



NATIONAL OPEN UNIVERSITY OF NIGERIA

University Village, Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi, Abuja

Faculty of Education

2022_1 EXAMINATIONS

COURSE: Statistical Method 1.

CODE: EDU821 (3 UNITS)

Duration: 3 HOURS

INSTRUCTION: Answer *Four (4)* Questions. Question one (1) is compulsory; then any other 3.

Question 1: (Compulsory)

- a) Define the following terms:
- Variance
 - Standard Deviation
 - Range
 - Mean Deviation,

b. Observe the following table and answer the questions that follow.

S/N	X	$X-\bar{x}$	$(X-\bar{x})^2$
1	41		
2	27		
3	19		
4	09		
5	23		
6	31		
7	25		
8	28		
9	15		
10	22		

- Determine $\sum X$.
- Calculate the mean of the scores.
- Complete column $X-\bar{x}$
- Complete column $(X-\bar{x})^2$
- Calculate the variance of the scores

(25 Marks)

Question 2

- a) Briefly differentiate between the following:
- Statistical method and educational statistics. *(2 Marks)*
 - Statistics and statistical data. *(2 Marks)*
 - Population and population sample. *(2 Marks)*
- b (i) Define the term Kurtosis. *(1 Mark)*
- List the types of Kurtosis you know. *(3 Marks)*
 - Use annotated diagram to show the shapes of the types of Kurtosis listed in b (i) above. *(5 Marks)*

Question 3

The following are the score of 10 students in a class test: 40, 50, 80, 60, 30, 25, 90, 75, 40, and 60. Use the scores to answer the following questions:

- Calculate (showing the procedure), the mean of the set of scores.
- Find the various deviations from the mean of the scores.
- Calculate the standard deviation of the set of scores. *(15 Marks)*

Question 4: Use the following marks obtained by 15 students of Chemistry to answer the questions below:

5, 9, 9, 12, 5, 9, 10, 6, 8, 10, 3, 10, 9, 7 and 5.

- a (i) Arrange the scores in a frequency table. *(4 Marks)*
- Which score has the highest frequency? *(1 Mark)*
- b (i) Determine the score that represents the whole class. *(5 Marks)*
- What is the difference between the highest score and the score in b(i)? *(2 Marks)*
 - What is the difference between the least score and the score in b(i)? *(2 Marks)*
 - What is the difference between the most frequent score and the score in b(i) above? *(1 Mark)*

Question 5

- (a) Explain the following terms in relation to statistical analysis of data:
- (i) Population **2 Marks**
 - (ii) Parameter **2 Marks**
 - (iii) Estimate **2 Marks**
 - (iv) Sample **2 Marks**
- (b) Check the scores 20, 10, 2, 8, 4, 7, 4, 9, 4, 3 and answer the questions below:
- (i) What is the score with the highest frequency? **1 Mark**
 - (ii) Calculate the mean (\bar{x}) of the scores in the array **2 Marks**
 - (iii) What is the median score? **2 Marks**
 - (v) What is the difference between the highest score and the rest? **2 Marks**