



MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF AGRICULTURAL SCIENCES

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SPECIAL NEEDS EDUCATION)

BACHELOR OF EDUCATION (SCIENCE)

AGR 308: ANNUAL CROPS PRODUCTION

DATE: 29/8/2022

TIME: 8.30-10.30 AM

INSTRUCTIONS

Answer *ALL* questions from Section A and any other *TWO* from Section B:

SECTION A: COMPULSORY

QUESTION ONE (30 MARKS)

- a) Explain two uses for each of the following annual crops
- i. Sunflower (2 marks)
 - ii. Finger millet (2 marks)
 - iii. Linseed (2 marks)
 - iv. Cassava (2 marks)
- b) Giving a specific crop example in each, explain how the following factors affect annual crops
- i. Temperature (2 marks)
 - ii. Rainfall (2 marks)
 - iii. Soil (2 marks)
- c) Giving specific crop example in each case, explain two reasons for the following practices in annual crops (4 marks)
- i. Training
 - ii. Hardening off

- d) With an example in each case, explain three reasons why classification of crops is important to researchers (3 marks)
- e) Explain why yam is categorized as an annual crop (1 mark)
- f) Giving an example of crop infected, describe two symptoms of the following infestations in annual crops
- i. Maruca pod borer (2 marks)
 - ii. Web blight (2 marks)
 - iii. Verticilium wilt (2 marks)
 - iv. Two spotted spider mite (2 marks)

SECTION B: Answer any TWO questions (40 Marks)

QUESTION TWO (20 MARKS)

- a) Explain the production of green grams under the given sub headings: (10 marks)
- i. Ecological conditions
 - ii. Anthracnose symptoms
 - iii. Planting
 - iv. Weeding
 - v. Harvesting
- b) Explain five measures used in management of pests in ground nuts production (10 marks)

QUESTION THREE (20 MARKS)

- a) Explain the production of maize under the following headings (10 marks)
- i. Ecological conditions
 - ii. Planting
 - iii. Selection of maize varieties
 - iv. Fertilization
 - v. Harvesting
- a) Describe the production of cotton under the following headings (10 marks)
- i. Ecological requirements
 - ii. Cotton strainer symptoms
 - iii. Cercospora leaf spot damage
 - iv. Water management and irrigation
 - v. Harvesting

QUESTION FOUR (20 MARKS)

- a) With the aid of illustrations, describe the planting of sweet potatoes (6 marks)
- b) Discuss the economic role of annual crop production in Kenya towards achieving Vision 2030 (14 marks)

QUESTION FIVE (20 MARKS)

- a) Describe planting of rice under the following headings
- i. Ecological requirements (4 marks)
 - ii. Water Management (4 marks)
 - iii. Nutrient management (3 marks)
 - iv. Rice blast damage (3 marks)
- b) Describe tobacco production under the following headings
- i. Blue mold fungus damage (3 marks)
 - ii. Curing (3 marks)