

LAIKIPIA



UNIVERSITY

UNIVERSITY EXAMINATIONS

2ND SEMESTER 2022/2023 ACADEMIC YEAR

THIRD YEAR EXAMINATION FOR THE DEGREE
OF BACHELOR SCIENCE IN AGRICULTURAL
ECONOMICS

AGEC 343: FARM MANAGEMENT (PRINCIPLES)

STREAM: AGED

TIME: 2 HRS

DAY: MONDAY [14.30-16.30 P.M]

DATE: 17/04/2023

THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.



INSTRUCTIONS

- (i) Answer question one and any other two questions
- (ii) Do not write on the question paper

QUESTION ONE (30 MARKS)

- a) Explain the role of management in the growth of agricultural enterprises. (5 marks)
- b) Discuss TWO advantages of using farm management census method of obtaining farm management data as opposed to other methods. (4 marks)
- c) State four ways in which rotation programme can help to improve farm production. (4 marks)
- d) Discuss how the principle of equimarginal returns helps the farm manager utilize limited resources. (4 marks)
- e) Explain THREE circumstances in which farm manager should prepare a partial budget rather than complete budget (6 marks)
- f) Explain FOUR factors to consider when planning a farm layout

QUESTION TWO (20 MARKS)

- a) Elaborate on the view that ‘the management of risks and uncertainties is the major determinant of success in agricultural enterprises’ (10 marks)
- b) Outline the steps involved in gross margin planning technique. (10 marks)

QUESTION THREE (20 MARKS)

- a) A farmer has 10 acres to plant in beans and maize. He has to plant at least 7 acres. However, he has only KES 1200 to spend and each acre of beans costs KES 200 to plant and each acre of maize costs KES 100 to plant. Moreover, the farmer has to get the planting done in 12 hours and it takes an hour to plant an acre of beans and 2 hours to plant an acre of maize. If the profit is KES 500 per acre of beans and KES 300 per acre of maize, Required:
 - i) Set up a linear programming problem for the farmer. (6 marks)



- ii) Draw the figure showing the region of feasible solutions, which satisfies all the feasible constraints. (4 marks)
- b) Citing relevant examples, examine how government policy changes have affected the management of agricultural enterprises in Kenya. (10 marks)

QUESTION FOUR (20 MARKS)

- a) When the law of diminishing returns is operative, production is carried out as long as the added return is greater than or equal to the added cost. Explain this statement using the following table of maize yield responses to varying amounts of fertilizers. (10 marks)

Table 1. Maize yield responses to varying amounts of fertilizer

Input X	Output Y
0	0
1	10
2	23
3	38
4	54
5	70
6	85
7	99
8	110
9	117
10	120
11	118

N/B The price of input (X) is KES 5 and Price of output (Y) is KES 2

- b) Discuss FIVE performance indicators that can be used in the analysis of farm enterprises. (10 Marks)



QUESTION FIVE (20 MARKS)

- a) Giving relevant examples, explain FIVE information which is needed for the purpose of programme planning **(10 marks)**
- b) A farmer has 10 acres of land on which he grows 2 acres of maize and beans (maize in first rains and beans in the 2nd rains), 2 acres of potatoes and keeps 2 milking cows. He has now established that 4 acres are adequate for his two cows and he wishes to use the 2 acres remaining for growing potatoes. Potatoes will require 70 man-days of labour per acre which is available on casual bases at a wage rate of Shs. 25 per MD. In addition, 2 bags of fertilizer per acre at the cost of 850 per bag will be necessary. Seed costs for potatoes will be 600 per acre. No change in fixed costs is expected. Potatoes are expected to yield 60 bags per acre selling at Shs. 200 per bag. Double cropping is the normal practice for potatoes in this area.

Required:

Prepare a partial budget and advise the farmer on proposed change **(10 marks)**

