



1ST SEM. 2007/2008

PAGE 1 OF 3

UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER

PROGRAMME: BSC. IN AGRICULTURAL EDUCATION YEAR III

COURSE CODE: AEE 301

**TITLE OF PAPER: EDUCATIONAL RESEARCH, INSTRUMENTATION
AND DATA ANALYSIS**

TIME ALLOWED: TWO (2) HOURS

INSTRUCTION: ANSWER ALL QUESTIONS

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BY THE CHIEF INVIGILATOR**

QUESTION 1

a. Distinguish Research method/type and Research design/strategy, with example for each, in relation to educational research.

[6 marks]

b. Explain the three kinds of variance that must be controlled in experimental design for answers to research questions to be valid.

[9 marks]

c. Reason in favour of using more than one outcome measure or criterion than single measure or criterion.

[4 marks]

d. Differentiate Matching and Blocking in an experiment, with example for each.

[6 marks]

[Total: 25 marks]

QUESTION 2

Describe in detail how each of the following testing procedures is conducted prior to doing a survey research:

- a. Construct validity testing
- b. Content validity testing
- c. Face validity
- d. Field testing
- e. Pilot testing

[25 marks]

QUESTION 3

a. Illustrate an example of each of these types of attitude scales, with at least three items for each:

- i. Likert-type or summated rating scale
- ii. Thurstone or equal-appearing interval scale
- iii. Guttman or cumulative scale
- iv. Semantic differential

[16 marks]

b. Contrast the following terminologies, in relation to theory building:

- i. Functional Approach
- ii. Model
- iii. Deduction
- iv. Induction

[8 marks]

c. What is a sampling frame?

[1 mark]

[Total: 25 marks]

QUESTION 4

a. Define the following statistical measures, with example for each:

- a. Measure of central tendency
- b. Measure of variability
- c. Measure of correlation
- d. Measure of difference between two groups
- e. Measure of difference in more than two groups

[15 marks]

b. State a research question and illustrate the outcome of that research question using a named type of a chart.

[5 marks]

c. State an objective and illustrate outcome of that objective using a named type of a graph.

[5 marks]

[Total: 25 marks]