1.3	Adapt communication methods to suit the context, such as written reports, emails, or verbal presentations.									
LO 2: Utilize Digital Communication Tools Effectively	2.1	Demonstrate proficiency in using digital tools for communication, such as email, messaging platforms, and collaboration software (e.g., Slack, Teams).									
	2.2	Adhere to best practices for professional digital communication, including email etiquette and secure file sharing.									
	2.3	Use collaborative tools to share and receive feedback on documents, code, or project updates.									
LO 3: Listen and Respond Appropriately in a Professional Context	3.1	Demonstrate active listening skills during team discussions or client meetings.									
	3.2	Respond to questions, concerns, and feedback clearly and effectively.									
	3.3	Clarify misunderstandings and summarize discussions to ensure mutual understanding.									

Learner's Signature	Date
Assessor's Signature	Date
IQA's Signature	Date
EQA's Signature	Date

Unit 004: Fundamentals of Data Analytics

Unit Reference Number: ICT/DAP/001/L2

NSQ Level: 4

Credit Value: 1

Guided Learning Hours: 10

Unit Purpose: *This unit aims to equip the learner with the knowledge of data analytic and roles of a data analyst by identifying the key data analysis concepts.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

1. Direct Observation/oral questions (DO)
2. Question and Answer (QA)
3. Witness Testimony (WT)
4. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 004: FUNDAMENTALS OF DATA ANALYTICS

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO. 1 Know the role of a data analyst	1.1	Describe how data is gathered in businesses and organizations.									
	1.2	Identify the skills needed by an analyst.									
	1.3	Identify tools used by data analysts									
	1.4	Interact with basic analysis tools									
LO. 2 Understand Data analysis process and stages	2.1	Discuss the tasks performed by Data analyst									
	2.2	Explain components of Excel, as it is used in analysis of data									
	2.3	Explain role of Jupyter lab in data analysis									
	2.4	Explain components of Power BI as it is used in the different stages of data analysis									
	2.5	Discuss the stages in a data analysis process									
LO. 3	3.1	Explain how to interpret data									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
Understand data insights in reports	3.2	Identify questions that can be answered using insight from data analysis									
	3.3	Discuss the concepts of data production in businesses and organizations									
LO. 4 Understand Stakeholders experience	4.1	Identify the stakeholders									
	4.2	Explain the skills required to effectively communicate with stakeholders									
	4.3	Demonstrate how to visualize your communication with stakeholders									

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4- Data Analytics with Python

Unit 005: Python for Data Science

Unit Reference Number: ICT/DAP/005/L4

NSQ Level: 4

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: *This unit aims to equip the learner with skills required to solve data analytic problems using the Python programming language.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

5. Direct Observation/oral questions (DO)
6. Question and Answer (QA)
7. Witness Testimony (WT)
8. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO. 1 Understand python programming language	1.1	Explain python syntax and comments									
	1.2	Identify python data types, expressions, and variables									
	1.3	Develop statements using python Expressions and variables									
	1.4	Develop String operations in python									
	1.5	Explain data structures.									
	1.6	Differentiate between Lists, tuples, Dictionaries and sets									
LO. 2 Understand sequences and iterations in python program	2.1	Write a program using conditional statements									
	2.2	Write a program using Loop statements.									
	2.3	Write a program using functions									
	2.4	Identify parameters and arguments in functions									
	2.5	Use recursion and nested functions									
LO 3	3.1	Use Pandas for data analysis, data manipulation, and data cleaning.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
Understand Modules, packages, libraries and other tools	3.2	Use Numpy for scientific computation									
	3.3	Use visualizations tools to visualize data									
	3.4	Differentiate between series and DataFrames									
	3.5	Discuss Tabular Data and pandas DataFrames									
	3.6	Develop DataFrames from lists and dictionaries									
	3.7	Explain JSON (JavaScript Object Notation) as a syntax for storing and exchanging data using API, etc in python programming									
LO. 4 Understand Programming paradigms	4.1	Explain procedural programming and the associated logical concepts									
	4.2	Explain classes and functions									
	4.3	Explain object-oriented programming.									

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4- Data Analytics with Python

Unit 006: Data Analysis with Python

Unit Reference Number: ICT/DAP/006/L4

NSQ Level: 3

Credit Value: 3

Guided Learning Hours: 30

Unit Purpose: *This unit aims to equip the learner with necessary skills required to extract data from various data sources, transform, load and analyse the data using libraries.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

9. Direct Observation/oral questions (DO)
10. Question and Answer (QA)
11. Witness Testimony (WT)
12. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

Unit 006: Data Analysis with Python

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO. 1 Introduction to python notebooks	1.1	Discuss Jupyter notebooks, Google Colab or any other Python notebooks									
	1.2	Set up a non cloud-based python notebook									
	1.3	Explain code cells									
	1.4	Discuss how to convert text and visuals in a Python notebook to Markdown									
	1.5	Explain data structures and libraries									
	1.6	Identify various data science projects and case studies where Python plays a crucial role									
LO 2 Understand the Data wrangling Process	2.1	Demonstrate skills used to transform data into a structured and suitable format for analysis									
	2.2	Discuss the techniques for handling missing values									
	2.3	Identify and deal with outliers									
	2.4	Explain how to Encode categorical variables									
	2.5	Explain how to Scale and normalize									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
		numerical features									
	2.6	Explain how to handle textual or unstructured data									
	2.7	Demonstrate techniques in detecting and addressing data inconsistencies so that the data is made suitable for further analysis									
LO. 3 Understand Exploratory Data Analysis	3.1	Discus various statistical concepts.									
	3.2	Explain data exploration techniques									
	3.3	Discuss Data visualization methods									
	3.4	Explain Data visualization techniques									
	3.5	Identify patterns, outliers, and relationships in data									
	3.6	Interpret raw data into meaningful information.									
	3.7	Communicate the findings through data storytelling									
LO. 4 Understand Feature Engineering	4.1	Explain the relevant variables used in machine learning									
	4.2	Demonstrate one-hot encoding, binning, and polynomial expansion.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
	4.3	Use methods like feature extraction and text vectorization									
	4.4	Demonstrate the concept of feature scaling and normalization									
	4.5	Discuss machine learning pipelines.									
	4.6	Enhance features to optimize performance of machine learning models									
LO. 5 Understand how to carry out basic excel projects	5.1	Analyse a CSV file									
	5.2	Identify the steps taken in the assignment above, from the download to the final analysis									
	5.3	Discuss the outcome									

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4- Data Analytics with Python

Unit 007: Creating and Interpreting Visualizations in Data Science

Unit Reference Number: ICT/DAP/007/L4

NSQ Level: 3

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: *This unit aims to equip the learner with skills required to graphically represent information using visual elements like charts, graphs, and maps to identify trends, outliers, and patterns in data.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

13. Direct Observation/oral questions (DO)
14. Question and Answer (QA)
15. Witness Testimony (WT)
16. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

Sample

Unit 007: Creating and Interpreting Visualizations in Data Science

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO. 1 Understand data visualization tools	1.1	Discuss the history of Matplotlib									
	1.2	Explain the architecture of Matplotlib									
	1.3	Generate line plots using Matplotlib.									
	1.4	Develop charts like Bar chart, Line chart, Pie chart, etc									
	1.5	Develop plots like Scatter plots, Area plots, Bubble plots, etc									
	1.6	Develop Heatmaps									
	1.7	Develop word cloud									
LO. 2 Understand visualization libraries in python	2.1	Explain visualization library in Python like Seaborn, Folium, etc									
	2.2	Describe how to use Plotly graph objects to create charts									
	2.3	Develop regression plots using seaborn									
	2.4	Develop maps using Folium									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO. 3 Understand dashboards creation using plotly and dash	3.1	Explain the benefits of dashboards									
	3.2	Identify the different web-based dashboarding tools in Python									
	3.3	Develop insight into Dash, an open-source user interface Python library									
	3.4	Discuss the callback function.									
	3.5	Determine how to connect core and HTML components using callback									
	3.6	Demonstrate ability to create charts and dashboards with a simple project.									

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4- Data Analytics with Python

Unit 008: Data Analytics using SQL

Unit Reference Number: ICT/DAP/008/L4

NSQ Level: 3

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: *This unit aims to equip the learner with the skills required to Query, Filter, Retrieve and Manipulate data from relational databases to extract meaningful insights and generate reports to make data-driven decisions*.

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

17. Direct Observation/oral questions (DO)
18. Question and Answer (QA)
19. Witness Testimony (WT)
20. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 008: SQL FOR DATA ANALYTICS

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO. 1 Introduction to data analysis using Structured Querry Language (SQL)	1.1	Identify applications of SQL									
	1.2	Discuss information and data models									
	1.3	Explain limitations of spreadsheets									
	1.4	Identify different types of databases									
LO. 2 Understand SQL commands	2.1	Explain CRUD (Create, read, update, delete) operations in SQL									
	2.2	Demonstrate Data Definition Language (DDL) like Create table, Alter, Truncate, Rename, Drop statements, etc									
	2.3	Demonstrate Data Manipulation Language (DML) like Insert, Update, Delete, Merge statements, etc									
LO. 3 Understand Data analysis with SQL on a single table	3.1	Demonstrate how to retrieve, manipulate, and aggregate data on a single table									
	3.2	Explain use of keywords such as WHERE, LIMIT, AVG, MAX, MIN etc. in manipulating database									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
	3.3	Analyse data within a single table using SQL queries									
LO. 4 Understand advanced functions on tables in SQL	4.1	Explain advanced functions like String Patterns, Ranges, Sets, etc									
	4.2	Carry out Sort and Group in Result Sets									
	4.3	Use date/time functions like DATEADD and DATEDIFF									
	4.4	Define case operators, branching logic, etc									
LO. 5 Understand how to Querry and access data from multiple tables using Join	5.1	Define SQl Join statement									
	5.2	Discuss different types of joins, inner join, outer join, etc									
	5.3	Demonstrate ability to use join by extracting data from multiple tables									

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4- Data Analytics with Python

Unit 009: Data Analysis using spreadsheets

Unit Reference Number: ICT/DAP/009/L4

NSQ Level: 3

Credit Value: 2

Guided Learning Hours: 20

Unit Purpose: *This unit equips the learner with the necessary skills required to use the Microsoft Excel spreadsheet to store, organize and manipulate data*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

21. Direct Observation/oral questions (DO)
22. Question and Answer (QA)
23. Witness Testimony (WT)
24. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

Unit 009: Data Analysis Using spreadsheets

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO. 1 Understand Excel fundamentals	1.1	Explain essential Excel elements and techniques									
	1.2	Demonstrate data management techniques including entering, formatting, managing and adding data to worksheets.									
	1.3	Explain steps for sorting and filtering data in Excel									
LO. 2 Understand Formulas and Functions	2.1	Explain the concept of a formula									
	2.2	Explain the importance of formulas and functions in data analysis.									
	2.3	Describe the syntax for different types of calculations									
	2.4	Recognize the correct syntax for formulas and function calculations									
	2.5	Use formulas and functions in a worksheet									
LO. 3 Prepare data for analysis using functions	3.1	Demonstrate text and numeric data preparation for effective analysis.									
	3.2	Explain the importance of date and time functions in Excel									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
	3.3	Discuss the importance of logical functions like IF and IFS.									
	3.4	Use functions to clean or standardize text, numbers, dates, etc									

NATIONAL SKILLS QUALIFICATION

NSQ LEVEL 4- Data Analytics with Python

Unit 010: Data visualization and reporting using Power BI

Unit Reference Number: ICT/DAP/0010/L4

NSQ Level: 3

Credit Value: 4

Guided Learning Hours: 40

Unit Purpose: *This unit aims to equip the learner with necessary skills required to use Microsoft Power Business Intelligence (BI) to extract and transform data, prepare and publish reports, and then create dashboards.*

Unit assessment requirements/ evidence requirements:

Assessment must be carried out in real workplace environment in which learning and human development is carried out.

Assessment methods to be used include:

25. Direct Observation/oral questions (DO)
26. Question and Answer (QA)
27. Witness Testimony (WT)
28. Assignment (ASS), etc.

(This depends on the Trade Areas to be assessed)

UNIT 010: Data visualization and reporting using Power BI

LEARNING OBJECTIVE (LO) **The learner will:**		**PERFORMANCE CRITERIA** **The learner can:**	**Evidence Type**					**Evidence Ref. Page No.**			
LO. 1 Understand tasks performed by a Power BI Data Analyst	1.1	Identify the capabilities of Microsoft Power BI									
	1.2	Explain the limitations of Power BI licence types									
	1.3	Demonstrate how to set up the Power BI environment									
	1.4	Discuss Power BI workspace roles									
	1.5	Discuss Power BI desktop, services, and apps									
LO. 2 Understand sources of Data in Power BI	2.1	Identify the different data sources and storage types in Power BI.									
	2.2	Describe how to set up a data source in Power BI.									
	2.3	Explain the different storage modes in Power BI.									
	2.4	Differentiate between structured and unstructured data.									
	2.5	Explain connectors, triggers and actions.									
LO. 3 Understand data in business	3.1	Identify the tasks performed by a Power BI Data Analyst									
	3.2	Recognize the skills needed by a Power BI analyst.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
	3.3	Identify the tools needed by a Power BI analyst.									
	3.4	Identify the key elements of the Power BI user interface									
	3.5	Identify the different stages in the data analysis process									
	3.6	Recognize the components of Power BI									
LO.4 Understand the process of transforming data in Power BI	4.1	Carry out data cleaning using Power Query.									
	4.2	Explain how to simplify and transform data using Power Query.									
	4.3	Describe how to use the Applied Steps list to undo and re-order steps.									
	4.4	Explain how to merge multiple data sources in Power BI.									
LO. 5 Understand ETL (extract, transform and load) in data analysis process.	5.1	Define the "load" portion of ETL.									
	5.2	Explain how Power BI is used to load data at a high level.									
	5.3	Identify data anomalies using profiling tools.									
LO. 6 Understand the concepts of data modelling in Power BI	6.1	Identify different data schema types.									
	6.2	Create relationships in a data model.									
	6.3	Maintain relationships in a data model.									
	6.4	Develop a model using a Star schema.									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
LO. 7 Understand Data Analysis Expression (DAX) in Power Bi	7.1	Write calculations in DAX to create elements and perform analysis in Power BI.									
	7.2	Create calculated columns in a model.									
	7.3	Create calculated measures in a model.									
	7.4	Perform useful time intelligence calculations in DAX.									
LO. 8 Understand performance optimization in Power BI model	8.1	Identify the need for performance optimization.									
	8.2	Carry out performance Optimization in a Power BI model.									
	8.3	Carry out performance Optimization in DAX queries.									
LO. 9 Understand report creation in Power BI	9.1	Identify the different types of visualizations in Power BI									
	9.2	Develop visualizations in reports									
	9.3	Develop visualizations in dashboards									
LO. 10 Understand the process of navigation and accessibility	10.1	Carry out formatting choices to visuals									
	10.2	Develop useful navigation and filtering techniques to the Power BI report									
	10.3	Develop accessible and interactive reports									
	10.4	Develop accessible dashboards									
	10.5	Demonstrate how to share and export report data									
LO. 11	11.1	Use visualizations to perform data analysis									

LEARNING OBJECTIVE (LO) The learner will:		PERFORMANCE CRITERIA The learner can:	Evidence Type					Evidence Ref. Page No.			
Understand patterns, trends and visualization	11.2	Use AI features to perform data analysis									
	11.3	Describe the importance of security in data visualization									
	11.4	Create a cohesive report design									
	11.5	Identify key information in reports based on target audience									
LO. 12 Understand the process of Designing reports pages	12.1	Use visual clarity and multi-dimensional visualizations in reports									
	12.2	Demonstrate map visualizations to reports									
	12.3	Use Python-based visualizations in reports									
LO. 13 Understand Dashboard designing and storytelling	13.1	Identify the differences between report and dashboard design									
	13.2	Use advanced dashboard features such as embedding media and QR codes									
	13.3	Explain the process of data storytelling									
	13.4	Discus the impact of data storytelling									

CRITIQUE TEAM LIST

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