



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
University Village, Plot 91, Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja

**Faculty of Education**  
**2023\_2 EXAMINATIONS**

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**COURSE: STATISTICAL METHODS**

**COURSE CODE: EDU 821**

**DURATION: 3 HOURS**

**Introduction: Answer 4 Questions in All. Question1 (Compulsory) and Any Other 3.**

**Question1.**

- (a) (i) List 3 types of statistics.  
(ii) In each sentence explain the role of each type listed in a(i) above.
- (b) Estimate the sum of squares of the following scores:  
12, 9, 10, 20, 25, and 1.
- (c) Use the table below to answer the question that follows:

EDA 821	70	25	56	65	42	10	68	80	50	45
EDU 821	75	40	60	70	88	30	72	60	90	60

Estimate Spearman Rank Order Correlation Coefficient between EDU 821 AND EDA 821 scores.

**Question2.**

- (a) Explain the terms:
- (i) Variance
  - (ii)** Standard deviation
  - (iii) Range
  - (iv)** Mean deviation
- (b) The following scores are the marks scored by students in a biology class: 84, 80, 68, 87, 86, 70, 79, 90, 67, 80, 82, 62, 87, 85, 86, 61, 86, 91, 78, 72, 96, 89, 84, 78, 88, 78, 78, 82, 76, 70, 86, 85, 88, 70, 79, 75, 89, 73, 86, 72, 68, 82, 89, 81, 69, 77, 81, 77, 83. (NOTE that N= 50).  
Missing a class interval of (i) 3, and (ii) 5. Convert the scores to Grouped Frequency Distribution tables.

**Question3.**

(a) Complete the table below, indicating:

- (i) Lower class boundaries
- (ii) Upper class boundaries
- (iii) Midpoint of each class

S/N	Class interval	Lower class boundaries	Upper class boundaries	class Midpoint
1	60-64			
2	55-59			
3	50-54			
4	45-49			
5	40-44			
6	35-39			
7	30-34			
8	25-29			
9	20-24			
10	15-19			

**Question4.**

(a) Observe the following distributions. 3, 5, 9, 1, 9, 2, 0, 3, 9 and a Mystery 10<sup>th</sup> score. If the Mystery score is greater than 5, but less than 9, determine:

- (i) Mode of scores
- (ii) Median Score
- (iii) If the Mean ( $\bar{x}$ ) of the original distribution is 4.8; what is the value of the Mystery Score?

**Question4.**

- (i) Enumerate 4 key steps you would take to draw a frequency distribution table.
- (ii) The mean age and median of ODL students in EDU 821 were 60 and 68 respectively. If the standard deviation is 7.5, what is the coefficient of skewness of the students?

**Question5.**

Observe the Table:

S/N	X	X-Mean	(X-Mean) <sup>2</sup>
1	41		

2	27		
3	19		
4	9		
5	23		
6	31		
7	25		
8	28		
9	15		
10	22		

(a) (i) Determine  $EX$ .

(ii) Calculate the mean.

(b) (i) Complete column  $X - \text{mean}$ .

(ii) Complete column  $(X - \text{mean})^2$ .