



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

SECOND YEAR SPECIAL/ SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT AND TRADE AND

BACHELOR OF EDUCATION SCIENCE

AGR 203: FIELD CROPS PRODUCTION

DATE: 21/01/2021

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)

- a) Define the following terms as used in crop genetic improvement;
- i. Plant Breeding (2 marks)
 - ii. Polyploidy (2 marks)
 - iii. Pureline (2 marks)
 - iv. Clone (2 marks)
 - v. Heterosis (2 marks)
- b) With specific examples, describe **FOUR** types of pre or post-harvest losses associated with crop production (8 marks)
- c) Explain **TWO** types of maturity that determine crop harvesting (4 marks)
- d) Giving relevant examples, explain classification of important crops in Kenya (8 marks)

SECTION B: Answer any TWO questions (40 Marks)

QUESTION TWO (20 MARKS)

- a) Describe 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) Giving relevant examples, discuss **FIVE** key roles played by field crops production in the economic development in Kenya (10 marks)
- b) Describe the suitable climatic and edaphic conditions required for the optimal production of the following major field crops;
- i. Sugarcane (2 marks)
 - ii. coffee (2 marks)
 - iii. tea (2 marks)
 - iv. soybeans (2 marks)
 - v. wheat (2 marks)

QUESTION FOUR (20 MARKS)

Describe the production of cotton under the following headings;

- a) Planting spacing (5 marks)
- b) agronomic practices (5 marks)
- c) harvesting (5 marks)
- d) Processing (5 marks)

QUESTION FIVE (20 MARKS)

- a) Describe **FIVE** methods used for the general management of crop diseases (10 marks)
- b) Explain **FIVE** important agronomic practices that need to be carried out to realize high maize crop yields (10 marks)