



UNIVERSITY OF SWAZILAND
FINAL EXAMINATION PAPER

PROGRAMME; BSc. AGRICULTURAL AND BIOSYSTEMS ENGINEERING YR 3

COURSE CODE: ABE307

TITLE OF PAPER: RESEARCH METHODS

TIME ALLOWED: TWO (2) HOURS

SPECIAL MATERIAL REQUIRED: NONE

INSTRUCTIONS: ANSWER QUESTION ONE AND ANY TWO OTHER
QUESTIONS

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CHIEF INVIGILATOR

QUESTION 1: COMPULSORY QUESTION

(a) Below are grades of two different groups from a test that was conducted in March 2017.

Group A. 78, 79, 83, 83, 83, 86, 87, 88, 89, 98, 99

Group B. 35, 37, 46, 47, 47, 48, 54, 56, 67, 75, 76

- (i) Determine the range for each group. (6 marks)
 - (ii) Determine the mode for each group. (5 marks)
 - (iii) Determine the median for each group. (5 marks)
 - (iv) Determine the mean for each group. (6 marks)
- b) Discuss four aspects that should be included in literature review. (8 marks)
- c) Discuss the conditions under which focus group discussion can be used to collect research data. (10 marks)

Total = 40 marks

QUESTION 2

- a) Discuss the difference between systematic random sampling and cluster random sampling, indicating conditions under which each of the sampling methods can be used. (15 marks)
- b) Discuss five factors to be considered when designing a survey research. (15 marks)

Total = 30 marks

QUESTION 3

- a) Discuss the difference between simple random sampling and stratified random sampling, indicating conditions under which each of the sampling methods can be used. (15 marks)
- b) Using examples, discuss the difference between directional hypothesis and non-directional hypothesis. (15 marks)

Total = 30 marks

QUESTION 4

- a) Discuss the difference between Pretest-Posttest Control-group design and Posttest-Only Control group design. (15 marks)
- b) Discuss five research practices that should be avoided on the basis of research ethics. (15 marks)

Total = 30 marks