Indian Institute of Technology, Madras

# BDM Capstone Project

## Improving Admissions Count and Student Performance through Data Analysis

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# About the Business

## R G Institute of IT & Engg.

- R G Institute of IT & Engg. is an education institution located in Shivaji Nagar Jhansi.
- It runs under SSSGM Society, with a vision to provide high-quality education and training to empower students of various communities.
- It is equipped with modern facilities, well-maintained labs, and experienced faculties.
- The institute is accredited from various universities and government bodies, and has excelled in gaining a reputation not only in Jhansi but other cities too.

# Project Objectives

Although having a good reputation, the institute has faced some challenges in the enrollments of students and their academic performance in the last year, which impacted the overall effectiveness and competition with the other institutions of same kind. Therefore, the institute objects to:

## Increase in Enrollment Numbers

- Growth in number of enrollments by 50%.
- Look forward to welcoming students from different backgrounds.

## Improved Student Results

- Expect a performance hike from 76% to 85%
- Anticipate students to be more satisfied and confident in their education.

# Approach Followed

**BUSINESS UNDERSTANDING**

Visiting the institute and meeting the authorities to get a domain understanding, their business model and the problem.

**DATA GATHERING**

Gathering the relevant data from different sources for the given objective statement.

**DATA PREPROCESSING**

Cleaning the data, removing insignificant data, detecting outliers and simplifying the data for further use.

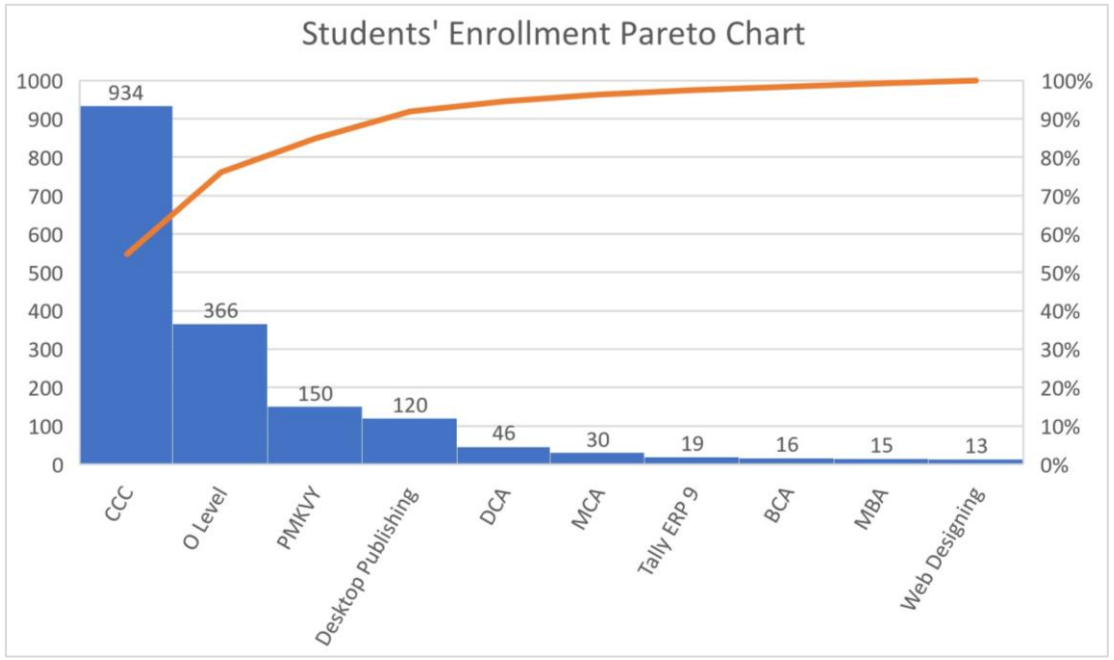
**DATA ANALYSIS**

Doing various types of analysis of data including Pareto Analysis, Trend Analysis, Correlation Analysis to get the valuable insights.

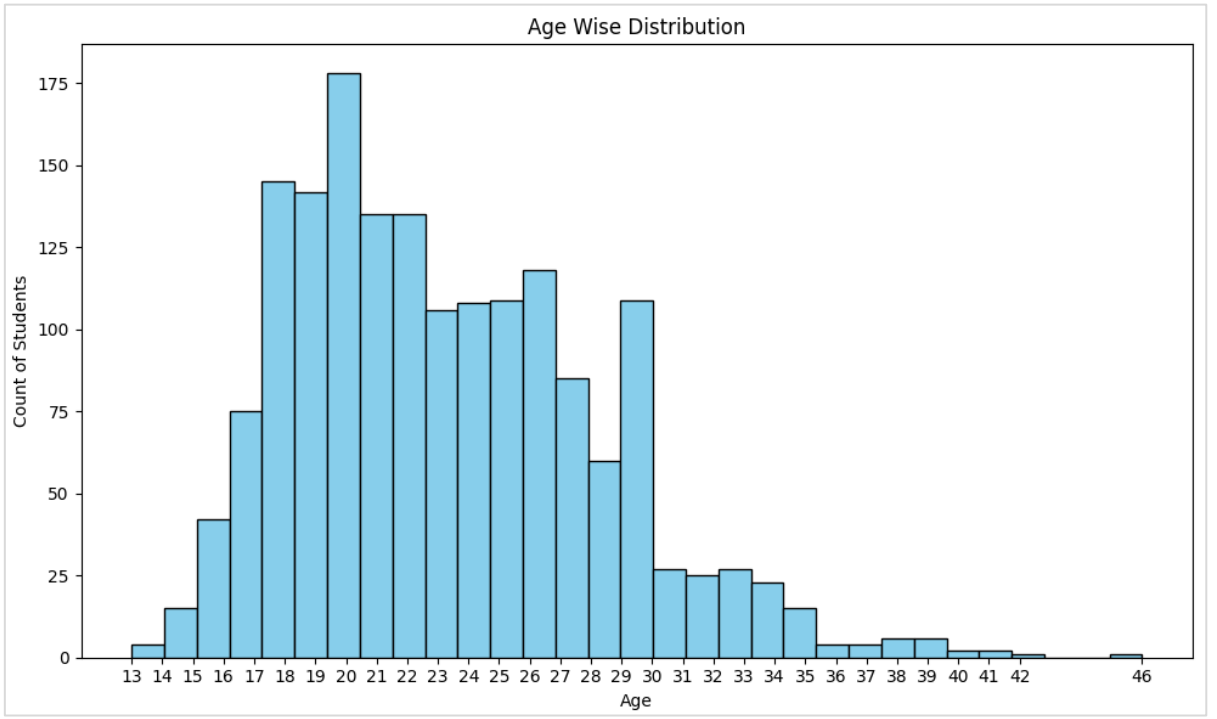
**PROVIDING RECOMMENDATIONS**

Observing the major findings from the analysis, discussing it with the authorities and providing the final recommendations.

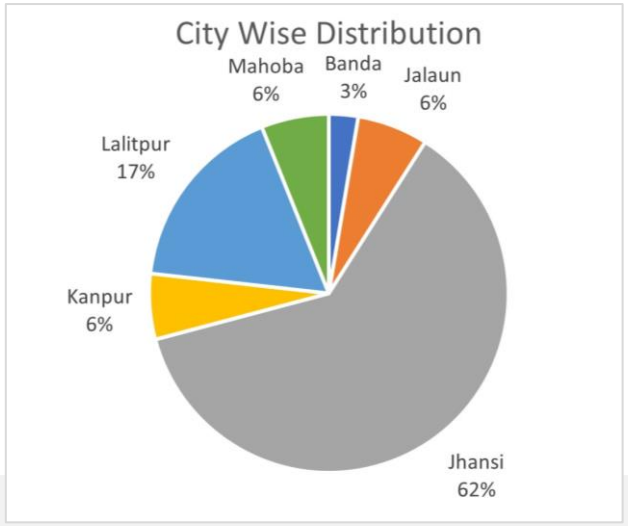
# Distributive Analysis

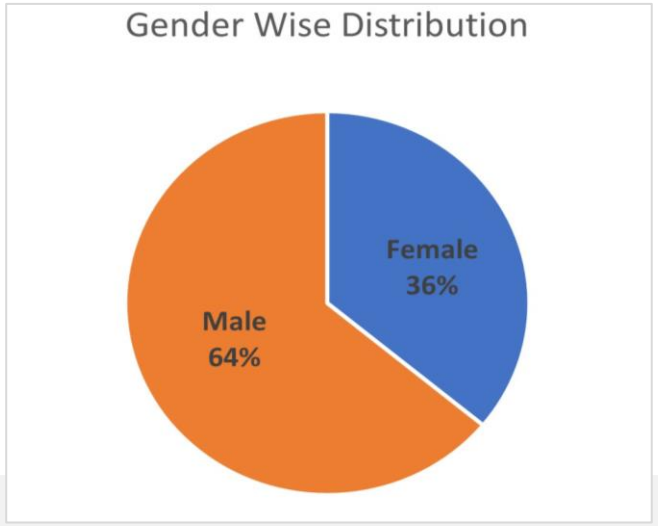


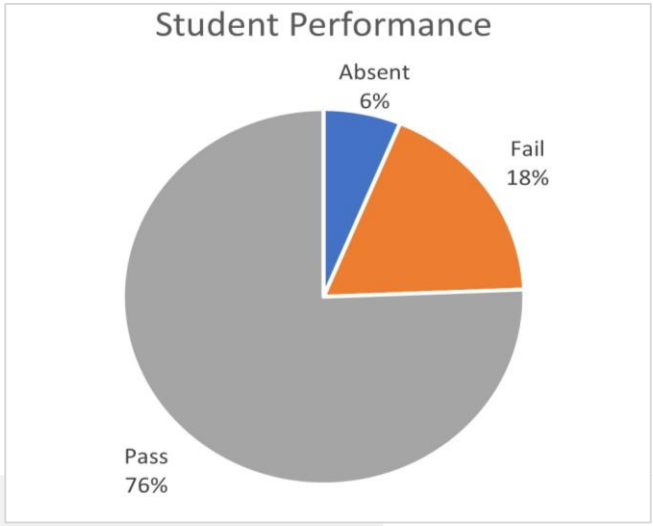

Most enrolled courses: CCC and O Level



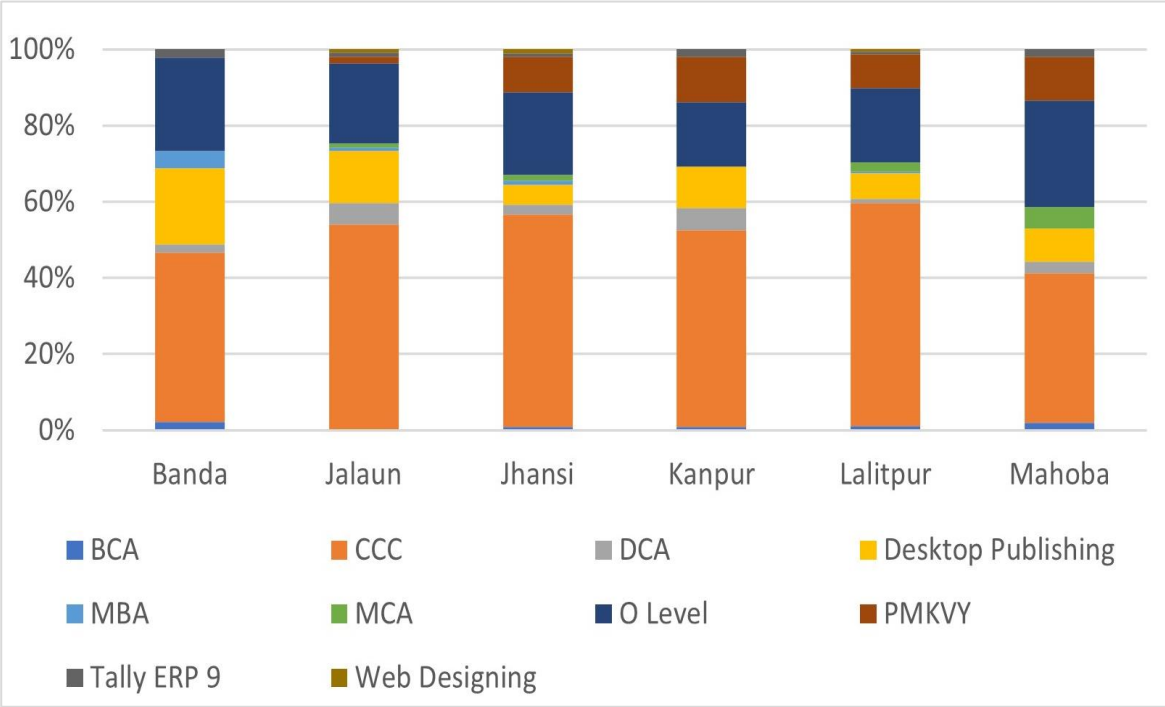

Most enrolled age group: 18-22



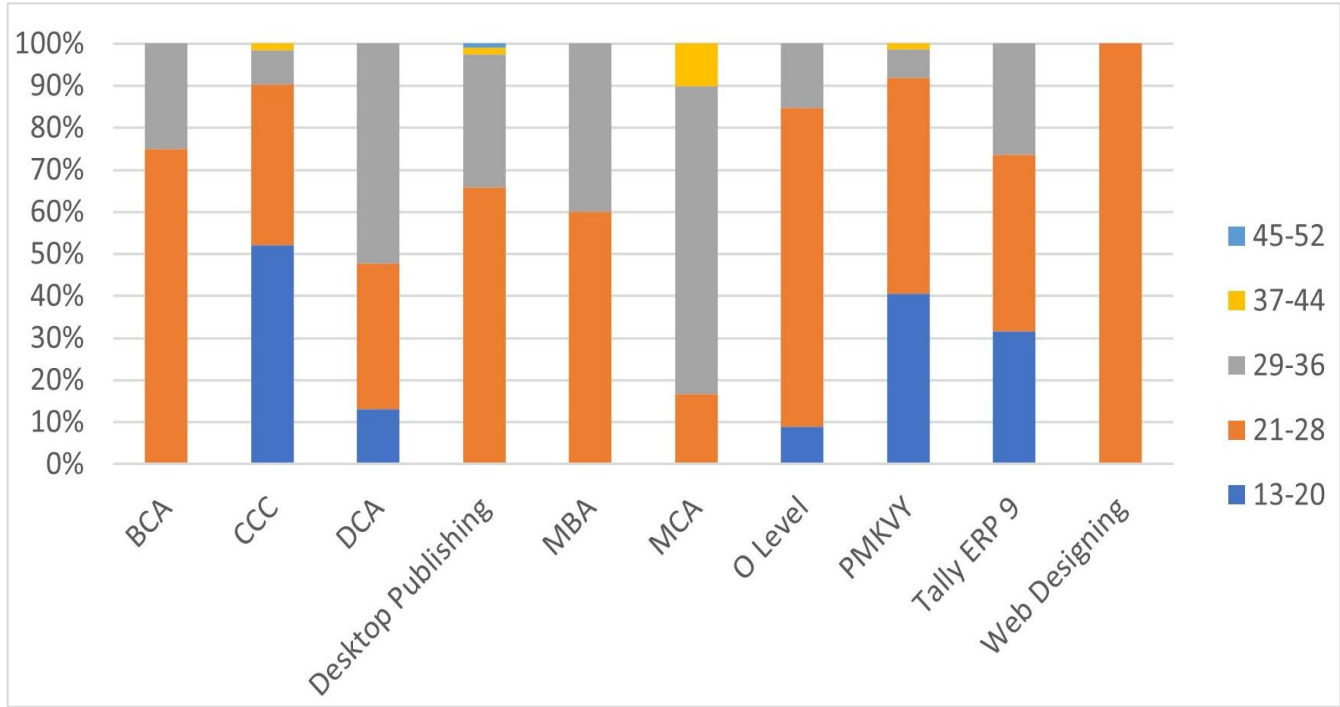



# Course vs City Analysis



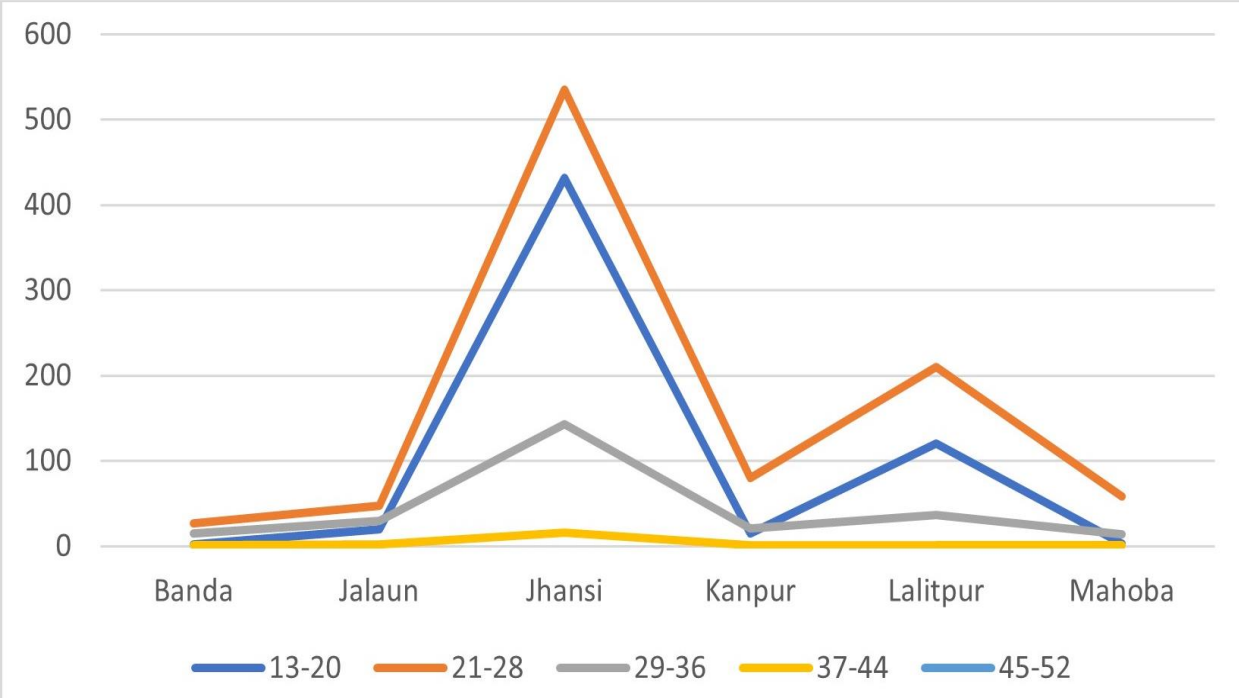

# Age vs Course Analysis




- The students from other cities are showing major interests in CCC and O Level, as these help for jobs in government sectors.
- Also, a good interest is shown in Desktop Publishing and PMKVY. These are government projects, they are free of cost along with placement facility.

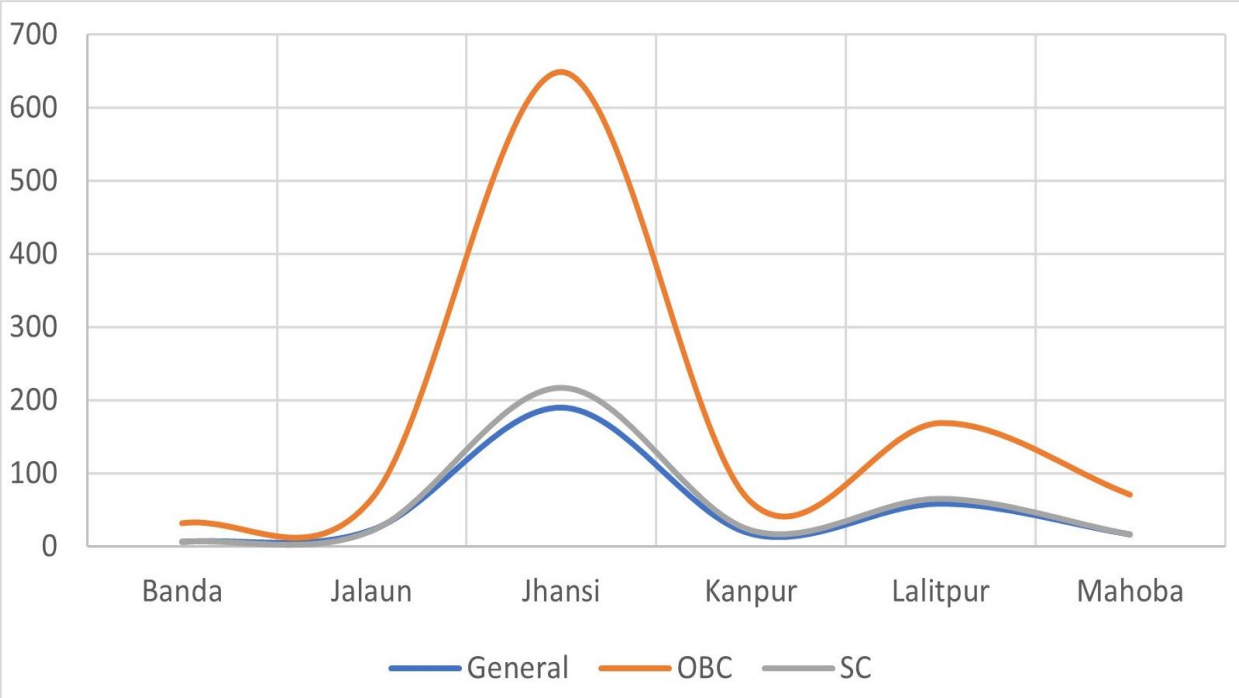
- The students of age group 13-20 mostly enroll for CCC, PMKVY, Tally, as they are short term, so students can do them as a supplement with their studies.
- Students of age group 29-36 are mostly enrolled for Master's degree.

# Age vs City Analysis



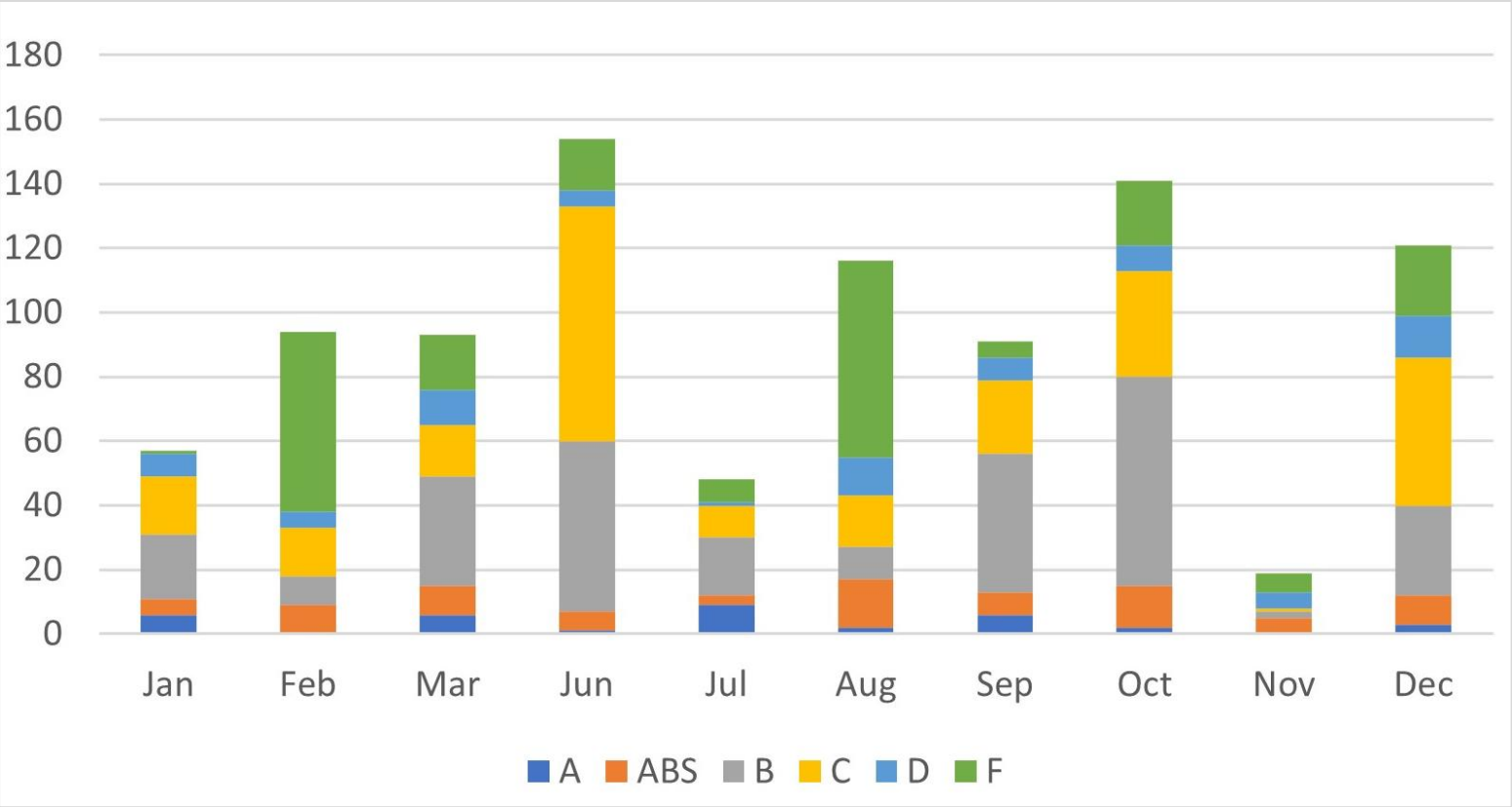

- For the age group of 13-20, it has been observed that institute have more enrollments from their own city, and very less from other cities.
- The students of age group 21-28 and 29-36 are more tending to come to the institute from other cities.

# Category vs City Analysis



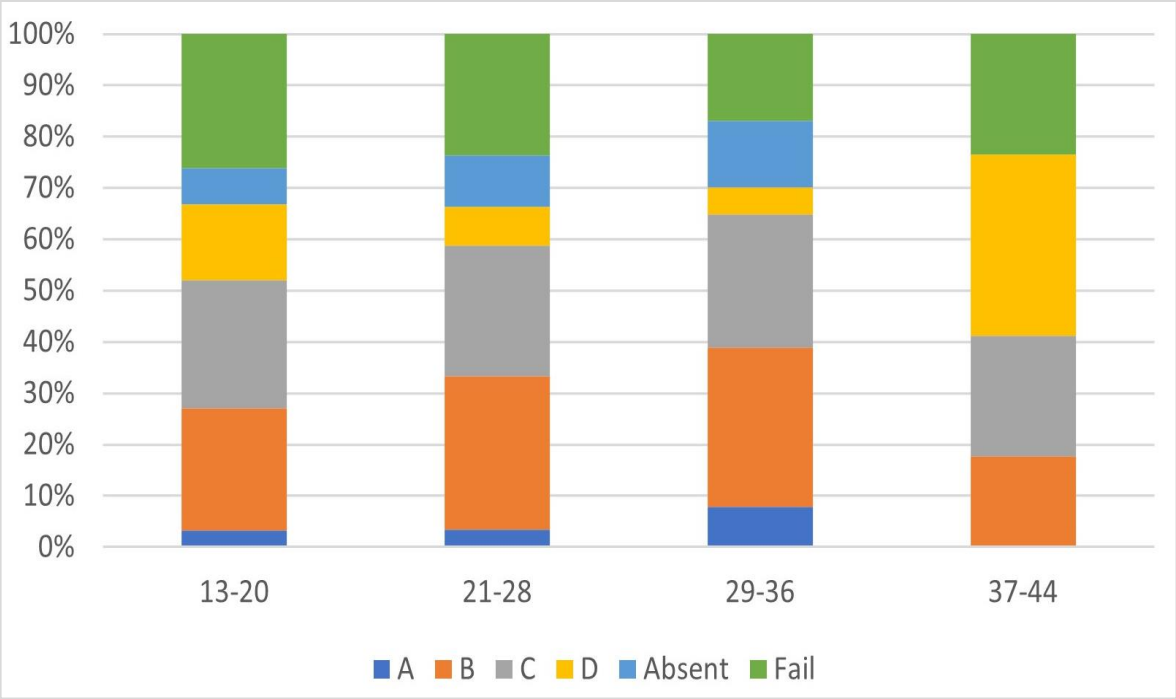

- The institute mainly has admissions from OBC Category, as there are more training and projects introduced by government for them.
- The distribution of General and SC students is almost similar.

# Past Year Performance Monthly Analysis



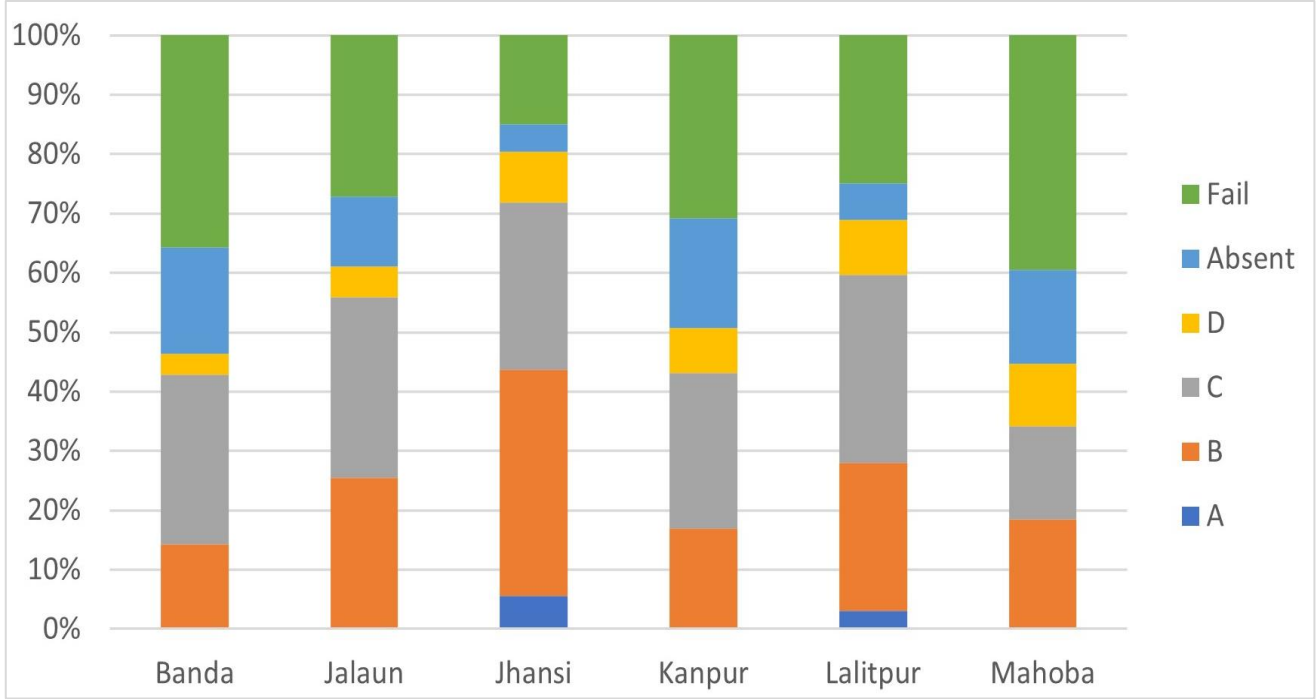

- The greatest number of admissions happen in the month June, that is when most students are advanced to further studies.
- January, July and November have the least number of admissions. As students have other exams in these months, therefore they enroll less.
- February, August, and December have a large percentage of students getting failed. Having other exams, a month prior to these months, makes it difficult for them to study for the exam.

# Grade vs Age Analysis




- The proportion of students getting failed or lower grades are more in the age group of 13-20 and 37-44.
- The possible reason for this can be the adjustability with the new technologies, making it difficult to cope up with the studies.

# Grade vs City Analysis




- The proportion of students getting failed or absent are more from other cities than the local.
- Banda, Kanpur and Mahoba have more percentage of students getting failed or absent, as these cities are located far away from Jhansi.
- This can be due to residential issues faced by students.

# Recommendations

## To increase enrollments

### Gender and Category based Initiatives

Addressing female literacy issues, offering scholarships or incentives to encourage enrollments from diverse backgrounds.

### Introducing accommodation facilities

Providing residential facilities for students coming from far distant cities and transportation within a radius of 100 kms

### Partnerships and Collaborations

Collaborate with other NGOs, government and private businesses and job-oriented programs to improve engagements.

## To improve results

### Customized learning methods

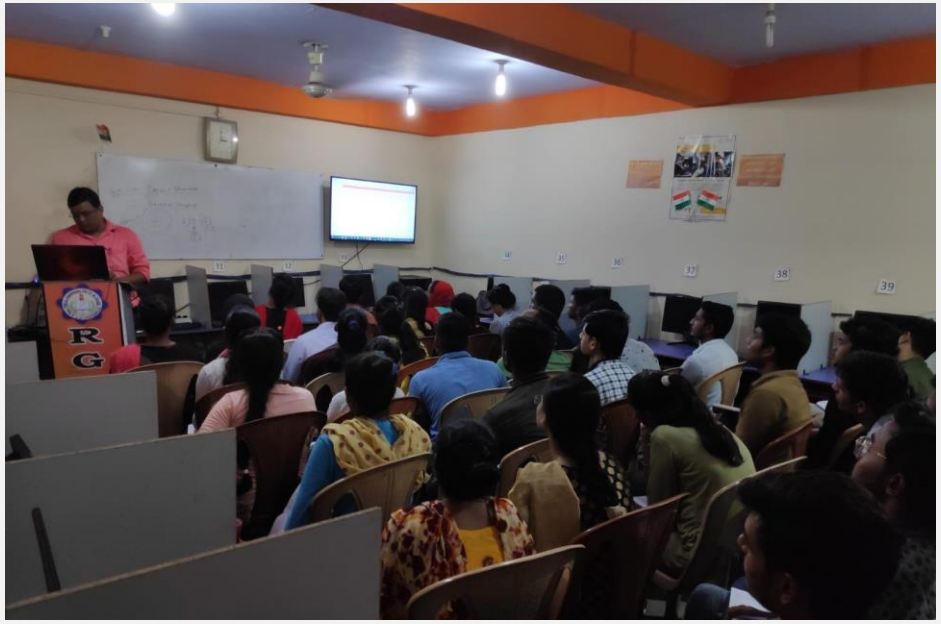
Develop customized educational programs aligned to the specific needs and preferences of different age groups, ensuring relevant curriculum content.

### Special academic support programs

Introduce tutoring, mentoring, or remedial classes to assist students in improving their academic performance and cover the topics they left out due to their exams

### Continuous monitoring and evaluation

Establish a robust system for monitoring student progress, academic performance, and satisfaction levels to identify areas for improvement.




# Thank You

## Open to Questions!

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