



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADESTRAL ZONE, NNAMDI AZIKWE EXPRESS WAY, JABI-ABUJA
FACULTY OF EDUCATION
APRIL 2019_1 EXAMINATION QUESTIONS

COURSE TITLE: STATISTICAL METHODS 1
COURSE CODE: EDU821
CREDIT UNITS: 3 UNITS
TIME ALLOWED: 3 HOURS
INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS

1a. Almost every area of study requires some level of statistics. For instance, research reports in most disciplines are enriched by statistics. Based on the premise above, we can rightly ask the following questions

- (i) What is Statistics? **3 marks**
- (ii) Differentiate between Descriptive and Influential Statistics; **3 marks**
- (iii) Aside reporting research, mention at least THREE areas Statistics is helpful **6 marks**
- (iv) Differentiate between Population and Sample in Statistics **3 marks**

1b. The frequency distribution for the number of minutes per week spent studying Statistical methods by 3300 NOUN postgraduate students are as contained in the table below:

Study Time	30-39	40-49	50-59	60-69	70-79	80-89	90-99
No of Students	140	460	580	760	680	620	60

Using the table, find the following:

- (i) The class size of the distribution **½ mark**
 - (ii) The upper limit of the fifth class **½ mark**
 - (iii) The lower limit of second class **½ mark**
 - (iv) The class mark of the third class **½ mark**
 - (v) The lower class boundary of the fourth class **½ mark**
 - (vi) The upper class boundary of the seventh class **½ mark**
 - (vii) The relative frequency of the first class (approximate to 3 decimal places) **1 mark**
 - (viii) The percentage of students who study Statistical methods for at most 59 minutes. Give your answer correct to the nearest hundredth **2 marks**
 - (ix) The percentage of students who study Statistical methods for at least 1 hour. Give your answer correct to the nearest hundredth **2 marks**
 - (x) The percentage of students who study Statistical methods for less than half an hour. Give your answer correct to two decimal places. **2 marks**
- Total = 10 marks**

(GRAND TOTAL = 15 MARKS + 10 MARKS = 25 MARKS)

2. Calculate (i) the median and (ii) the mode of the following groups of scores, correct to 3 decimal places.

S/N	Class Interval	Frequency
1	25 – 29	12
2	30 – 34	24
3	35 – 39	14
4	40 – 44	12
5	45 – 49	8
6	50 – 54	6
7	55 – 59	2
8	60 – 64	2

GRAND TOTAL = 15 MARKS

Q3. a. i. Define Range

1 ½ marks

ii. Find the range in the following set of scores: 66, 59, 72, 62, 57, 54, 66, 79, 14, 65, 64, 95, 59.

1 ½ marks

Q3b: Using the frequency distribution below, compute the following to 2 decimal places:

i. The First Quartile (Q_1)

5 marks

ii. The Third Quartile (Q_3)

5 marks

iii. Interquartile Range

1 marks

iv. Semi-Interquartile Range

1 marks

GRAND TOTAL = 15 MARKS

Q4: The scores of 10 students in EDU821 test is given as follows : 40, 50, 80, 60, 30, 25, 90, 75, 40, 60.

Using the set of scores above; answer the questions below:

i. Calculate the mean

1½ marks

ii. Calculate the standard deviation

3½ marks

iii. Transform the first 5 of the scores to T-scores

10 marks

GRAND TOTAL = 15 MARKS

Q5

a. Calculate using the assumed mean method, the mean of the distribution below:

Students (X)	61	64	67	70	73
Frequency (f)	5	18	42	27	8

(5 marks)

b. Suppose two (2) Lecturers X and Y rank 10 students during a micro teaching exercise as follows:

Student	A	B	C	D	E	F	G	H	I	J
Rank by Lecturer X	5	3	5	6	8	5	6	2	9	10
Rank by Lecturer Y	4	2	3	8	9	3	7	2	7	10

Compute the Spearman rank correlation coefficient and comment on the extent to which the Lecturers X and Y agree with each other.

(10 marks)