1. **Top Three Variables Contributing to Lead Conversion:**

To determine the top three variables contributing the most to the probability of a lead getting converted, we would typically examine the feature importances from the model.

**Numerical Features**: The coefficients of numerical features from the logistic regression model, the features with the largest (positive or negative) coefficients are the ones that most influence the conversion probability.

**Categorical Features**: For dummy variables (from categorical features), we can check which ones have the most significant positive or negative impact on the conversion.

From typical analysis, variables such as **Total Time Spent on the Website**, **Page Views per Visit**, and **Lead Origin might** be among the top contributors, but it depends on our dataset.

**2. Top Three Categorical/Dummy Variables to Focus On:**

The top three categorical variables that the company should focus on in order to increase the probability of lead conversion could be:

* **Lead Source**: Different lead sources (e.g., Google, social media, referrals) will have varying conversion probabilities. Focus on sources that yield higher conversion rates.
* **Lead Stage**: This helps identify which leads are further along the sales funnel, allowing for better targeting.
* **Last Activity**: Leads who engaged recently (e.g., filled out a form, or requested information) may convert better than cold leads.

**3. Strategy for Aggressive Lead Conversion During Internship Period:**

During the internship period when X Education wants to make the lead conversion more aggressive, the strategy could be:

* **Prioritize Hot Leads**: Use the model to identify leads with a high probability of conversion (predicted as 1) and focus the interns on these leads for follow-up calls.
* **Increase Call Frequency**: Interns should make frequent follow-ups for leads with a high likelihood of conversion, using a combination of calls, emails, and personalized messages.
* **Immediate Response**: Ensure that leads are contacted within a short time after their interaction (e.g., within an hour of form submission) to increase conversion rates.

**4. Strategy for Minimizing Calls When Target is Met:**

When the company has met its target for the quarter and wants to minimize unnecessary phone calls, the strategy should be:

* **Focus Only on Highly Likely Conversions**: Use a threshold in the model to only contact leads that have an extremely high conversion probability (e.g., 90%+ predicted probability).
* **Automate Low-Priority Leads**: Instead of making calls, use automated emails or messaging for leads that are predicted with lower probabilities of conversion.
* **Work on Lead Nurturing**: Instead of calling low-priority leads, focus on nurturing them with content (e.g., webinars, and newsletters) to build interest for the future without direct calls.

This approach balances the need to maintain efficiency while avoiding unnecessary engagement with leads that are unlikely to convert.