



# MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

THIRD YEAR SPECIAL/ SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

KRM308 /AGR 308: ANNUAL CROPS PRODUCTION

DATE: 23/3/2021

TIME: 8.30-10.30 AM

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## INSTRUCTIONS:

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

### SECTION A: COMPULSORY: (40 MARKS)

#### QUESTION ONE

- a) i) Explain four characteristics that makes tobacco an annual crop (2 marks)
- ii) Explain five reasons why annual crops are important in the country's development (5 marks)
- b) Explain two uses of the following crops to a farmer
- i. Cotton (2 marks)
- ii. Cowpeas (2 marks)
- iii. Finger millet (2 marks)
- iv. Cassava (2 marks)
- v. Chickpeas (2 marks)
- c) i Explain four reasons why maize does not do well in lowland parts of Kenya compared to cassava (4 marks)

- ii With specific one crop examples, explain four ways how rainfall influence annual production (4 marks)
- d) Explain four reasons why a farmer should be advised to plant sorghum (4 marks)
- e) Under what ecological conditions will you advice a farmer to plant sweet potatoes (4 marks)
- f) Describe one symptom and two management of the following infestations in annual crops
  - i. Bruchids (4 marks)
  - ii. Maize Lethal Necrosis (4 marks)
  - iii. Aspergillus crown rot (4 marks)

**SECTION B: Answer any TWO questions (40 Marks)**

**QUESTION TWO (20 MARKS)**

- a) Explain the production of maize under the following headings (10 marks)
  - i. Ecological conditions
  - ii. Fertilization
  - iii. Harvesting
- b) Explain five factors a farmer must consider when selecting maize variety for planting in highlands (10 marks)

**QUESTION THREE (20 MARKS)**

- a) Describe two methods of planting rice (12 marks)
- b) Explain the two advantages and two disadvantages of each method in (a) above (8 marks)

**QUESTION FOUR (20 MARKS)**

- a) Explain the production of green grams under the given headings (10 marks)
  - i. Land preparation
  - ii. Planting
  - iii. Harvesting
- b) With a specific disease, explain six measures used in pulse disease control (6 marks)
- c) Explain four reasons why a farmer should be advised to plant wheat (4 marks)

**QUESTION FIVE (20 MARKS)**

- a) With specific crop examples, explain three roles of the following in crop production
- i. Hardening
  - ii. Gapping
  - iii. Training
  - iv. Rogueing (12 marks)
- b) Describe two methods of planting sweet potato (8 marks)