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UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME: BACHELOR OF SCIENCE IN AGRICULTURE APH
OPTION YEAR IV

COURSE CODE: APH 407

TITLE OF PAPER: RESEARCH METHODS IN ANIMAL PRODUCTION

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY FOUR (4) QUESTIONS

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THE CHIEF INVIGILATOR.**

QUESTION 1

a. Give an account of the four (4) principles used to minimize sources of error in carrying out quantitative research in animal production in order to provide results that are credible and indicate for each principle how sources of error could be minimized.   15 Marks

b. Explain how the sample size is arrived at in planning for a research project in animal production.   10 Marks

QUESTION 2

Describe how Change-Over Designs are used to carry out research in animal production and indicate the advantages and disadvantages of these designs and how the disadvantages can be solved.   25 Marks

QUESTION 3

a. Give an account of the circumstances that would lead to the use of a factorial experiment.   15 Marks

b. Describe the precautions to be taken into account when carrying out research under the following circumstances: 10 Marks

        i.   Groups of animals in pens
        ii.   Grazing trials
        iii.   Repeated measures
        iv.   Weighing ruminants
        v.   Missing plots

QUESTION 4

a. Describe the three (3) methods used in Data collection and indicate the advantaged and disadvantages of each method.   15 Marks

b. Give an account of the sources of error in Data collection and how these errors could be minimized.   10 Marks

QUESTION 5

Explain what is involved in the description of Data and then give an account of the graphical and numerical methods of describing Data collected from a quantitative research in animal production.   25 Marks

QUESTION 6

Describe how the analysis of Data using the Analysis of Variance is carried out from the following experimental designs.

a.	Completely Randomized Design	5 Marks
b.	Completely Randomized Block Design	10 Marks
c.	Factorial designs	10 Marks