



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: 4 marks
- 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 : 5 marks
- (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:

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

Furniture & Fixtures	8,000	
Inventory on Oct. 1st, 2021	56,000	
Purchases	2,400,000	
Sales		4,160,000
Goods from Nigerian Co. (H.O)	80,000	
Wages	2,000	
Carriage inward	1,000	
Salaries	6,000	
Rent, rates and taxes	2,000	
Insurance	1,000	
Trade Expenses	1,000	
Head Office A/c	---	1,140,000
Trade Debtors	24,000	
Trade Creditors		17,000
Cash at Bank	5,000	
Cash in Hand	1,000	---
	5,470,000	5,470,000

The following further information is given:

- Wages outstanding \$ 1,000
- Depreciate Plant & Machinery and Furniture & Fixtures @ 10 Per cent p.a.
- The H.O. sent goods to Branch for N 39,400,000
- The H.O. shows an amount of N 43,000,000 due from Branch
- inventory on 30th September, 2003-\$ 52,000
- There were no in-transit items either at the start or at the end of the year.

Exchange rates:

- On 1st September 2020 when the fixed assets were purchased, the rate of exchange was N38 to one \$.
- On 1st October, 2021 the rate was N39 to one \$.
- On 30th September, 2022 the rate was N41 to one \$.
- Average rate during the year was N40 to one \$.

You are asked to prepare (a) Trial Balance incorporating adjustments given above, converting dollars into naira, (b) Trading and P & L A/c for the year ended 30.9.2022 and Balance sheet as on that date.

**(15 marks)**

2. During the year ended 31 March 2022, BOLANLE Plc invoiced goods worth N200,000 to AKANMU Ltd. The goods were invoiced at cost plus 25%. A quarter of the goods had been sold by year end.
3. The extra ordinary income earned by AKANMU Ltd is in respect of a transaction carried out in December 2021.
4. BOLANLE Plc has accounted for the interim dividend received from AKANMU Ltd.

Required: Prepare the Consolidated Profit and Loss Account of BOLANLE Plc for the year ended 31 March 2022 using the part year method. **(25 marks)**

### Question Two

- a. State the external and internal factors to consider when carrying out firm comparison using ratios
- b. Mr Fred Company supplies gas in expensive containers, which are returnable after use. These containers cost N20.00 each and are charged out to customers on sale return with six months at N26.00 each. Provided they are returned within six months period they are credited at N23.00 each. As each container is returned, it is inspected and overhauled at a cost of N2.00.  
At the end of the year the company values all returnable containers in customer hands and container held in stock at N16.00 each.

You are advised that:

During the year 3,100 new containers were purchased, 20,620 were invoiced to customers and 1 7,960 were returned.

On inspection 260 required additional repairs costing N325 and 56 to be sold as scrap for N60.00

From the information given above prepare:

- (i) Returnable containers suspense account:
- (ii) Container stock account:

**(15 marks)**

### Question Three

- a. State any four circumstances a debtor could be adjudged bankrupt. **(4 marks)**
- b. Explain insolvency and its forms. **(6 marks)**
- c. State any four (4) major differences between a statement of affairs under bankruptcy and a statement of financial position of a going concern. **(5 marks)**

### Question Four

- a. Mention any ten (10) most common reasons for valuing business/ Shares **(10 marks)**
- b. Explain any five (5) concepts of value **(5 marks)**

### Question Five

Khalifa Ltd (a Nigerian company) has a branch at Washington. Its Trial Balance as at 30th September, 2022 is as follows:

Particulars	Dr. Us \$	Cr. Us \$
Plant & Machinery	1,200,000	