



# Data Analysis with Generative AI – Job Oriented Course

Offered by CSDT CENTRE – Programming and Coding Class, Patna



## Course Objective

The **Data Analysis with Generative AI Course** at **CSDT CENTRE – Programming and Coding Class, Patna** is designed to train **IT and Non-IT job aspirants** with industry-relevant data analysis skills combined with **Generative AI tools**.

This course focuses on **hands-on practical learning, real-world projects, and job placement preparation**.



## Data Analysis Course Eligibility

- Any Graduate / Undergraduate
- IT & Non-IT Background
- Students, Freshers & Working Professionals
- Basic computer knowledge (No coding experience required)



## Course Duration

- **6 Months** (Beginner to Advanced)
- Practical Training + Live Projects



## Module 1: Introduction to Data Analysis & Generative AI

- Overview of Data Analysis
- Career Opportunities in Data Analytics
- Data Analyst Roles in IT & Non-IT Sectors
- Introduction to Artificial Intelligence & Generative AI
- Use of AI in modern Data Analytics
- Tools used by Data Analysts



## Module 2: Data Fundamentals

- Types of Data (Structured, Semi-Structured, Unstructured)
- Data Collection Techniques
- Understanding Business Datasets
- Data Cleaning & Data Quality Concepts
- Real-life Data Examples

### **Module 3: Microsoft Excel for Data Analysis**

- Excel Interface, Shortcuts & Productivity Tips
- Data Formatting & Validation
- Formulas & Functions:
  - SUM, AVERAGE, IF
  - VLOOKUP, XLOOKUP
  - COUNT, COUNTIF
  - TEXT & DATE Functions
- Sorting, Filtering & Conditional Formatting
- Pivot Tables & Pivot Charts
- Excel Dashboards
- AI-assisted Excel analysis using Generative AI

### **Module 4: SQL for Data Analysis**

- Database & RDBMS Concepts
- Writing SQL Queries:
  - SELECT, WHERE, ORDER BY
  - GROUP BY, HAVING
  - JOINS (INNER, LEFT, RIGHT)
- Subqueries, Views & Indexes
- Business Case Studies
- Writing SQL queries using Generative AI

### **Module 5: Python for Data Analysis (Beginner Friendly)**

- Introduction to Python Programming
- Python Basics (Variables, Data Types, Loops)
- Libraries:
  - NumPy
  - Pandas
  - Matplotlib
  - Seaborn

- Data Cleaning & Transformation
- Exploratory Data Analysis (EDA)
- AI-generated Python code explanation



## **Module 6: Power BI & Data Visualization**

- Introduction to Data Visualization
- Power BI Desktop Overview
- Connecting Multiple Data Sources
- Data Modeling
- DAX Basics
- Interactive Reports & Dashboards
- Business Intelligence Insights using AI



## **Module 7: Generative AI for Data Analysts**

- Introduction to ChatGPT & AI Tools
- Prompt Engineering for Analysts
- AI for:
  - Data Cleaning
  - SQL Query Writing
  - Python Code Generation
  - Data Interpretation
- Automated Reporting using AI
- Ethics & Responsible AI Usage



## **Module 8: Statistics & Business Analytics**

- Statistics Basics (Easy & Practical Approach)
- Mean, Median, Mode
- Probability Fundamentals
- Correlation & Regression
- Business KPIs & Metrics
- Data-driven Decision Making

## **Module 9: Industry-Based Use Cases**

- Finance & Banking Analytics
- HR & Payroll Analytics
- Sales & Marketing Analysis
- Healthcare Analytics
- Education & Institute Data Analysis
- Retail & E-commerce Analytics

## **Module 10: Live Projects & Case Studies**

- Sales Performance Analysis Project
- HR Attrition Dashboard
- Marketing Campaign Analysis
- Financial Reporting System
- AI-powered Business Dashboard
- End-to-End Data Analysis Project

## **Module 11: Placement & Career Preparation**

- Resume Building for Data Analyst Roles
- ATS-Friendly Resume Creation
- Portfolio & Project Showcase
- Interview Questions (Excel, SQL, Python, Power BI)
- Mock Interviews
- Job Assistance & Career Guidance

## **Certification**

### **Certified Data Analyst with Generative AI**

Issued by **CSDT CENTRE – Programming and Coding Class, Patna**

### **Career Opportunities After Completion**

- Data Analyst
- Business Analyst
- MIS Executive
- Reporting Analyst
- Operations Analyst
- Junior Data Scientist

### **Why Choose CSDT CENTRE – Programming and Coding Class, Patna?**

- ✓ Suitable for IT & Non-IT Background
- ✓ Practical & Job-Oriented Training
- ✓ Generative AI Integrated Learning
- ✓ Real Industry Projects
- ✓ Placement & Interview Support

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