NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
MARCH/APRIL 2016 EXAMINATION
SCHOOL OF AGRICULTURAL SCIENCES

Course Code: AEM501
Course Title: Statistics and research methods in extension
Credit Unit: 3
Time Allowed: 3 Hours
Instruction: Answer any five (5) Questions.

1. (a)What is
     (i)   Research? (4marks)
          (ii)the purpose of research? (2marks)
          (iii)State the characteristics of a research problem.(6marks)
    (b) i. What are the factors that determine the scope in selecting a
    research topic? (2marks)
ii. Enumerate the criteria for good problem statement (2marks)
iii. List the essential steps identified in the research process (8marks).

2. (a) i. Below are the ages of farmers in a selected rural community.
          23 26 26 27 28 28 28 29 29 29 29 30 30 30 31 31 31 31 32 32 32 32
          33 33 33 33 34 34 34 34 35 35 35 35 36 36 36 36.
          Construct frequency and cumulative frequency using the table.
          (15marks)
          ii. Eight farmers were randomly selected for the adoption of improved
          cassava variety in a   locality. The ages of the farmers are stated
          as follow.
          32, 24, 22, 20, 30, 15, 18 and 38.
          Calculate the median age of these farmers and the age range.
          (6marks)

(b) State the rules for constructing a table. (4marks)

3. (a). List the following
     i   Non-probability Sampling Methods.(6marks)
      ii. Tips for Constructing Bar chart (4marks)
iii. Steps in drawing a pie chart. (4marks)

(b) i. Enumerate factors that determine Survey research. (3marks)
       ii. List different categories of survey research.(3marks)
4. (a) List the types of data collection in social research. (5marks)
(b) i. As a researcher, enumerate the points that will guide you in problem identification.(5marks)
     ii. What are the factors that determine the selection of a problem? (10marks)

5.(a) The following ages of farmers were obtained in a farming community: 12, 14, 15, 16, 17, 19, 22, 24, 25, 24, 26, 27, 28, 28, 29, 30, 31, 32, 33, 33, 32, 36, 37, 37, 38, 39, 39, 38, 37, 42, 42, 43, 44, 46, 48, 48, 47, 51, 52, 52, 54, 58, 62, 62, 64, 65, 66, 68.
Find the median age of the farmers.(9marks)
       (b)i. Outline the role of Pre-test in Survey (5marks)
     (ii)State the characteristics of inadequate response (6marks)

6(a) A sample of 100 farmers was taken, 60 of the farmers were female while 40 were male. Their knowledge level was determined to be 70 percent and 80 per cent male and female respectively, calculate the average knowledge of the farmers (10 marks).

 (b) Outline the criteria for stating good hypothesis (5 marks).
(c) State the functions of Hypothesis (5 marks)

7. (a)   Below is a raw data obtained among seven farmers. Calculate the variance using the data in the table (12marks).

x	x^2
9	81
8	64
7	49
6	36
5	25
4	16
3	9
$\Sigma x = 42$	280

(b) Outline guidelines for constructing a good questionnaire (5 marks).
(c)Outline the techniques for dealing with inadequate response (3marks)