CCEK – NSQF ALIGNED PROGRAM

COURSE SYLLABUS

FOR

Power BI Data Analyst Associate

CCEK - NATIONAL SKILL DEVELOPMENT TRAINING PROGRAM

Power BI Data Analyst Associate

CCEK – NSDC course package covers the following Qualification Packs and leads to the following NSDC certifications. The students who successfully completed the course programs are entitled to get NSDC certification after undergoing the assessment process of NSDC as per the rules and regulations stipulated by NSDC from time to time.

SL. NO.	QUALIFICATIONS PACK	QUALIFICATIONS PACK CODE	NSQF LEVEL
1	**Power BI Data Analyst Associate** **Brief Job Description**: Demonstrate methods and best practices that align with business and technical requirements for modeling, visualizing, and analyzing data with Microsoft Power BI.	**MSL/PL300**	**6**

COURSE DETAILS
Power BI Data Analyst Associate
EXAMINATION DETAILS

COURSE NAME	COURSE CODE	ELIGIBILITY	DURATION
Power BI Data Analyst Associate	G54	4 year UG degree/PG	60

SL. NO.	EXAM	EXAM CODE	MAXIMUM MARK	INTERNAL	TOTAL MARK
	THEORY PAPERS				
1	Introduction to Power BI	T001	100	50	150
2	DAX time intelligence functions in Power BI	T002	100	50	150
	PRACTICAL PAPERS				
1	Design & Configure Power BI reports	L001	100	50	150
	TOTAL MARKS				
1	Total Examination Marks (Theory Online + Practical Examination)				300
2	Total Internal Marks				150
3	**Total Marks (Total Internal Marks + Total Examination Marks)**				**450**

CENTRE FOR CONTINUING EDUCATION KERALA

Power BI Data Analyst Associate

INTERNAL MARK CRITERIA FOR EACH

SL NO.	MODULE	MODULE CODE	MAXIMUM MARK	INTERNAL MARK	TOTAL MARK
1	Introduction to Power BI	T001	100	50	150
2	DAX time intelligence functions in Power BI	T002	100	50	150
3	Design & Configure Power BI reports	L001	100	50	150
	TOTAL		300	150	450

ATTENDANCE	GENERAL PERFORMANCE	INTERNAL EXAMINATIONS/ PROJECTS/ASSIGNMENTS	TOTAL MARKS
5	5	40	50

COURSE SYLLABUS

FOR

Power BI Data Analyst Associate

CENTRE FOR CONTINUING EDUCATION KERALA

COURSE	Power BI Data Analyst Associate	
TOTAL MARKS	Mark: 450	Internal Mark: 150
TOTAL HOURS	60 Hrs	

DEFENITION OF CREDIT

1 Credit	15Hrs Theory/ 30Hrs Practical
Skill Components	60 – 70 % of Total Credit

MODULES INCLUDED IN THIS SUBJECT

SL NO	MODULE NAME	CREDIT BREAKUP
1	Module 1: Discover data analysis	1
2	Module 2: Get started building with Power BI	
3	Module 3: Get data in Power BI	
4	Module 4: Clean, transform, and load data in Power BI	
5	Module 5: Design a semantic model in Power BI	
6	Module 6: Add measures to Power BI Desktop models	
7	Module 7: Add calculated tables and columns to Power BI Desktop models	
8	Module 8: Use DAX time intelligence functions in Power BI Desktop models	
9	Module 9: Optimize a model for performance in Power BI	
10	Module 10: Design Power BI reports	1
11	Module 11: Configure Power BI report filters	
12	Module 12: Enhance Power BI report designs for the user experience	
13	Module 13: Perform analytics in Power BI	
14	Module 14: Create and manage workspaces in Power BI	
15	Module 15: Manage semantic models in Power BI	
16	Module 16: Create dashboards in Power BI	
17	Module 17: Implement row-level security	
	Total	2

Training Outcomes

- Connect to various data sources (Excel, SQL Server, SharePoint, etc.)
- Perform data cleaning and transformation using Power Query
- Understand and implement data profiling techniques
- Design and build effective data models in Power BI
- Create calculated columns, measures, and tables using DAX (Data Analysis Expressions)
- Create interactive reports and dashboards using Power BI visuals
- Apply custom themes, filters, slicers, and bookmarks for dynamic reporting
- Perform advanced analytical tasks using DAX
- Identify trends, outliers, and patterns in datasets
- Publish reports to the Power BI service
- Create and manage workspaces for report distribution
- Set up data refresh schedules and sharing permissions
- Implement Row-Level Security (RLS) to restrict access to data
- Understand data lineage, auditing, and sensitivity labels in Power BI
- Manage datasets and data flows effectively

MODULES

Module 1: Discover data analysis

THEORY & PRACTICAL

- Introduction
- Overview of data analysis
- Roles in data
- Tasks of a data analyst
- Check your knowledge
- Summary

Module 2: Get started building with Power BI

THEORY & PRACTICAL

- Introduction
- Use Power BI
- Building blocks of Power BI
- Tour and use the Power BI service
- Knowledge check
- Summary

Module 3: Get data in Power BI

THEORY & PRACTICAL

- Introduction
- Get data from files
- Get data from relational data sources
- Create dynamic reports with parameters
- Get data from a NoSQL database
- Get data from online services
- Select a storage mode
- Get data from Azure Analysis Services
- Fix performance issues
- Resolve data import errors
- Exercise - Prepare data in Power BI Desktop
- Check your knowledge
- Summary

Module 4: Clean, transform, and load data in Power BI

THEORY & PRACTICAL

- Introduction
- Shape the initial data
- Simplify the data structure
- Evaluate and change column data types
- Combine multiple tables into a single table

- Profile data in Power BI
- Use Advanced Editor to modify M code
- Exercise - Load data in Power BI Desktop
- Check your knowledge

Module 5: Design a semantic model in Power BI

THEORY & PRACTICAL

- Introduction
- Shape the initial data
- Simplify the data structure
- Evaluate and change column data types
- Combine multiple tables into a single table
- Profile data in Power BI
- Use Advanced Editor to modify M code
- Exercise - Load data in Power BI Desktop
- Check your knowledge
- Summary

Module 6: Add measures to Power BI Desktop models

THEORY & PRACTICAL

- Introduction
- Create simple measures
- Create compound measures
- Create quick measures
- Compare calculated columns with measures
- Check your knowledge
- Exercise - Create DAX Calculations in Power BI Desktop
- Summary.

Module 7: Add calculated tables and columns to Power BI Desktop models

THEORY & PRACTICAL

- Introduction
- Create calculated columns
- Learn about row context
- Choose a technique to add a column
- Check your knowledge
- Summary.

Module 8: Use DAX time intelligence functions in Power BI Desktop models

THEORY & PRACTICAL

- Introduction
- Use DAX time intelligence functions
- Additional time intelligence calculations
- Exercise - Create Advanced DAX Calculations in Power BI Desktop
- Check your knowledge
- Summary

Module 9: Optimize a model for performance in Power BI

THEORY & PRACTICAL

- Introduction to performance optimization
- Review performance of measures, relationships, and visuals
- Use variables to improve performance and troubleshooting
- Reduce cardinality
- Optimize Direct Query models with table level storage
- Create and manage aggregations
- Check your knowledge
- Summary

Module 10: Design Power BI reports

THEORY & PRACTICAL

- Introduction
- Design the analytical report layout
- Design visually appealing reports
- Report objects
- Select report visuals
- Select report visuals to suit the report layout
- Format and configure visualizations
- Work with key performance indicators
- Exercise - Design a report in Power BI desktop
- Check your knowledge
- Summary

Module 11: Configure Power BI report filters

THEORY & PRACTICAL

- Introduction to designing reports for filtering
- Apply filters to the report structure
- Apply filters with slicers
- Design reports with advanced filtering techniques
- Consumption-time filtering
- Select report filter techniques
- Case study - Configure report filters based on feedback
- Check your knowledge
- Summary

Module 12: Enhance Power BI report designs for the user experience

THEORY & PRACTICAL

- Design reports to show details
- Design reports to highlight values
- Design reports that behave like apps
- Work with bookmarks
- Design reports for navigation
- Work with visual headers

- Design reports with built-in assistance
- Tune report performance
- Optimize reports for mobile use
- Exercise - Enhance Power BI reports
- Check your knowledge
- Summary

Module 13: Perform analytics in Power BI

THEORY & PRACTICAL

- Introduction to analytics
- Explore statistical summary
- Identify outliers with Power BI visuals
- Group and bin data for analysis
- Apply clustering techniques
- Conduct time series analysis
- Use the Analyze feature
- Create what-if parameters
- Use specialized visuals
- Exercise - Perform Advanced Analytics with AI Visuals
- Check your knowledge
- Summary

Module 14: Create and manage workspaces in Power BI

THEORY & PRACTICAL

- Introduction
- Distribute a report or dashboard
- Monitor usage and performance
- Recommend a development life cycle strategy
- Troubleshoot data by viewing its lineage
- Configure data protection
- Check your knowledge
- Summary

Module 15: Manage semantic models in Power BI

THEORY & PRACTICAL

- Introduction
- Use a Power BI gateway to connect to on-premises data sources
- Configure a semantic model scheduled refresh
- Configure incremental refresh settings
- Manage and promote semantic models
- Troubleshoot service connectivity
- Boost performance with query caching (Premium)
- Check your knowledge
- Summary

Module 16: Create dashboards in Power BI

THEORY & PRACTICAL

- Introduction to dashboards
- Configure data alerts
- Explore data by asking questions
- Review Quick insights
- Add a dashboard theme
- Pin a live report page to a dashboard
- Configure a real-time dashboard
- Set mobile view
- Exercise - Create a Power BI dashboard
- Check your knowledge
- Summary

Module 17: Implement row-level security

THEORY & PRACTICAL

- Introduction
- Configure row-level security with the static method
- Configure row-level security with the dynamic method
- Exercise - Enforce row-level security in Power BI
- Check your knowledge
- Summary