Statistics and Analytics

BRANCH :- ALL

These Questions are made for your previous exam, from PYQ and some internet….(Notes reference le Lena ek baar)

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🎯 Based on 2024 PYQ + Official Syllabus + Paper Pattern

🔵 UNIT 1: Statistical Data Collection and Types

1. Define **qualitative**, **quantitative**, **discrete** & **continuous data** with examples. *(🔥PYQ)*
2. List any 3 **data collection tools**: Questionnaire, Survey, Interview.
3. What is **data classification**? Explain types with example.
4. Explain the **process and importance of data cleaning**.

🔵 UNIT 2: Summarization of Data (Charts, Tables, Excel)

1. Define: **Bar Graph, Pie Chart, Line Graph, Histogram**. *(🔥PYQ)*
2. Create a **frequency table** using a dataset. *(🔥Apple Sales PYQ)*
3. Draw a **grouped bar chart** for temperature data of 3 cities. *(🔥PYQ)*
4. Difference between **bar graph and histogram**.
5. Explain: **stem-and-leaf plot, box plot, frequency polygon**.
6. What is a **relative frequency table**? How is it made in Excel?
7. How to add **labels, title, legend** to charts in Excel? *(🔥MCQs)*

🔵 UNIT 3: Measures of Location & Dispersion

1. Calculate **Mean, Median, Mode, Range** of a dataset. *(🔥PYQ)*
2. Define & compare: **Standard Deviation, Variance, Mean Deviation**. *(🔥PYQ)*
3. Explain **skewness** and **kurtosis** with interpretation. *(🔥PYQ)*
4. What is **symmetry in data** distribution? Give example.
5. Short notes: **Box plot**, **Quartiles**, **IQR**

🔵 UNIT 4: Python Programming Basics

1. Write a **Python function** to find cube of a number. *(🔥PYQ)*

2. Create a **float array** using the array module in Python. *(🔥PYQ)*
3. Define: **Variables, Data Types, Comments** in Python.
4. Explain **if-else** and **while loop** with examples. *(🔥PYQ Short Notes)*
5. Define **operator**. Explain types with examples. *(🔥PYQ)*
6. Important Python/Excel MCQs:
   - `print(2 * 3 ** 2)` output?
   - Immutable datatype?
   - Purpose of `input()`?
   - What does legend do in charts?

✍️ Short Notes (Write Any Four)

✅ *(All from PYQ)*

- If-Else Statement *(PYQ)*
- While Loop *(PYQ)*
- Standard Deviation *(PYQ)*
- Variance *(PYQ)*
- Line Graph *(PYQ)*
- Skewness
- Histogram
- Frequency Table

🔥 2025 Exam Smart Strategy

Unit	Priority	Tips
UNIT 1 ✅	High	Theory-based, scoring, 7-mark question confirmed
UNIT 2 ✅	Very High	Excel-focused, Graphs + Table creation comes every time
UNIT 3 ✅	Must-Do	SD, Mean, Skewness, Variance – all PYQ-based
UNIT 4 ✅	Easy Marks	Python: 10+ marks from programs + MCQs

📌 **Focus Revision Topics:**

- Data Types (Quali/Quanti)
- Frequency Table + Excel Graphs
- Mean, SD, Variance, Skewness
- Python: Array, Function, Loops
- MCQs from output-based or chart-based logic

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