



MACHAKOS UNIVERSITY

University Examinations for 2024/2025 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF EDUCATION (SPECIAL NEEDS)

AGR308: ANNUAL CROP PRODUCTION

DATE:

TIME:

INSTRUCTION: Answer Question One and any Other Two Questions.

QUESTION ONE (30 MARKS)

- a) Explain three economic importance of fall armyworm to maize farmers in Kenya
(3 marks)
- b) With a specific crop example, distinguish between greening and chitting in annual crop production
(3 marks)
- c) Giving an example of crop infected, describe one symptom of the following infestations
 - i) Web blight (2 marks)
 - ii) Mealybugs (2 marks)
- d) Explain two uses of each of the following annual crops
 - i) Yams (2 marks)
 - ii) Sorghum (2 marks)
 - iii) Barley (2 marks)
- e) Explain four solutions to challenges farmers face in groundnut production
(4 marks)

- f) Giving a specific crop example in each, explain how the following factors affect annual crop production
- i) Altitude (2 marks)
 - ii) Rainfall (2 marks)
 - iii) Soil pH (2 marks)
- g) Explain four benefits of pigeon peas to farmers (4 marks)

QUESTION TWO (20 MARKS)

- a) Describe the production of beans under the given headings:
- i) Temperature requirements (2 marks)
 - ii) Utilization (3 marks)
 - iii) Halo blight damage (2 marks)
 - iv) Beanfly damage (1 marks)
 - v) Seed inoculation (2 marks)
- b) Explain five strategies farmers may be advised to use in the management of pests in Irish potatoes farming (10 marks)

QUESTION THREE (20 MARKS)

- a) Explain the production of sweet potatoes under the following headings:
- i) Climatic conditions (2 marks)
 - ii) Planting (3 marks)
 - iii) Sweet potato weevil damage (3 marks)
 - iv) Post-harvest practices (2 marks)
- b) Describe the production of maize under the following headings:
- i) Ecological requirements (4 marks)
 - ii) Maize weevil damage (2 marks)
 - iii) Rust symptoms (2 marks)
 - iv) Lodging (2 marks)

QUESTION FOUR (20 MARKS)

- a) Explain five management practices farmers may adopt to improve sunflower production in Kenya (10 marks)
- b) Discuss five roles of annual crop production towards achieving the Kenya Vision 2030 (10 marks)

QUESTION FIVE (20 MARKS)

- a) Describe rice production under the following headings:
 - i) Ecological requirements (4 marks)
 - ii) Water Management (3 marks)
 - iii) Land leveling benefits (3 marks)
 - iv) Rice blast symptoms (2 mark)
- b) Describe the production of tobacco under the following headings:
 - i) Topping (3 marks)
 - ii) Harvesting (2 marks)
 - iii) Curing (3 marks)