

### **Data Analyst Training Topics Syllabus**

Introduction to Data Analytics	What is data analytics? The role of data analytics in business and decision-making
Data Collection and Data Sources	Types of data sources (e.g., databases, spreadsheets, web data) Data collection methods Data quality and cleaning
Data Exploration and Visualization	Exploratory data analysis (EDA) Data visualization tools and techniques Descriptive statistics
Data Preprocessing and Cleaning	Handling missing data Outlier detection and treatment Data transformation and normalization
Statistical Analysis and Hypothesis Testing	Probability and statistics Hypothesis testing T-tests, ANOVA, Chi-squared tests
Regression Analysis	Linear regression Multiple regression Model evaluation and interpretation
Data Analytics with Excel	Data analysis tools in Excel Pivot tables and charts Data modeling and forecasting
Time Series Analysis	Time series data handling Forecasting techniques Seasonal decomposition
Data Analytics with Python and R	Introduction to programming languages for data analytics Data manipulation and analysis libraries (e.g., pandas, NumPy) Data visualization libraries (e.g., Matplotlib, ggplot2)
Data Mining and Machine Learning	Machine learning fundamentals Supervised and unsupervised learning Model selection and evaluation
Clustering and Classification Algorithms	K-means clustering Decision trees

	Random forests
Data Visualization and Dashboards	Creating interactive data dashboards Tools like Tableau, Power BI, and matplotlib
Big Data and Data Warehousing	Introduction to big data technologies (e.g., Hadoop, Spark) Data warehousing concepts
SQL for Data Analytics	Structured Query Language (SQL) basics Querying and managing databases
A/B Testing and Experimentation	Designing and analyzing A/B tests Causal inference
Data Ethics and Privacy	Ethical considerations in data analytics Data privacy regulations and compliance
Project and Case Studies	Applying data analytics skills to real-world projects Analyzing and presenting results
Industry Applications and Case Studies	Data analytics in various industries (e.g., healthcare, finance, marketing) Real-world case studies
Career Development and Job Search	Building a data analytics portfolio Resume and interview preparation