



2nd SEM. 2013/2014

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**UNIVERSITY OF SWAZILAND
SUPPLEMENTARY EXAMINATION PAPER**

PROGRAMME : AGRICULTURAL EDUCATION YEAR 3

COURSE CODE : AEE 301

TITLE OF PAPER : EDUCATIONAL RESEARCH METHODS

TIME ALLOWED : TWO (2) HOURS

INSTRUCTION : ANSWER ALL (4) QUESTIONS

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INVIGILATOR**

QUESTION 1

Define the following terms as they are used in educational research & statistics:

- a. Ordinal scale
- b. Triangulation
- c. Alpha level
- d. Directional hypothesis
- e. Type I Error
- f. Type II Error
- g. Field testing
- h. Quantitative Analysis
- i. Reliability
- j. Qualitative Analysis
- k. Reliability co-efficient
- l. Ethical consideration
- m. Ex post facto
- n. Independent variable
- o. Rival variable
- p. Construct validity
- q. Face validity
- r. Descriptive Statistics
- s. Conceptual framework
- t. Theoretical framework
- u. Mean
- v. Standard deviation
- w. Pilot testing
- x. Correlation
- y. ANOVA
- z. Content validity (1 point each)

(25 MARKS)

QUESTION 2

Given,

$$\text{Mean (M)} = 6.37$$

$$\text{Variance (S}^2\text{)} = 65.8$$

$$N = 30.0$$

- i. Calculate the reliability co-efficient using K-R21 formula:

$$r = \frac{[n \sum x^2] - \mu^2(n-1)}{\sum x^2(n-1)}$$

Show all your step by step calculation (15 Marks)

- ii. What is your interpretation of the reliability co-efficient you obtained in i.? (5 Marks)
- iii. Explain why researchers report reliability in Educational research (5 Marks)

(25 MARKS)

QUESTION 3

Identify and discuss the major elements that constitute Chapter 1 of a research proposal in Agricultural Educational (2.5 Marks each)

(25 MARKS)

QUESTION 4

Jabulane Dube conducted a study on the effect of Teaching Method A and Teaching Method B on students' academic performance in the Department of Excellence. The students demographic characteristics included: male and female, age, family occupation, level of education and employment. Given this information,

- i. Identify the Dependent variable,
- ii. Identify the Independent variable and
- iii. Rival variables. In each case, justify your designating each of the three variables.

(25 MARKS)

QUESTION 1

- (a) List seven (7) principles of learning and give one (1) practice to follow for each one of them. (14)
- (b) List characteristics of the various levels of cognition. (11)

[Total 25 Marks]

QUESTION 2

Present in a diagram form a lesson plan/teaching process to show the different elements involved. [25 Marks]

QUESTION 3

- (a) Describe six (6) suggestions for preparing good multiple-choice test items. (12)
- (b) Discuss the similarities and differences between essay and objective tests. (13)

[Total 25 Marks]

QUESTION 4

- (a) Compare and contrast the essential phases of the problem-solving and those of the learning process. (12)
- (b) Make a comparison of Bloom's Taxonomy and the NewComb – Treftz Model of educational objectives. (10)
- (c) Explain Bloom's classification of educational objectives. (2)