



# MACHAKOS UNIVERSITY

University Examinations for 2021/2022 Academic Year

SCHOOL OF AGRICULTURAL SCIENCES

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

SECOND YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

BACHELOR OF EDUCATION (SCIENCE)

BACHELOR OF EDUCATION (SPECIAL NEEDS)

AGR 201: PRINCIPLES OF CROP PRODUCTION

DATE: 27/5/2022

TIME: 2.00-4.00 PM

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## INSTRUCTIONS:

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

### SECTION A: COMPULSORY: (30 MARKS)

#### QUESTION ONE (30 MARKS)

- a) Differentiate between reproduction and propagation in crop production. (2 marks)
- b) Explain four physiological disorders brought about by uneven watering of crops. (4 marks)
- c) Describe the process of air layering. (4 marks)
- d) Explain four benefits of “zero tillage”. (4 marks)
- e) Explain four ways in which light affect crop production. (4 marks)
- f) Explain four benefits of hardening off of seedlings before transplanting. (4 marks)
- g) Describe the features of “zone II” agroecological zone according to FAO classification. (4 marks)
- h) Explain four roles of auxin in plant growth and development. (4 marks)

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

**QUESTION TWO (20 MARKS)**

- a) Explain five methods of mechanical weed control. (10 marks)
- b) Explain the concept of sterile male technique (SIT) in pest management. (10 marks)

**QUESTION THREE (20 MARKS)**

- a) Describe the process of graft union healing. (10 marks)
- b) Discuss four factors to be considered in designing a silo storage facility. (10 marks)

**QUESTION FOUR (20 MARKS)**

- a) Discuss five shortcomings of conventional tillage practice. (10 marks)
- b) With the aid of a well-labelled diagram, describe any four types of layering. (10 marks)

**QUESTION FIVE (20 MARKS)**

- a) Giving an example in each case, discuss five effects of temperature on crop production (10 marks)
- b) Explain any four constraints of cereal-grain-legume farming system. (10 marks)