NATIONAL OPEN UNIVERSITY OF NIGERIA

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

Faculty of Education

2021_1

COURSE TITLE: Statistical Method 1.
CODE: EDU 821
CREDIT UNIT: 2
Duration: 3 HOURS

INSTRUCTION: Answer *four* **(4)** Questions. Question one (1) is ***compulsory***; then three (3) others (2-5).

Question 1: (Compulsory)

a) Define the following concepts:

i. Statistics ***(1 Mark)***
ii. Statistical data ***(1 Mark)***
iii. Population ***(1 Mark)***
iv. Sample ***(1 Mark)***
v. Sample Population ***(1 Mark)***

5 Marks

b (i) List three types of statistics you are familiar with. ***(3 Marks)***

(ii) What are the uses of the various types of statistics listed in b(i) above? ***(6 Marks)***

c (i) what is the relationship between:

i. Population and sample? ***(2 Marks)***
ii. Parameter and estimate? ***(2 Marks)***

d. Observe the following array of students' scores in a class test carefully and answer the questions that follow:

10, 2, 4, 7, 1, 3, 4, 2, 8, 4.

(i) What is the value of ∑FX for the scores? **(2 Marks)**
(ii) Calculate the mean score for the class. **(3 Marks)**
(iii) What is the difference between the highest scorer and the rest of the class? ***(2 Marks)***

Total score for question 1 = 25 Marks

Question 2

(a) i. Explain the term statistical variable, with example (s). ***(2 Marks)***

ii. How would you classify variables? ***(2 Marks)***

iii. What major differences exist between the variables named in a(ii) above? ***(5 Marks)***

iv. What are the characteristics of data used in:

i. Parametric statistics?

ii. Non-Parametric statistics

6 Marks

Total = 15 Marks

Question 3

The table below represent the number of applications and number of those admitted into Nigerian Universities between 2010 – 2018. Use the data to answer the following questions:

Year	Number of Application	Number Admitted
2010	1,433,268	279,294
2011	1,575,522	417,341
2012	1,503,933	385,561
2013	1,668,314	571,011
2014	1,632,172	379,793
2015	1,329,876	415,500
2016	1,589,175	602,128
2017	1,736,571	581,114
2018	1,662,762	608,211

(a) Calculate the percentage for each year. ***(9 Marks)***

(b) Use the result of (a) to construct bar graph of admission into the Universities for the 9 years. ***(6 Marks)***

Question 4

(a) Complete the table presented below:

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		
Total			

Each correct entry carries 1 Mark × 9 = 9 Marks

a (i) What is the value of $\bar{x}$ for the scores presented in the table? ***(2 Marks)***
(ii) From the table, what is the value of $\sum x - \bar{x}$? ***(1 Mark)***
(iii) From the table, calculate $\sum(x - \bar{x})^2$. ***(1 Mark)***
(iv) Find (from the table) the value of $\sum x$. ***(1 Mark)***

Each correct entry = ½ Mark

Question 5

The table below shows the frequency distribution of students offering some subjects in SSCE in 2001/2002 session in a secondary school in a Nigerian State:

Subject	**Maths**	**English**	**Physics**	**Chemistry**	**Geography**	**TD**	**Agric**	**Total**
Frequency	180	200	80	50	90	45	60	*1 Mark*
Degree								

i. Complete the table.

ii. Use the result of (i) to construct a pie chart showing the students' distribution in the subjects. **(20 marks)**