

7. You're predicting monthly demand for a spice MSME. Compare simple regression vs multiple regression (with promo & festival dummies) vs a regularized model if features expand. Define evaluation metrics, cross-validation approach, and how you'll check residual plots for violations. Conclude with how you'd productionize the chosen model for a founder (update cadence, threshold alerts).
8. WhatsApp support chats are exported weekly as CSV. Propose an end-to-end text-mining plan (preprocess, topic/keyword extraction, sentiment tagging), then design a monthly issue dashboard that links each issue theme to a SOP fix (FAQ update, packaging instruction, courier SLA). Explain how you'll measure post-fix impact in the next month's data.

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 9700

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Unique Paper Code : 6133390041

Name of the Paper : BUSINESS ANALYTICS FOR
MSMES

Name of the Course : **B.A. (VS) SMALL AND
MEDIUM ENTERPRISES**

Semester : VII

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **five** questions.
3. **All** questions carry equal marks.

1. A handloom MSME must choose between two sales channels: Instagram Shops vs local retailers. Frame a Descriptive → Diagnostic → Predictive → Prescriptive progression showing: what metrics you'll summarize, what causal questions you'll test, what you'll forecast, and what optimization/decision rule you'll implement.
2. Draft a minimum-viable data policy for a 10-person MSME covering: data ownership, collection frequency, file naming/storage, quality checks, and privacy/compliance. Explain how this enables reliable analytics without expensive software.
3. You get monthly procurement data where unit costs sometimes spike due to entry errors and lead time is often blank. Describe a detect-and-treat plan using conditional formatting rules, IQR method, and imputation strategies. Show how you'll annotate the data so future analyses know which values were edited/imputed.

4. Create a one-page founder dashboard for a tailoring unit with KPIs: on-time delivery %, material wastage %, daily throughput, and complaint rate. Specify sheet structure, pivot tables/slicers, and chart types (e.g., treemap for defect categories) so a non-technical owner can monitor at a glance.
5. An MSME pharma distributor tracks sales by district, doctor_id, brand, rx units, sampleunits. Explain how you'd reshape data to tidy form in R, compute brand share by district, and generate three summaries (top-N doctors by growth; brand cannibalization check; seasonality sketch). Mention the R objects/tables you'd output for a weekly email.
6. A stationery MSME has order-level data with customer_id, order date, gm. Outline an R cohort analysis plan: create cohorts by first purchase month, compute retention and GMV per retained user over 6 months, and visualize results. State two retention experiments you'd run based on the charts.