NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SCHOOL OF AGRICULTURAL SCIENCES
SEPTEMBER/OCTOBER 2015 EXAMINATION

COURSE CODE: AEM 772
COURSE TITLE: RESEARCH METHOD AND STATISTICS
TIME ALLOWED: 2 HOURS
INSTRUCTION: ANSWER ANY FOUR (4) QUESTIONS

1. (a)i. What do you understand by Research?

   ii. What are the goals of research?

   iii. Outline five significances of theory in research.

   (b)i. List five criteria for selecting a research problem to work on.

   ii. Outline the importance of literature review.

   (c) i. The following are scores obtained by 38 students in a particular course. Using the scores, construct frequency and cumulative frequency tables;

   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

   ii. What is the median for the following set of eight numbers?

   32,24,22,20,30,15,18,38

2. (a)i. Enumerate the functions of a research proposal.
   ii. Outline the components of a research proposal.
   iii. List the sections that make up methodology in research.
   (b) Below is the per capita income of a country in a given period of time and public expenditure on education per student:

Years	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

Obtain the best fitting prediction line using method of least square. Predict Y when X= 4000

3. (a) Enumerate the basic steps in testing hypothesis.
   (b) What is hypothesis?
   (c)i. List the sources of data in a research.
   ii. Outline the various types of research.
   (d) What are the guidelines for selecting and developing a good questionnaire?
4. (a) Outline the qualities of a good enumerator.
   (b) Why is pre-testing of a study instrument an essential part of a research?
   (c) State the advantages and disadvantages of secondary source of data.
5. (a) Write short notes on the following:
   I.   Census
   II.   An element
   III. Population
   IV.   A sampling unit
   V.   A sampling frame
   VI.   A sample
   VII. Sampling.

   (b) Outline the importance of sampling in a study.

6. (a)i. List the two broad or basic sampling techniques and in each case state the types.
   ii. What are the characteristics of non-probability sampling technique?

iii. What are the steps to be used to determine a sample size?
 (b) The following are the scores obtained by two groups of students in a comparative examination. Test whether the two groups belong to the same population.
Group A: 51, 68, 90, 81, 30, 46, 99, 98, 11, 06, 19, 43
Group B: 95, 82, 65, 85, 65, 81, 50, 60, 15, 05, 35, 32