NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SCHOOL OF EDUCATION
OCTOBER 2013 EXAMINATION

COURSE CODE: **EDU 821 (3 Units)**
COURSE TITLE: **STATISTICAL METHODS**
TIME: **3 HOURS**

INSTRUCTION: ANSWER QUESTION ONE AND ANY OTHER THREE QUESTIONS.

1. (a)(i) Distinguish between 'Statistics' and 'Statistic'
(ii) Describe THREE types of Statistics (10 marks)

(b) What do the following symbols represent?
(i) Σf (ii) χ^2 (iii) σ (iv) $\surd$ (v) μ (5 marks)

(c) The following frequency distribution for the number of minutes per week spent watching TV by 290 ODL students are as contained in the table below:

Viewing Time	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Number of students	14	46	58	76	68	62	6

Find
(i) The upper limit of the fifth class
(ii) The class mark of the third class
(iii) The class boundaries of the sixth class
(iv) The percentage of students whose weekly viewing does not exceed 60 minutes
(v) The relative frequency of the sixth class
(10 marks)

2. (a) Five hundred and forty different animals were kept in the farm of National Open University of Nigeria in Kaduna as shown in the table below:

Animals	Cow	Dog	Goat	Pig	Rabbit	Turkey	Sheep
Frequency	15	30	90	45	150	108	102

(i) Calculate the percentage composition of each category of each animal. (7 marks)

(ii) Sketch the Pie Chart representation of these animals
(3 marks)

(b) Define each of the following terms:
(i) Mode (ii) Range (iii) Quartiles (iv) Percentiles.
(4 marks)

3. (a) (i) Differentiate between Spearman Rank Order and Point-Biserial Correlation

(ii) Give TWO characteristics of a standard score

(iii) Mention FOUR methods by which Open and Distance learning students' TMA scores could be standardised.

(8 marks)

(b) Calculate the mean of the following set of scores in Educational Statistical Methods for 100 students using Assumed mean method.

Score	61	64	67	70	73
Frequency	5	18	42	27	8

(7 marks)

4. (a) (i) Give full meaning of ANOVA, MANOVA, ANCOVA, MANOVA

(ii) What does each of the following inferential statistics measure? t-test, ANOVA,

ANCOVA, Multiple Regression

(iii) If t-calculated is 0.175 and t-table value is 2.042, what decision would you take on the null hypothesis at 0.05 level of significance.

(8 marks)

(b) (i) What are hypotheses? Explain TWO types of hypothesis.

(ii) Enumerate THREE types of sampling techniques. (7 marks)

5. (a) A box contains 3 white balls and 2 black balls. While the balls drawn are not replaced, what is the probability that the

(i) first ball drawn is black

(ii) second ball drawn is black

(iii) probability that both balls drawn are black (7 marks)

(b) (i) Differentiate between subjective and objective probabilities.

(ii) Explain FIVE features of randomisation in sampling process

(8 marks)