Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	24 March 2025
Team ID	PNT2025TMID07094
Project Name	Global Malnutrition Trends: A Power BI Analysis (1983-2019)
Maximum Marks	4 Marks

Table 1: Application Components

S.No	Component	Description	Technology
1	Data Sources	Collect malnutrition data from various sources	WHO, UNICEF, World Bank, FAO, CSV/Excel files
2	Data Storage	Store raw and processed data for analysis	Azure Blob Storage, AWS S3, Google BigQuery, PostgreSQL, SQL Server
3	ETL (Extract, Transform, Load)	Process and clean malnutrition datasets	Azure Data Factory, AWS Glue, Apache Spark, Python (Pandas, NumPy), SQL
4	Data Processing	Transform, aggregate, and normalize data	Python (PySpark, Pandas), SQL Queries, Databricks
5	Data Enrichment	Integrate external data (GDP, Population, Economic Factors)	ython (Scikit-learn, TensorFlow), R (dplyr)
6	Machine Learning & Analytics	Perform trend analysis and predictions	Time-series Forecasting (Prophet, ARIMA), Clustering (K-Means), Regression Models
7	Data Visualization	Create interactive dashboards and reports	Power BI, Tableau, D3.js
8	Reporting & Insights	Generate insights for decision-making	Power BI Service, Looker, Excel
9	Deployment & Security	Host and secure data and dashboards	Azure Power BI Service, AWS IAM, Role-Based Access Control (RBAC), OAuth