

Roll.No.

22PCPCT2005

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

M.Sc.Counselling Psychology - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - II

22PCPCT2005 - Advanced Statistics in Psychology

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain the importance of scales of measurement in psychological research with suitable examples.
2. Calculate the mean, median, and mode from the following data:
10, 15, 20, 25, 30, 35, 40
3. What are the differences between independent and correlated samples? Explain with examples.
4. Statistical Sum: Two groups of students obtained the following scores:
 - Group A: 12, 14, 10, 8, 13
 - Group B: 9, 11, 10, 7, 12Compute the t-value and test whether there is a significant difference between the two means at 0.05 level.
5. Explain the uses and assumptions of Chi-square test in behavioral research.
6. In a study of preference for three teaching methods, the observed frequencies were:
 - Method A: 30, Method B: 45, Method C: 25. Test whether there is a significant difference in preference among the methods using Chi-square test (χ^2).
7. Explain the need and assumptions underlying Analysis of Variance.
8. Explain the differences between Exploratory Factor Analysis and Confirmatory Factor Analysis

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Explain the need and importance of statistics in psychological research. Discuss in detail the scales of measurement with examples.

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10. Define null hypothesis and level of significance. Explain the steps involved in testing the significance of difference between two means for independent and correlated samples with suitable examples.
11. A researcher wants to test whether there is a significant difference in preference for three counselling methods. The observed frequencies are as follows: Method A – 25, Method B – 40, Method C – 35. Test the significance using the Chi-square test and interpret the result.
12. Describe the procedure for calculating one-way and two-way ANOVA

II - Compulsory question (1 × 10 = 10 Marks)

13. Explain the concept, purpose and applications of Multiple Regression, Factor Analysis and Structural Equation Modelling in psychology.
