



NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS
SCHOOL OF SCIENCE AND TECHNOLOGY
JUNE/JULY EXAMINATION

COURSE CODE: AEM772

COURSE TITLE: RESEARCH METHODS AND SOCIAL STATISTICS

TIME ALLOWED: 3hrs

INSTRUCTION: ANSWER 5 QUESTIONS ONLY. ALL QUESTIONS CARRY EQUAL MARKS

- 1a. List the basic principles of farming system research (5 marks)
- 1b. Discuss fully any three (3) of the principles mentioned in 1a above (15 marks)
- 2a. What are the criteria to consider in developing a theory (4marks)
- 2b. Highlight the relevance of theory in the conduct of research (10 marks)
- 2c. Explain the following terms (a) Variables (b) indicators (6marks)
- 3a. Define the following terms
 - I. Critical Region
 - II. Type 1 Error (α)
 - III. Type 2 Error (β)
 - IV. Level of significance
 - V. Power of a test (10marks)
- 3b. Differentiate between the Mean, Median and Mode (3marks).
- 3c. Given the following set of data, determine the Mean, Median and Mode.
25, 30, 25, 38, 42, 39, 68, 11, 11, 11, 25, 28, 25, 38, 39, 30, 38, 42, 25, 68, 42.
- 4a. Explain the guidelines to follow when formulating questions in a questionnaire (15 marks).
- 4b. Briefly discuss the objectives of adoptive research (5marks).
- 5a. What are the main features of secondary data sources? (6Marks).
- 5b. Differentiate between private and public sources of data (6Marks).

5c. Fill the black space by putting the correct term for each of the definitions below. (8Marks)

Term	Definition
	Object on which measurement is made
	Collection of elements
	List of sampling units
	Collection of sampling units selected from a frame

6. The data below represent the age of teachers and the number of children they have. Draw a scatter diagram of the information presented and give your conclusion on the relationship.

Age	Number of children
55	6
57	5
25	1
26	3
30	3
60	6
50	5
46	5
40	4
45	4
38	4

7. The data below gives the per capita income (X) of some countries and expenditure on education per student (Y). Predict Y when X = 4000

Countries	Per capita income (N)	Public expenditure per student (N)
1	2520	534
2	4272	922
3	3568	695
4	3944	842
5	2194	476
6	2890	609
7	4421	1237
8	3779	904
9	3051	657