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Report of Psychometric Evaluation of 2024 batch students

A psychometric assessment was conducted for a cohort of 64 students from the 2024 batch to evaluate cognitive and psychological traits using a standardized test by the Psychiatry department, AIMS, Thrissur. The total scores ranged from 0 to 100, and the data followed a normal distribution, indicating that the test reliably captured the spread of performance across the group. The statistical analysis of the results yielded a mean score of 56.46 and a standard deviation of 17.00, suggesting that most students performed around a mid-level average, with a moderate level of variation.

The bell-shaped normal distribution curve indicates that a significant proportion of students scored near the mean, forming a symmetrical distribution. Based on standard distribution principles:

- Approximately 68% of the students (around 44 students) scored within one standard deviation of the mean, i.e., between 39.46 and 73.46.
- Approximately 95% of the students (around 61 students) scored within two standard deviations of the mean, i.e., between 22.46 and 90.46.
- This implies that the majority of the students fall within the expected performance range, with only a small number of outliers.

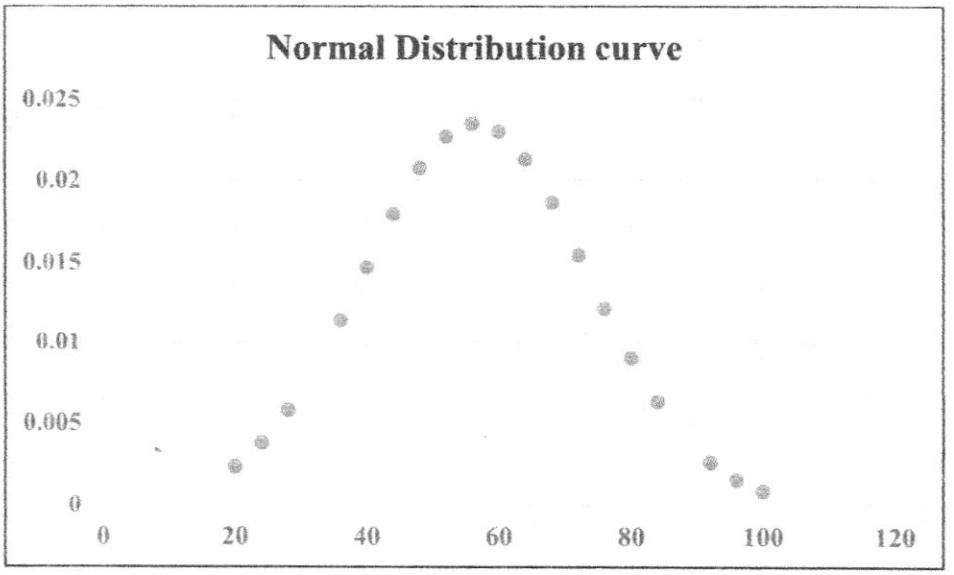

Fig 1. Normal Distribution curve of Psychometric analysis of 2024 batch students

Detailed score Band Breakdown

A closer examination of the score distribution reveals important insights when the data is segmented according to standard deviation intervals. Students who scored between one and two standard deviations below the mean specifically within the range of 22.46 to 39.46 are considered to be slightly below average, yet still within a reasonable and expected performance range. In this category, three students were identified with scores of 24, 28, and 36, indicating that while they may benefit from academic support, their scores do not represent extreme deviation from the norm.

On the other hand, students scoring between one and two standard deviations above the mean, that is, within the range of 73.46 to 90.46, demonstrated above-average performance, reflecting stronger psychometric capabilities. A total of nine students fell into this bracket, with scores of 76 (3 students), 80 (5 students), and 84 (1 student). These students show signs of higher-than-average cognitive or psychological performance and may be strong candidates for enrichment opportunities, advanced coursework, or further developmental tracking.

Outlier Analysis

In terms of outliers, which are students who scored beyond two standard deviations from the mean, the analysis identified both high and low extremes. On the higher end, three students scored above 90.46, with specific scores of 92, 96, and 100. These students can be considered exceptional performers, indicating superior psychometric functioning and high potential. On the lower end, one student scored below 22.46, with a score of 20, placing them more than two standard deviations below the mean. This student may be at risk and would likely benefit from individualized attention, academic intervention, or psychological support, depending on the broader context of their learning profile.

Conclusion

The psychometric profile of the 2024 batch demonstrates a statistically sound and normally distributed pattern of performance. The majority of students scored within one standard deviation of the mean (39.46–73.46), representing the central band of performance. Additionally, 12 students fell between one and two standard deviations from the mean 3 below and 9 above showing a healthy range of variability. Only four students (one on the lower end and three on the higher end) scored beyond two standard deviations, identifying them as

statistical outliers. These students should be considered for additional support or enrichment based on their individual needs.

- Overall, the results reflect a balanced academic and cognitive profile across the batch and provide a strong foundation for personalized academic planning, enrichment opportunities, and targeted interventions.

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