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**UNIVERSITY OF SWAZILAND  
MAIN 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. List and discuss briefly three aims of research.

[9 marks]

b. Write a method/type of research and a research design under it. Then, list two internal and two external threats to validity for this method/type and design, with explanation for each.

[16 marks]

[Total marks: 25]

**QUESTION 2**

a. Contrast the following pairs of terminologies:

- i. Reactive versus Non-reactive measure
- ii. Single outcomes versus Multiple outcomes measure
- iii. Validity testing versus Reliability testing
- iv. Field testing versus Pilot testing
- v. Focus group discussion versus Nominal group discussion
- vi. Inductive hypothesis versus Deductive hypothesis

[24 marks]

b. Define the term “dependent variable”

[1 mark]

[Total marks: 25]

**QUESTION 3**

a. Explain the MAXMINCON Principle to ensure validity of research designs.

[9 marks]

c. Write an example of how to list reference of a journal article and an online document.

[6 marks]

d. Describe briefly five types of survey instruments.

[10 marks]

[Total: 25 marks]

**QUESTION 4**

a. State an example of a variable in each of the scale of measure:

- i. Ratio -
- ii. Interval -
- iii. Ordinal -
- iv. Nominal -

[8 marks]

b. Differentiate the purpose of using the following statistical methods:

- i. Mean as opposed Median and Mode
- ii. Standard deviation as opposed Range
- iii. Simple correlation as opposed T-test and F-test

[16 marks]

c. What does coding a variable mean?

[1 mark]

[Total marks: 25]