

ZIMBABWE EZEKIEL GUTI UNIVERSITY



DEPARTMENT OF EDUCATIONAL FOUNDATIONS

PROGRAMME: PGDE 101/ BED HONOURS

COURSE: RESEARCH METHODS AND STATISTICS

COURSE CODE: EPR 101/ ERP 201

DATE: 23 January 2019

DURATION: 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Answer any **THREE** questions, but do not answer **more than two** questions from one **section**.
2. Each question carries 25 marks

SECTION A

1. Evaluate the usefulness of in-depth interviews in educational research. (25 Marks)
2. Compare qualitative and quantitative research approaches. (25 Marks)
3. Discuss how you are going to deal with the following **five** ethical issues in your dissertation:
 - a. Approval to conduct the study. (5 Marks)
 - b. Informed consent. (5 Marks)
 - c. Privacy and confidentiality. (5 Marks)
 - d. Avoidance of harm. (5 Marks)
 - e. The issue of incentives. (5 Marks)

SECTION B

4. Given the following distribution 10.5; 7.2; 4.3; 7.9; 3.8; 8.3; 3.4; 4.1; 12.3 and 6.2

Calculate

- a) Mean (2 Marks)
- b) Median (2 Marks)
- c) Standard deviation (12 Marks)
- d) Variance (6 Marks)
- e) Z score for 7.9 (3 Marks)
- f) Z score for 10.5

5. A total 12 students obtained the following marks in Maths and Science.

Maths	74	73	65	75	68	72	69	71	83	68	68	73
Science	75	83	69	77	71	77	68	76	84	69	71	75

- a) Calculate Spearman's Rank Order Correlation Co-efficient. (22 Marks)
- b) Comment on the strength of the correlation. (3 Marks)

6. The data shows the marks of nine students in Mechanics and Graphics

Mechanics	25	35	10	40	85	75	60	45	50
Graphics	63	68	72	62	65	46	51	60	55

- a) Calculate Pearson's Product Moment Correlation of the Mechanics and Graphics marks. (22 Marks)
- b) Comment on the strength of the correlation. (3 Marks)

EPR101 LIST OF FORMULA

Arithmetic Mean

$$\bar{x} = \frac{\sum x}{n}$$

Mean Deviation

$$MD = \frac{\sum(x - \bar{x})}{n}$$

Variance

$$s^2 = \frac{\sum (x - \bar{x})^2}{n}$$

Standard Deviation

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{n}}$$

Z Score

$$Z = \frac{x - \bar{x}}{s}$$

Spearman Rank Order Correlation Coefficient (rho)

$$\rho = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

Pearson's Product Moment Correlation Coefficient, (r)

$$r = \frac{\sum (xy) - \frac{(\sum x)(\sum y)}{n}}{\sqrt{\left[\sum (x^2) - \frac{(\sum x)^2}{n} \right] \left[\sum (y^2) - \frac{(\sum y)^2}{n} \right]}}$$