UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAMME: B.SC. IN ANIMAL SCIENCE YEAR III

COURSE CODE: APH 307

TITLE OF PAPER: RESEARCH METHODS IN ANIMAL PRODUCTION

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER QUESTION FIVE (5) AND ANY OTHER THREE (3) QUESTIONS

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QUESTION 1

Discuss the advantages and disadvantages of randomized complete design in animal science experiments. (25 points)

QUESTION 2

Discuss the steps which you would consider in conducting a survey under "cattle-range management practices and perception of communal cattle owners towards their environment". (25 points)

QUESTION 3

Write short notes on

a) personal interview (5 points)
b) sources of research problems (10 points)
c) randomization (5 points)
d) simple random sampling (5 points)

QUESTION 4

Describe the eight characteristics that a good research should take into account. (25 points)

QUESTION 5

A study was conducted to determine the effect of three feed treatments on the live weight gain of goats. The goats were selected to be of similar, body weight and sex. The average daily body weight gain recorded for six months under each treatment is indicated below.

Treatments			
T (Control)	T1	T2	T3
0.2	0.4	0.24	0.06
0.2	0.5	0.1	0.07
0.05	0.6	0.29	0.03
0.3	0.2	0.18	0.02

Data analysis for the above data shows the following results.

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	4	0.75		0.010625
Column 2	4	1.7		0.029167
Column 3	4	0.81		0.006692
Column 4	4	0.18		0.000567

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups			0.09855	8.378321	0.002838	3.4903
Within Groups			0.011763			
Total						

Based on the above data and analysis answer the following questions

A) Describe the analysis of variation which is used in the analysis of the data. (6 points)

B) Compute
- -treatment means (3 points)
- -sum of squares between treatments (3points)
- -sum of square within treatments (3 points)
- -degrees of freedom (3 points)

C) Explain briefly the results of the analysis (7 points)