



NATIONAL OPEN UNIVERSITY OF NIGERIA
91, Cadastral Zone, NnamdiAzikwe Expressway, Jabi, Abuja
FACULTY OF EDUCATION
Department of Educational Foundation
2025_2 EXAMINATIONS

COURSE CODE: EDU821
COURSE TITLE: STATISTICAL METHODS
TIME ALLOWED: 3 HOURS
INSTRUCTION: Answer question No. 1(which is compulsory) and any other 3

Question No.1 (Compulsory)

The scores obtained by 10 students in a mathematics test is given as follow: 40, 50, 80, 60, 30, 25, 90, 75, 40, 60. Transform each student score to standard Z-score.(25marks)

Question No. 2

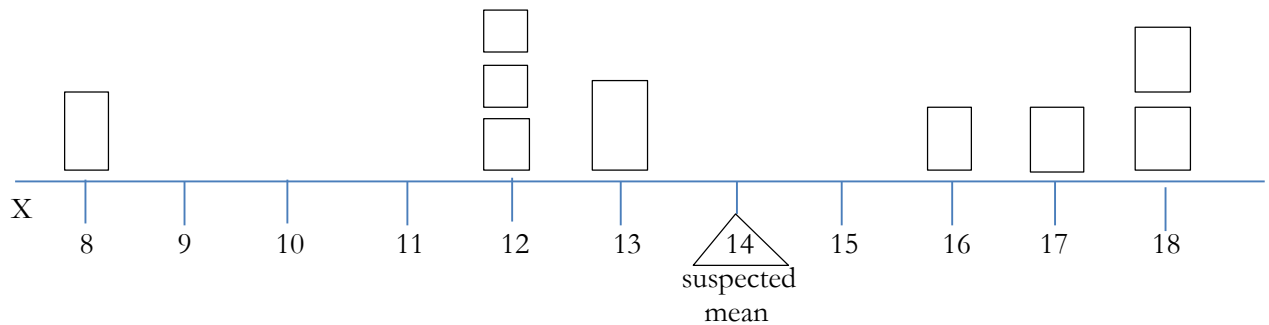
- (a) (i) Define the “Range” as a variability score (2 marks)
(ii) List 2 shortcomings of the Range as a variability score (2 marks)
- (b) Explain the terms:
(i) Deviation Score (3marks)
(ii) Standard Deviation (3 marks)
- (c) What 4 properties make the standard deviation a more useful deviation score? (5 marks)

Question No. 3

- (a) (i) Define the variance of a distribution of scores
(ii) Why is the standard deviation preferred to the variance in inferential statistics?
- (b) Tabulate:
(i) $(X - \bar{X})$,
(ii) $(X - \bar{X})^2$,
(iii) $\bar{X}$
(iv) variance and
(v) standard deviation of the distribution below:
32, 71, 64, 50, 48, 63, 38, 41, 47, 52 (15marks)

Question No. 4

In the distribution shown in the figure below;



- (a) Change the score “8” to a 2, then recalculate the;
- mode
 - the median
 - the mean
 - which of the measures of central tendency was most affected **(7 marks)**
- (b) Omit figure 8, and calculate ;
- mode
 - median
 - mean. State the effect on these measures. **(8 marks)**

Question No. 5

Observe the following scores obtained by English Students in a class of 50:

84, 80, 68, 87, 86, 70, 79, 90, 67, 80, 82, 62, 87, 85, 86, 86, 61, 86, 91, 78, 70, 86, 85, 88, 70, 79, 75, 89, 73, 86, 72, 68, 82, 89, 81, 69, 77, 81, 77, 83, 72, 96, 89, 84, 78, 88, 78, 78, 82, 76.

Present the scores in grouped frequency tables using;

- class interval width of 5 **(7 marks)**
- class interval width of 3 **(8 marks)**

Question No. 6

- (a) Observe the raw scores: 1, 5, 7, and 3;
- Determine the mean of the score
 - Determine the deviation scores of the distribution.
 - What is the meaning or implication of the deviation score derived from the raw score of 7?
 - What is the value of the deviation scores? **(15 marks)**