



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (AGRICULTURAL EDUCATION AND EXTENSION)

AGR 308: ANNUAL CROPS PRODUCTION

DATE: 10/8/2021

TIME: 2.00-4.00 PM

INSTRUCTIONS:

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

SECTION A: COMPULSORY: (30 MARKS)

QUESTION ONE (30 MARKS)

- a) Explain four uses of each of the following crops
- i. Cowpeas (2 marks)
 - ii. Oats (2 marks)
 - iii. Barley (2 marks)
- b) i Explain why sunflower is categorized as an annual crop. (2 marks)
- ii Explain four methods used in pest and disease management in green grams(4 marks)
- c) Explain four reasons why sorghum and cassava production should be encouraged in semi-arid parts of Kenya (2 marks)
- d) Explain three factors that are considered in selection of suitable maize varieties (3 marks)
- e) Explain two roles of the following climatic factors in production of wheat and pigeon peas
- i. Temperature (2 marks)
 - ii. Soils (2 marks)
 - iii. Altitude (2 marks)
- f) Giving an example of crop infected, describe two symptoms in each of the following infestations in annual crops
- i. Weevils (4 marks)
 - ii. Anthracnose (3 marks)

SECTION B ANSWER TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

- a) With one specific crop example in each case, explain three roles of the following practices in crop production (12 marks)
- i. Hilling
 - ii. Hardening
 - iii. Fertilization
 - iv. Rogueing
- b) Describe four methods of planting yams (8 marks)

QUESTION THREE (20 MARKS)

- a) Describe maize production under the following headings (10 marks)
- i. Maize variety selection
 - ii. Ecological requirements
 - iii. Planting
 - iv. Fertilization
 - v. Harvesting
- b) Explain the five contributions of annual crops towards achieving the Big Four Agenda and The Kenya Vision 2030 (10 marks)

QUESTION FOUR (20 MARKS)

Describe planting of rice under the following headings

- a) Land preparation
- b) Planting
- c) Nutrient Management
- d) Weeding
- e) Harvesting

QUESTION FIVE (20 MARKS)

- a) Explain the production of tobacco under the following headings
- i. Planting (3 marks)
 - ii. Fertilization (3 marks)
 - iii. Post-harvest practices (4 marks)
- b) Explain production of sweet potato under the headings
- i. Ecological conditions (3 marks)
 - ii. Planting (3 marks)
 - iii. Weed management (4 marks)