



NATIONAL OPEN UNIVERSITY OF NIGERIA
KM4, Kaduna-Zaria Expressway, Rigachikun, Kaduna
Faculty of Agricultural Sciences (FAS)

Semester POP Exam Question 2021_7836

COURSE TITLE: ANIMAL PRODUCTION RESEARCH TECHNIQUES

COURSE CODE: ANP 513

CREDIT UNIT: 2

TOTAL SCORE: 70

TIME ALLOWED: 2 HOURS

INSRUCTIONS: Answer Compulsory question ONE (30 marks) and any other two questions (20 marks each)

1. (a) Briefly explain five basic elements usually considered in scientific methods of research (13 marks)
 (b) Discuss analysis of variance and the common assumptions made when performing this analysis (7 marks)
 (c) Concisely describe the process of artificial insemination in cattle (10 marks)
2. (a) Carefully describe six procedures of experimentation and provide examples where necessary (15 marks)
 (b) Give five advantages of Completely Randomized Design (5 marks)
3. (a) To reduce experimental error, discuss the three basic principles to apply in the experimental design (15 marks)
 (b) Itemize three advantages and two disadvantages of Artificial Insemination (5 marks)
4. (a) Briefly explain digestibility in animal science (4 marks)
 (b) Discuss *in-vivo* digestibility trials (6 marks)
 (c) List five methods for comparing all possible pairs of means when significant difference exists (5 marks)
 (c) In the Completely Randomized Design analysis table provided below, an observation is missing in treatment B and replicate 3. Calculate the dummy value for it. (5 marks)

	Treatments			
Replicates	A	B	C	D
1	6	7	4	10
2	10	8	5	11
3	21	-	6	12
4	42	21	7	13
5	10	10	8	14