



**UNIVERSITY OF SWAZILAND**

**2<sup>st</sup> SEM. 2013/2014**

**FINAL EXAMINATION PAPER**

**PROGRAMMES:** B.Sc. ANIMAL SCIENCE YEAR 3

B.Sc. ANIMAL SCIENCE (DAIRY OPTION) YEAR 3

**COURSE CODE:** AS 308

**TITLE OF PAPER:** RESEARCH METHODS

**TIME ALLOWED:** TWO (2) HOURS

**INSTRUCTIONS:** ANSWER ANY FOUR QUESTIONS

THIS EXAM QUESTION PAPER HAS TWO PAGES EXCLUDING THIS COVER PAGE

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THE CHIEF INVIGILATOR**

**Question 1**

- a) List in sequential order and then briefly explain each of the **five** key characteristics of a research activity. **10 marks**
- b) List and briefly explain **five** reasons for carrying out research. **15 marks**

**Question 2**

- i) Discuss the scientific method making sure to include the objective or logic behind the method as well as giving a brief description of the **five** key steps. **15 marks**
- ii) Separately discuss basic and applied research under the following headings **10 marks**
  - Definition
  - Examples (Two for each)

**Question 3**

- a) What are the **five** characteristics of a good research problem statement? **10 marks**
- b) Discuss the following
  - Purposive sampling **6 marks**
  - Observational research **4 marks**
  - Interaction **5 marks**

**Question 4**

Read the boxed in paragraph (extracted from a newspaper report) and come up with the following:

- i) A research topic **4 marks**
- ii) A research problem statement **4 marks**
- iii) A general objective **4 marks**
- iv) A Specific objective **4 marks**
- v) Significance of the proposed research **3 marks**
- vi) Null hypothesis **3 marks**
- vii) Research hypothesis **3 marks**

The expansion of sugarcane fields has reduced grazing land in the sugarcane belt of Swaziland. The remaining grazing land which is mostly thornveld with Acacia and other tree species has low carrying capacity. Though livestock rearing especially cattle rearing has remained an important activity for sugarcane farmers, productivity has been going down due to inadequate grazing. For a sustainable crop-livestock farming system there is a need to integrate sugarcane farming with animal farming. Sugarcane tops and molasses are cheap, locally available animal fed resources. Tops from commercial cane are currently being ploughed back into the soil. Generally sugarcane tops are regarded as a reject of no commercial value. Some farmers are of the opinion that feeding of cane tops and molasses could benefit their breeding cows which normally lose weight during the dry season. Unfortunately they do not have any information to substantiate their claims. They are all too willing to provide 40 dry cows (none lactating cows) and all the cane tops required to carry out an investigation to see if supplementing dry cows during the dry season would stop or at least reduce weight loss.

**Question 5**

- a) More often than not, researchers work with samples and not populations. Explain why this should be the case.
- b) Discuss sampling bias.

**18 marks**

**7 marks**