



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**FACULTY OF AGRICULTURAL SCIENCES**  
**DEPARTMENT OF ANIMAL SCIENCE & FISHERIES**  
**EXAMINATION QUESTIONS (January, 2017)**

**COURSE CODE: AGR 305**

**COURSE TITLE: ANALYTICAL TECHNIQUES IN ANIMAL PRODUCTION (2 CREDIT UNIT)**

**INSTRUCTIONS: Answer question one (compulsory) and any other three. Please note that question one carries 25 marks (Total: 70 marks)**

**Time Allowed: 2 Hours**

1. (a) Giving a typical example, highlight five crucial steps necessary to achieve systematic random sampling (10 marks)  
(b) With relevant formulae, explain classical probability and empirical possibility (10 marks)  
(c) State five major characteristics of good measure of central tendency (5 marks)
2. Briefly explain the following concepts in experimental design (15 marks)
  - i. Sample frame
  - ii. Randomization
  - iii. Replication
3. Carefully explain the underlying notion behind the following methods of chemical analysis (15 marks)
  - i. Thermometric data analysis
  - ii. Electrochemical data analysis
  - iii. Gravimetric data analysis
4. (a) There are two main types experimental errors; identify and explain them (10 marks)  
(b) Itemise five sources of determinate error (5marks)
5. (a) Highlight eight major criteria necessary to develop a good sampling plan (8 marks)  
(b) Identify four major methods of determining end point in volumetric analysis (4 marks)  
(c) Outline three merits of stratified random sampling (3 marks)

6. (a) Differentiate between representative sampling technique and probability sampling technique (10 marks)

(b) State five requirements for volumetric treatment of sample (5 marks)