



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF ANIMAL SCIENCE AND FISHERIES
 2020_2 EXAMINATION ...

COURSE CODE: ANP 513

COURSE TITLE: ANIMAL PRODUCTION RESEARCH TECHNIQUE

CREDIT UNIT: 2 CU

TOTAL SCORE: 70 MARKS

TIME ALLOWED: 2 Hours

INSTRUCTIONS: ANSWER QUESTION 1 (25 MARKS) AND ANY OTHER THREE (15 MARKS EACH)

- Q1 a What do you understand by the term Research **1½ marks**
 b In broader perspective, expatiate the scientific methods of research. **17 marks**
 c Describe the forms of a well-planned experiment. **6½ marks**
- Q2 a Explain in detail what do you understand by Completely Randomized Design (CRD)" **2 marks**
 b Enumerate the merit and demerit of CRD. **9 marks**
 c What do you understand by "CRD with some missing data". **4 marks**
- Q3 a Explain randomization in latin square design. **1 mark**
 b Give the advantages and disadvantages of latin square design. **7 marks**
 c State the methods for comparing all possible pairs of means when significant difference exists. **7 marks**
- Q4 a What do you understand by Artificial Insemination (AI). **2 marks**
 b Enumerate the merits and demerits of AI. **7 marks**
 c Give six (6) signs of Heat. **6 marks**
- Q5 Briefly explain the following:
 i Radioscopy **5 marks**
 ii Calorimetry **5 marks**
 iii Spectrometry **5 marks**

6 If an animal scientist sets out to investigate the effect of four plant protein sources on the weight gain of broiler chicken reared in a housing system located on a slope for eight weeks and obtained the data below. Test whether the treatment (plant produce sources) and sloping of the house significantly affected the weight of the birds.

A ₄₀	D ₆₂	B ₅₂	C ₄₈
C ₅₁	B ₅₉	A ₅₆	D ₅₈
D ₆₀	C ₆₁	B ₅₅	A ₄₉
B ₅₀	A ₄₉	D ₆₀	C ₅₃

- i Provide the analysis of variance (ANOVA) Table
- ii Write in two sentences the inference(s). (15marks)