CCEK – NSQF ALIGNED PROGRAM

COURSE SYLLABUS

FOR

Essentials of Business Analytics

CCEK - NATIONAL SKILL DEVELOPMENT TRAINING PROGRAM

Essentials of Business Analytics

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	**Essentials of Business Analytics** **Brief Job Description**: The "Essentials of Business Analytics with AI" course equips participants with foundational knowledge and practical skills in data analytics, statistical tools, and AI technologies. Through hands-on labs and industry projects, learners explore data extraction, transformation, and cleansing methods, while mastering tools like Excel, with visualization. The course also emphasizes the application of AI and Generative AI for enhancing work productivity. Additionally, participants will engage in real-world projects, applying their knowledge to industry scenarios while ensuring compliance with GDPR regulations.	**HCLT/N00047/IT/2024**	5

COURSE DETAILS

Essentials of Business Analytics

EXAMINATION DETAILS

COURSE NAME	COURSE CODE	ELIGIBILITY	DURATION
Essentials of Business Analytics	G37	Pursuing or completed 2nd year UG	90

SL. NO.	EXAM	EXAM CODE	MAXIMUM MARK	INTERNAL	TOTAL MARK
	THEORY PAPERS				
1	Introduction to Business Analysis	T001	100	50	150
2	Data visualization	T002	100	50	150
	PRACTICAL PAPERS				
1	Data extraction, Transformation and Cleansing Techniques	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**

Essentials of Business Analytics

INTERNAL MARK CRITERIA FOR EACH

SL NO.	MODULE	MODULE CODE	MAXIMUM MARK	INTERNAL MARK	TOTAL MARK
1	Introduction to Business Analysis	T001	100	50	150
2	Data visualization	T002	100	50	150
3	Data extraction, Transformation and Cleansing techniques	L001	100	50	150
	TOTAL		300	150	450

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

COURSE SYLLABUS

FOR

Essentials of Business Analytics

COURSE	Essentials of Business Analytics	
TOTAL MARKS	Mark: 450	Internal Mark: 150
TOTAL HOURS	90 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: Data Extraction, Transformation, and Cleansing Methods	1
2	Module 2: Data Representation, Visualization, and Creation of Dashboards	1
3	Module 3: Industry Project (including GDPR)	1
	Total	3

Training Outcomes

- Relate to distinction between analytics and analysis, to know what the expected outcome of a task is.
- Implement basics of statistical analysis and what to apply to specific situations.
- Practice collecting, organizing and processing large datasets to arrive at useful insights for decision making; Include AI to complete analytics operations; different ways of data representation, visualization and reporting.
- Participate in presentation of inference and sharing business insights
- Comply with ethical usage of AI, data privacy standards and GDPR

MODULES

Module 1: Data Extraction, Transformation, and Cleansing Methods

THEORY

- Explain the importance of data extraction, transformation, and cleansing in the data analytics process and its impact on the quality of analysis.
- Understand the various methods and tools available for extracting data from different sources.
- Describe common data transformation techniques such as normalization, aggregation, and encoding, and their role in preparing data for analysis.
- Identify data cleansing techniques, including handling missing data, outliers, and inconsistencies, to ensure data accuracy and reliability.

PRACTICAL

- Perform data extraction from various sources using tools like SQL, Python, or Excel, ensuring the data is suitable for analysis.
- Apply data transformation techniques to real-world datasets, including normalization, aggregation, and feature engineering, to prepare the data for further analysis.
- Execute data cleansing tasks, such as removing duplicates, imputing missing values, and correcting data inconsistencies, using Excel or other data processing tools.

Module 2: Data Representation, Visualization, and Creation of Dashboards

THEORY

- Explain the fundamental principles of data representation, including the importance of choosing the right visualization techniques to convey data insights effectively.
- Understand various types of data visualizations (e.g., bar charts, line graphs, scatter plots, heatmaps) and when to use them based on the data and the audience.
- Discuss the key elements of effective dashboard design, including layout, interactivity, and user experience considerations.

PRACTICAL

- Develop interactive dashboards that allow users to explore data dynamically, filtering and drilling down into details as needed.
- Apply best practices in dashboard design to create user-friendly interfaces that present data clearly and intuitively, supporting decision-making processes.
- Conduct hands-on exercises to transform raw data into polished visual representations, ensuring that the visualizations accurately reflect the underlying data.

Module 3: Industry Project (including GDPR)

THEORY

- Understand the key principles of GDPR, including data minimization, consent, data subject rights, and data breach protocols, and how these principles impact data-driven projects.
- Discuss the process of integrating data analytics and AI techniques into industry projects, from data collection and preprocessing to analysis and reporting.
- Identify the challenges and ethical considerations involved in handling sensitive data in industry projects, and strategies to mitigate these risks.

PRACTICAL

- Apply data analytics techniques to a realworld industry project, ensuring that all data handling and processing activities are compliant with GDPR regulations.
- Develop and implement a comprehensive project plan that includes data collection, preprocessing, analysis, and reporting, with a focus on addressing specific business challenges.
- Create detailed documentation for the project.
- Execute the project by applying AI and data analytics tools to analyze industry specific data, generate insights, and propose actionable solutions.
- Present the project outcomes to stakeholders, demonstrating how the data driven approach led to business improvements.