



MACHAKOS UNIVERSITY

University Examinations for 2024/2025 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF EDUCATION (SPECIAL NEEDS)

AGR400: PASTURE AND FODDER PRODUCTION AND MANAGEMENT

DATE:

TIME:

INSTRUCTION: Answer Question **One** And any Other **Two** Questions.

QUESTION ONE (30 MARKS)

- a) Distinguish between the following terms as used in pasture and fodder production
 - i. Strip and spot sowing (2 marks)
 - ii. Silverleaf and Greenleaf desmodium (2 marks)
- b) Explain three seed attributes a farmer may take into account when planting calliandra for fodder production (3 marks)
- c) Explain four strengths of ryegrass as a livestock feed (2 marks)
- d) Explain three reasons why a farmer may be advised to plant vetch (3 marks)
- e) With one example each, explain two ways of managing toxins in pastures and fodder (3 marks)
- f) i) Explain two reasons why seed treatment is carried out in pasture and fodder production (2 marks)
ii) Describe three methods of seed treatment in fodder legume production

- (3 marks)
- g) Explain two factors farmers consider when determining the rate of seeds in establishing Nandi setaria (2 marks)
- h) Describe the utilization of barley as a fodder (3 marks)
- i) With an example in each case, describe two methods used by farmers in harvesting fodder trees and shrubs (5 marks)

QUESTION TWO (20 MARKS)

- a) Describe the production of lablab under the following headings:
- i. Ecological factors (3 marks)
 - ii. Toxicities (3 marks)
 - iii. Utilization (4 marks)
- b) With an example in each case, discuss five management strategies a farmer may use in managing pests and diseases in Leucaena production (10 marks)

QUESTION THREE (20 MARKS)

- a) Describe the production of Boma grass under the following headings:
- i. Planting (2 marks)
 - ii. Weeding (2 marks)
 - iii. Harvesting (2 marks)
 - iv. Limitations (2marks)
- b) Describe the production of the lucerne under the following headings:
- i. Establishment (4 marks)
 - ii. Ecological conditions (3 marks)
 - iii. Weeding (3 marks)
 - iv. Strengths (2 marks)

QUESTION FOUR (20 MARKS)

- a) With an explanation in each case, recommend seven practices farmers may adopt to realize high productivity in pasture production and management (14 marks)

- b) Illustrate with diagrams in each case, two methods of propagating Elephant grass
(6 marks)

QUESTION FIVE (20 MARKS)

- a) Describe production of Kenya white clover under the following headings:
- i. Limitations (3 marks)
 - ii. Companion crops (2 marks)
 - iii. Defoliation (2 marks)
 - iv. Climatic conditions (2 marks)
 - v. Establishment (3 marks)
- b) Explain four reasons why farmers are advised not to directly graze desmodium
(4 marks)
- c) Explain four management strategies of minimizing losses incurred in the preservation of feeds as silage and hay
(4 marks)