

**M. Phil Clinical Psychology Part I Supplementary Examinations**  
**June 2023**

**Paper II: Statistics and Research Methodology**

**Time: 3 hrs**

**Max. Marks: 70**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers*
  - *Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

**Long Essays**

**(4x14=56)**

1. Distinguish between parametric and non-parametric tests. Explain with examples.
2. Stephens, Atkins and Kingston (2009) conducted a research study demonstrating that swearing can help reduce pain. In the study, each participant was asked to plunge a hand of icy water and keep it there as long as the pain would allow. In one condition, the participants repeatedly yelled their favorite curse words while their hand were in the water. In the other condition, the participants yelled a neutral word. Data similar to the results obtained in the study are shown in the following table.

Participant		1	2	3	4	5	6	7	8	9	10
Time (in seconds)	Swear words	94	70	52	83	46	117	69	39	51	73
	Neutral words	59	61	47	60	35	92	53	30	56	61

Calculate the mean number of seconds that the participants could tolerate the pain for each of the two treatment conditions. Does it appear that swearing helped with pain tolerance. Give your interpretations.

3. List any four non-probability sampling methods. Compare between any two of them based on their applications in quantitative research.
4. What are the assumptions of linear regression analysis. Comment on the difference between the applications of linear regression and logistic regression.

**Short Essays:**

**(2x7=14)**

5. Sensitivity and specificity.
6. Type I and Type II errors.

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