



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

AGR 308: ANNUAL CROPS PRODUCTION

DATE: 10/12/2019

TIME: 8.30-10.30 AM

INSTRUCTIONS:

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

SECTION A: COMPULSORY: (30 MARKS)

QUESTION ONE (30 MARKS)

- a) i) Explain FOUR special classification of crops citing one example in each (2 marks)
- ii) Explain the four reasons why classification of crops is important to an extension officer (2 marks)
- b) With specific crop example, distinguish between C3 and C4 plants (2 marks)
- c) Explain two uses of the following annual crops
- i. Green grams (2 marks)
- ii. Finger millet (2 marks)
- iii. Linseed (2 marks)
- iv. Wheat (2 marks)
- d) i) Explain four reasons you would advise a farmer to consider when selecting sunflower varieties (4 marks)
- ii) Giving specific crop examples, explain four ways how soil influence annual production (4 marks)
- e) Explain two reasons for the following practices in annual crops citing an example of a crop
- i. Greening

- ii. Training (2 marks)
- f) Giving an example of crop infected, describe two symptoms of the following infestations in annual crops
 - a) Maize lethal Necrosis (2 marks)
 - b) Fall armyworms (2 marks)
 - c) Blue mold fungus (2 marks)

SECTION B: Answer any TWO questions (40 Marks)

QUESTION TWO (20 MARKS)

- a) Explain the production of maize production under the following headings (10 marks)
 - i. Ecological conditions
 - ii. Planting
 - iii. Weeding
 - iv. Fertilization
 - v. Harvesting
- b) Explain FIVE measures used in management of pests in cereal crops (10 marks)

QUESTION THREE (20 MARKS)

- a) Explain the production of green grams under the given headings (10 marks)
 - i. Ecological
 - ii. Land preparation
 - iii. Planting
 - iv. Weeding
 - v. Harvesting
- b) Describe the production of cotton under the following headings (10 marks)
 - i. Ecological requirements
 - ii. Cotton strainer symptoms
 - iii. Fertilization
 - iv. Water management and irrigation
 - v. Harvesting

QUESTION FOUR (20 MARKS)

- a) Describe planting of rice under the following headings
- i. Planting (4 marks)
 - ii. Water Management (4 marks)
 - iii. Fertilization (3 marks)
 - iv. Harvesting (3 marks)
- b) Describe tobacco production under the following headings
- i. Topping (3 marks)
 - ii. Curing (3 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the economic role of annual crop production in Kenya towards achieving Vision 2030 in line with the 'Big four Agenda' (11 marks)
- b) Describe three methods of planting irish potatoes for maximum yield production (9 marks)