



NATION OPEN UNIVERSITY OF NIGERIA
SCHOOL OF EDUCATION
EXAMINATION PAPER
2024 1 EXAMINATION

Course Code: EDU821

Course Title: *Statistical Methods in Education*

Credit Unit: 2

Time Allowed: 2 hours

Instruction: *Answer question ONE and any other two questions.*

1. a. Briefly explain the following:

- i. Measurement and three sources of Error in measurement 4 marks
- ii. Four reasons for sampling 4 marks
- iii. Two statistics for transforming raw score to standard score 4 marks
- iv. The four scales of measurement 4 marks
- v. Parametric and non-parametric statistics. 4 marks

b. Calculate average and modal trousers' length for :

- (i) Five (5) men whose trousers' lengths were 9, 12, 8, 10, 16 5 marks
- (ii) Twenty-five (25) men whose trouser lengths (x) were: 5 marks

Trouser Length	10	15	20	25	30
Number of Men	7	10	5	2	1

2. a. With clear diagram and one example of each, explain briefly: Direct, Inverse and No linear relationships 9 marks

b. The table provided, gives the scores of students in a quiz test in Government and Economics.

Government	8	6	10	15	9	7	12	17	6	8
Economics	7	7	6	12	8	5	7	11	4	7

Determine the:

- (i) Strength of the relationship between the subjects 7 marks
- (ii) Direction of their relationship using Pearson Product Moment Correlation analysis. 2 marks
- (iii) What is your conclusion on their relationship? 2 marks

3. Distinguish, giving at least one example between

- a. Discrete and continuous data 4 marks
- b. Normal and skewed distributions 4 marks
- c. Standard score and standard test 4 marks
- d. Categorized and non-categorical variables 4 marks
- e. Descriptive and inferential statistics 4 marks

4. Consider the hypothetical test scores of year 1 Education students in use of English as shown in table 1.

Table 1: Hypothetical Test Score of Year 1 Students in Use of English.

6	6	8	6	7	8	4	6	9	9
8	7	10	7	8	7	7	7	9	5
10	8	11	8	9	6	8	8	5	7
11	9	12	8	11	5	9	10	7	8

Use the table to answer the following questions:

- | | | |
|-------|-------------------------------------------------------------------------------------------------------------------------------------|----------|
| (i) | Construct a frequency table showing: Raw score (x), frequency (f) and cumulative frequency (cf) and relative frequency. | 10 marks |
| (ii) | Calculate the: Mean, Standard deviation and standard score | 8 marks |
| (iii) | What proportion of students obtained below the average score. | 2 marks |
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