

# DAN 315326: Introduction to Data Analytics & Insights

## Course Orientation and Fundamentals



### **Course Name: DATA ANALYTICS**

Fifth Semester | Diploma (K Scheme) | Course Code: 315326



### **Programmes & Marks**

Applicable to CM, CO, CW, IF, IH, SE, TE | Total Marks: 150



### **Instructor: [Your Name]**

Welcome to an engaging journey into data-driven decision making!

# Course Overview & Structure

DAN 315326 | Data Analytics – Quick Recap



## **Syllabus Breakdown**

5 Units: Data Types, Statistical Analysis, Excel, Visualization, Python



## **Course Outcomes (COs)**

Each unit aligned with measurable learning outcomes (CO1 to CO5)



## **Assessment Strategy**

Theory + Practical  
(Internal/External) + SLA Projects =  
150 Marks

# Today's Agenda

## Overview of Key Learning Topics

- **What is Data?:** Understanding raw data, its forms (structured/unstructured), and real-world examples
- **Types of Analytics:** Descriptive, Diagnostic, Predictive, and Prescriptive analytics in context
- **Dashboards & MIS Reporting:** How data is presented to drive insights and decisions



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# What Is Data?

Raw Information in Digital Form



## Definition

Raw information — numbers, text, images, facts — collected from various sources



## Types of Data

Structured (Excel rows, SQL tables)  
vs. Unstructured (tweets, images, audio)



## Real-Life Example

Swiggy order data: item, time, restaurant, payment method

# What Is Analytics?

## Deriving Insights from Data

- **Definition:** The process of examining data to identify patterns, trends, and insights
- **Key Questions It Answers:** What happened? Why? What might happen? What should we do?
- **Real-Life Example:** YouTube tracking views, watch time, and click-through rates



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# What Is Data Analytics?

## Turning Raw Data into Decisions

- **Definition:** The science of analyzing raw data to support informed decision-making
- **Core Components:** Statistics, Programming (Python, R, SQL), and Data Visualization
- **Example Use Case:** Amazon uses analytics to recommend products and forecast demand



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# Types of Data Analytics

## From Description to Prescription

- **Descriptive:** Summarizes past data to understand what happened – e.g., Swiggy's monthly order count
- **Diagnostic:** Explores reasons behind outcomes – e.g., YouTube analyzes drop-off rates
- **Predictive:** Forecasts future trends – e.g., Amazon predicting customer purchases
- **Prescriptive:** Recommends actions – e.g., Swiggy suggesting delivery route adjustments

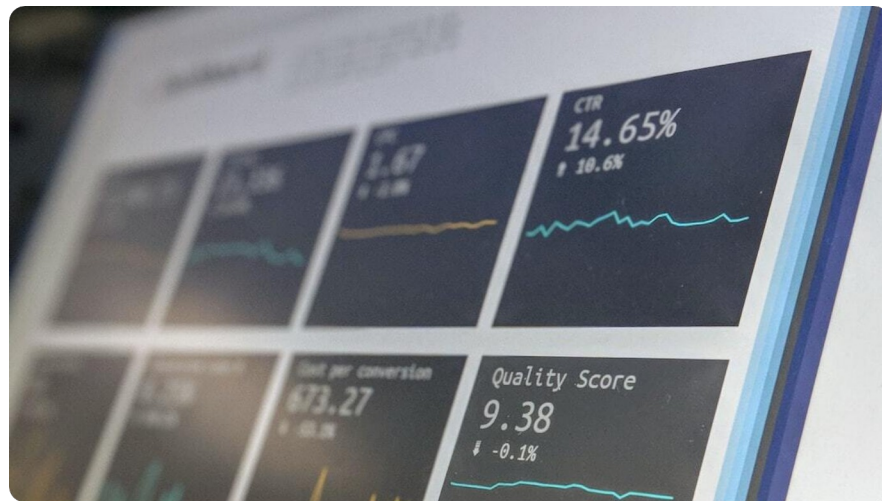


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# What is MIS Reporting?

## Management Information System Reports



### **Definition**

Structured reporting method to support business decisions



### **Common Types**

Sales reports, inventory logs, financial summaries, customer feedback



### **Real-World Use**

Swiggy managers track delayed deliveries through MIS reports



# What Is a Dashboard?

Your Data Command Center



## Definition

A visual interface showing key metrics and insights in real-time



## Core Features

Interactive charts, KPIs, filters;  
often built using tools like Excel or  
Power BI



## Examples

YouTube Studio or Swiggy  
dashboards showing views,  
ratings, orders, delays

# YouTube Views Analytics

## Using Data to Improve Engagement

- **Key Metrics Tracked:** Impressions, click-through rate (CTR), watch time, audience retention
- **Purpose:** Understand what content resonates and identify drop-off points
- **Content Optimization:** Creators tweak thumbnails, titles, and length based on analytics

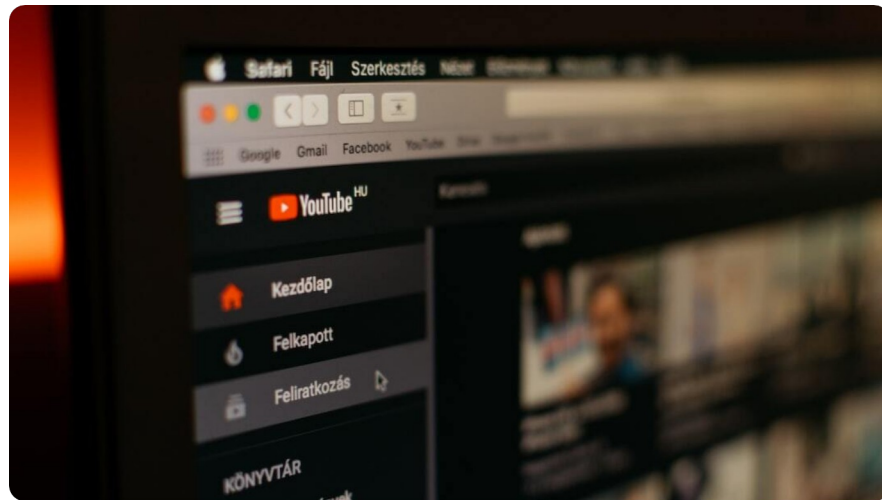


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# Swiggy Pattern Analytics

## Understanding Customer & Operational Trends



### **Order Trends**

What foods are popular at which times; e.g., weekend biryani spikes



### **Customer Behavior**

Analyzing repeat orders, preferences, and reviews



### **Operational Efficiency**

Monitoring delivery time, route performance, and ratings

# Amazon Predictions

## Forecasting Demand & Personalizing Experience

- **Product Recommendations:** Suggesting accessories based on user history (e.g., phone → charger)
- **Demand Forecasting:** Predicting sales volumes by location, season, and trends
- **Inventory Optimization:** Minimizing stockouts and overstock via predictive algorithms



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# Key Takeaways & Next Steps

## Wrapping Up the Fundamentals



### **Understanding Data**

Data comes in structured/unstructured forms and powers every digital process



### **Analytics Pipeline**

Descriptive to Prescriptive analytics transforms insights into decisions



### **Preview of What's Next**

Hands-on labs, real-world datasets, and tool-driven analysis (Python, Excel)