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.(Coun.Psy) END SEMESTER EXAMINATIONS APRIL - 2023
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. Draw and explain the measures of central tendency.

2. Explain the independent variable, dependent variable, types of measurement, and interpret the meaning of significant differences in independent variable and dependent variable with hypothetical statements.

3. Critically analyze how a non-parametric test differs from a parametric test.

4. Explain one-tailed and two-tailed test of significance with suitable examples.

5. Write a short note on regression.

6. Explain when chi-square is used in psychological research and what are the properties of the chi-square test.

7. Annual income, in thousands of dollars, was recorded for a random sample of fifteen families in a certain town. The results were as follows.
75 ,10, 92, 49, 58, 25, 96, 40, 90, 87, 10, 49, 20, 200, 34.
An economist is interested in determining whether the median income in the town is greater than 40 thousand dollars. Perform a hypothesis test at the $\alpha = 0.05$ level of significance.

8. Justify the essentials of factor analysis in psychological research.

Section C

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

9. Illustrate the types of correlation using diagrams and hypothetical examples

10. Explain the definition of hypothesis and its types with an example of paired sample t test.

11. Briefly explain the significance of confirmatory factor analysis and its purpose.

Contd...

12. The following is the before and after treatment anxiety score for 12 individuals. Using Wilcoxon test find if there is any significant difference in the anxiety score after the treatment

Individual	A	B	C	D	E	F	G	H	I	J	K	L
Baseline	14	17	12	15	15	9	12	13	13	15	19	17
Post- treatment	15	1	1	15	15	17	14	9	14	11	16	18

II - Compulsory question $(1 \times 10 = 10$ Marks$)$

13. Explain the purpose of ANOVA and its types in detail and draw the table of formulas for repeated measure analysis of variance.

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