



BSC (HONS) IN PSYCHOLOGY
PLU5305 - ADVANCED RESEARCH METHODS AND STATISTICS IN PSYCHOLOGY-
LEVEL 5
FINAL EXAMINATION PAPER
DURATION: 03 HOURS

DATE: 28.03.2024

TIME: 9.30 am – 12.30 pm

SECTION 2: STRUCTURED ESSAY QUESTIONS (60 MARKS)

Choose 04 out of the 06 questions given below and answer using the provided answer sheets

- 2.1 Consider a psychological study investigating the relationship between the amount of weekly exercise (hours), and the level of self-reported happiness (scale from 1 to 10). The following table represents a sample of individuals' weekly exercise hours and their corresponding happiness levels:

Amount of weekly exercise	Level of self-reported happiness
1	4
3	5
5	6
6	7
7	9

- a) Draw a scatterplot to visually represent the relationship between exercise and happiness. *(5 marks)*
- b) Interpret the relationship among the variables based on the scatterplot. Discuss any observable trends, patterns, or anomalies in the data, such as a positive or negative correlation, and the strength and direction of the relationship. *(4 marks)*
- c) Briefly explain the term Spurious Correlation using an example. *(6 marks)*
- 2.2 Consider a psychological study that investigates the relationship between daily physical activity levels and mood scores among adults. Using regression analysis, researchers aim to determine how well daily physical activity predicts mood scores, accounting for variables such as age and gender.
- a) Discuss how regression analysis can help in understanding the relationship between physical activity levels and mood scores, including the role of age and gender as additional variables. *(7 marks)*
- b) Identify and elaborate on the key assumptions underlying regression analysis. *(8 marks)*

- 2.3 Consider a study examining the effects of different therapy methods on stress reduction across various age groups. Researchers are interested in determining whether the effectiveness of therapy methods varies by age group and if adjusting for participants' baseline stress levels offers a more nuanced understanding of therapy effectiveness.
- a) Explain how a one-way ANOVA could be used to determine if there are significant differences in stress reduction among various therapy methods. (5 Marks)
 - b) Describe the assumptions that must be met for the ANOVA to be valid. (5 Marks)
 - c) Explain the difference between One-way ANOVA and Two-way ANOVA. (5 Marks)
- 2.4 In the field of psychology, research can broadly be categorized into two main types: applied research and basic research. Each type serves distinct purposes and employs different approaches in pursuit of its objectives.
- a) Briefly discuss the term 'Applied Research' with an example. (5 marks)
 - b) How do they differ from those of basic research? (10 marks)
- 2.5 Factor analysis is a cornerstone technique in psychological research, essential for uncovering the underlying structure of complex psychological phenomena.
- a) Briefly introduce factor analysis as a statistical technique used in psychology. Explain it giving a proper psychological example. (10 marks)
 - b) Outline the key assumptions underlying factor analysis. (5 marks)
- 2.6
- a) What is the purpose of using open-ended questions in qualitative research? (3 Marks)
 - b) What is the difference between purposive sampling and convenience sampling in qualitative research? (3 Marks)
 - c) What are some common methods for analysing qualitative data? (3 Marks)
 - d) What is saturation in qualitative research? (3 Marks)
 - e) What is a focus group in qualitative research? (3 Marks)

-----END OF QUESTION PAPER-----