

The Co-operative University of Kenya
END OF SEMESTER EXAMINATION AUGUST-2018

EXAMINATION FOR THE DIPLOMA IN AGRIBUSINESS MANAGEMENT
(YR II SEM I)

UNIT CODE: DAFS 2112

UNIT TITLE: POST HARVEST TECHNOLOGY

DATE: 27TH AUGUST, 2018

TIME: 9:00 AM – 11:00 AM

INSTRUCTIONS:

- Answer question **ONE (compulsory)** and any other **TWO** questions

QUESTION ONE

- (a) After harvesting, most crop produce, undergoes some handling before getting to the consumers table. State **THREE** objectives achieved by these processes (3 marks)
- (b) Explain **TWO** such processes of each of these groups of produce (8 marks)
 - i. Cereals and grains in general
 - ii. Roots and tubers
 - iii. Fruits and fruit vegetable
 - iv. Leafy vegetables
- (c) Name **TWO** handling processes common to all the groups of produce referred to in (b) above (2 marks)
- (d) Explain what you understand by the terms:-
 - i. Quality standards
 - ii. Cull utilization
- (e) Pack houses are sometimes used for processing some types of fresh farm products and for some amount of storage of the products especially horticultural before they are sold to the market
 - i. Identify and list **THREE** operations the produce undergoes in such a facility (3 marks)
 - ii. At which **TWO** key stages do the products undergo some amount of storing in such pack houses even if for a just a short period (2 marks)
- (f) State and explain **FIVE** things in post-harvest handling to fresh fruits and vegetables that are key to maintaining the quality of such products (5 marks)
- (g) List **THREE** types of post-harvest pests commonly found in stored grains (3 marks)
- (h) Identify any **TWO** methods to be used in control of the identified pest in (g) (4 marks)

QUESTION TWO

- (a) Explain stepwise the Harvest and postharvest practices involved in processing of maize grown to be used sold to consumers after months storage at a community warehouse (15 marks)
- (b) From among the processes explained in (a), identify **THREE** that are common for maize, sorghum, rice, wheat, barley and groundnuts (3 marks)
- (c) Explain what aflatoxin is give on means to control it (2 marks)

QUESTION THREE

- (a) French beans are among the key export vegetables from Kenya to several countries in Europe and have continued to gain popularity in the European market

Discuss the postharvest handling processes the product undergoes, starting from the harvesting technique for this export crop till departure at the airport for freighting to the contracted consumer destination. Also mention the peak production timing in the year for the harvest explaining the reasons behind this timing. Also state TWO postharvest diseases the product may be affected with and control measures to be applied against the diseases (20 marks)

QUESTION FOUR

Fruit vegetables such as tomatoes and cucumber very easily deteriorate if care is not taken to apply appropriate measures for them to reach the consumer in a desired quality state

- (a) For a selected variety of tomatoes, explain the best handling practices this product starting from harvest time at a farm in central Kenya will reach a grocery shop within the Nairobi city estates. Consider factors like harvesting state and conditions, means of transportation and time involved and packaging/storage conditions along the post-harvest chain (15 marks)
- (b) State any FIVE important points in the post-harvest handling of cucumbers required to maintain its desired quality for selling fresh at a grocery up to five days since harvest (5 marks)

QUESTION FIVE

While packaging products both for sale and for temporary storage before sale or consumption, various packaging materials are used for different products

- (a) State some FIVE qualities in general of good packaging materials then give example of such material (5 marks)
- (b) For fresh export produce especially horticultural, what information should the label contain state some FIVE of these pieces of information (5 marks)
- (c) Discuss how you would transport products with consideration of choice of mode/means, vehicle type and time involved for the commodity in reaching the consumer in a desirable state. Consider these aspects for the two situations below
- i. Product like cereals that are dried and have been ordered to reach the North Eastern part of the country for pastoralist communities who are facing food shortage (5 marks)
 - ii. Highly perishable horticultural product that are being either imported or exported and need to reach the consumer in the best quality for utilization in the fresh state (5 marks)