Python Analyzers

Set - E

Branch: _____ **Date:** 24-01-2026

Total Marks: 50 **Time:** 2.5 Hours

Sr. No.	GR ID	Name	Signature
1			

Rules & Guidelines

- Participants must bring their own laptop
- Use of the internet is strictly restricted during the competition (apart from the final submission)
- Any form of plagiarism or code sharing will lead to disqualification
- Participants must strictly follow the instructions given during the event
- Late submissions will not be accepted
- Maintain discipline during the competition
- The decision of the faculty/judges will be final

Submission Details

- **File format:** .ipynb file
- **File name format:** Name_GRID_PythonAnalyzers.ipynb
- **Submission method:** Submit the **.ipynb file** and the given **dataset (.csv/.xlsx)** and upload it to the GitHub repository. **Submit that repo link** in the Google form for submission.
- Submit here: LINK

🛠️ Mandatory Technologies

Students **must use only**:

- numpy
- pandas
- matplotlib
- seaborn

❌ Any other ML / AI libraries are **not allowed**

📂 Dataset Overview (Gigantic Real-World Dataset)

Dataset Name:
[EdTech_Student_Learning_and_Placement_Gigantic_Dataset.csv]

Dataset Size:

- ~72,000+ Rows
- 10+ Attributes

Dataset Description
This dataset represents **student enrollment, learning progress, attendance, and placement outcomes across an EdTech institute**, suitable for **education analytics, academic performance, and placement insights**.

Columns Explanation

Column Name	Description
Student_ID	Unique student identifier
Enrollment_Date	Date of course enrollment
Region	Student region
City	Student city
Course_Name	Enrolled course
Learning_Mode	Online / Offline / Hybrid

Fees_Paid	Course fees paid
Attendance_Percent	Attendance percentage
Course_Status	Ongoing / Completed / Dropped
Placement_Status	Placement outcome

🎯 Project Objective

Analyze the provided **EdTech student dataset** to:

- Clean and prepare real-world academic data
- Perform exploratory and education-focused analysis
- Identify learning patterns and dropout risks
- Analyze placement readiness and outcomes
- Present meaningful academic and business insights

📝 Mandatory Tasks (Exam Tasks for Students)

🔹 Task 1: Notebook Structure & Data Loading

- Proper title & introduction
- Import all required libraries
- Load the dataset correctly
- Display:
  - Dataset shape
  - First & last 5 rows
- Proper Markdown usage

🔹 Task 2: Data Cleaning & EDA

Students must:

- Identify and handle missing values
- Validate data types
- Detect and handle duplicate records
- Generate:
    - Summary statistics
    - Course-wise and region-wise distributions
- Comment on initial observations

🔹 Task 3: Business / Education Data Analysis

Perform **minimum 5 analytical tasks**, such as:

- Course-wise enrollment analysis
- Attendance vs course completion
- Fees paid vs placement outcome
- Region-wise placement performance
- Learning mode vs student success

🔹 Task 4: Data Visualization

Create **minimum 5 meaningful visualizations**, such as:

- Bar chart (Course vs Enrollment Count)
- Line chart (Enrollment trend over time)
- Histogram (Attendance distribution)
- Scatter Plot
- Pie Plot
- Subplots (Combine multiple charts)

Each chart must include:

- Title
- Axis labels
- Insight explanation

🔹 Task 5: Final Insights & Task Completion

- Summarize key findings
- Mention education and placement insights

- Provide academic improvement recommendations

📊 Evaluation & Marking Scheme (50 Marks)

Criteria	Marks
Notebook Structure & Data Loading	10
Data Cleaning & EDA	10
Data Analysis	10
Data Visualization	10
% Task Completion & Overall Quality	10
TOTAL	**50**

⚠️ Mandatory Rules

- Only .ipynb file accepted
- No plagiarism or copied notebooks
- Code must be readable & logical
- Insights are more important than quantity
- The Internet is allowed only for the final submission

Remember to follow the instructions provided professionally, make suitable assumptions wherever necessary, and avoid copying code or content from unauthorized sources.

Good luck with your project work!

Python Analyzers
Data Science & AI/ML Department

BRING ON YOUR CODING ATTITUDE