



“Investing in Africa’s future”

COLLEGE OF HEALTH AGRICULTURE & NATURAL SCIENCES

NAEC202: AGRICULTURAL EDUCATION AND EXTENSION

END OF SECOND SEMESTER FINAL EXAMINATIONS

APRIL 2023

LECTURER: DR. K. MUKUMBI

DURATION: 3 HOURS

INSTRUCTIONS

Answer all Questions

QUESTION 1

- a) You work for the government extension department in your home country. You have been asked to prepare a job advertisement for an Extension Officer. Your response should include:
- i. A list of 5 responsibilities (5 marks)
 - ii. List and description of 5 skills required (5 marks)
 - iii. List of 5 personal qualities required (5 marks)
 - iv. List and describe 5 Areas of knowledge required (10 marks)

QUESTION 2

Over the past half a century developing regions, with the exception of Sub-Saharan Africa, have seen labor-saving technologies adopted at unprecedented levels. Sub-Saharan Africa continues to have very low levels of mechanization and available data indicate declining rather increasing levels of adoption, even among the countries that were the early trendsetters, such as Kenya and Zimbabwe.

- i. What could be causing the low and declining levels of mechanization in Sub-Saharan Africa? (10 marks)
- ii. As an extension agent, how would you apply knowledge of the diffusion of innovation theory in promoting mechanization to farmers? (15 marks)

QUESTION 3

Read the passage below and answer the questions that follow

The word *hermetic* means; 'of complete and airtight seal'. Therefore, Hermetic Storage refers to an airtight storage unit. Hermetic storage is a type of storage technology that protects its contents from the outside atmosphere and microorganisms that may prove harmful to the stored contents. There are different kinds of hermetic storage and these include jars, barrels, and bags or sacs. Perhaps, the most important thing to know about hermetic storage is that it is airtight and works by restricting organisms such as insects and microorganisms that can damage stored commodities from thriving in its internal atmosphere by keeping its oxygen levels low. Other benefits include the reduction of grain spoilage and grain loss as hermetic storage has the ability to store and prevent atmospheric moisture from interacting with its contents for up to two years.

Hermetic storage also prevents the reabsorption of moisture from the atmosphere. Re-absorption of moisture can deteriorate stored grains as it encourages mold growth which can lead to aflatoxin contamination. Hermetic storage is also flood proof.

Additionally, hermetic storage also allows for the organic treatment of stored contents. This is done by the use of carbon dioxide to naturally flush out insects in egg larva, pupa, and adult stages, instead of using harmful chemicals. This helps

to address the issue of health and safety challenges associated with the use of pesticides on stored grains and cereals.

You work as a sales representative for a company that manufactures hermetic storage bags. You have been asked to prepare a communication strategy for promoting adoption of hermetic storage bags. Your communication strategy should include responses to the following questions:

- a) What types of stakeholders should be involved? (5)
- b) What is the desired change in behavior? (5)
- c) What messages would be appropriate? (5)
- d) What methods and media of communication would be most effective? Justify your response. (5)
- e) How will the communication process be monitored and evaluated? (5)

QUESTION 4

A solar product company has developed a solar drier that can be used to produce dried fruits, vegetables and meats. This can help to reduce the amount of food waste and offer an alternative source for farmers who do not have cold storage facilities to store fresh agricultural produce.

- a) Describe the 5 factors or characteristics of the solar drier that could affect adoption of the solar driers by farmers? (15 marks)
- b) i. What is the diffusion of innovations theory? (2 marks)
ii. How is the diffusion of innovations theory applied to agricultural extension? (2 marks)
iii. List the 5 categories of adopters? (3 marks)
iv. As an extension agent, how would you apply knowledge on the 5 categories of adopters in promoting solar driers to farmers? (3 marks)

End of Examination Paper