



MACHAKOS UNIVERSITY

University Examinations for 2016/2017

SCHOOL OF AGRICULTURE AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF AGRICULTURAL EDUCATION AND EXTENSION

**FIRST YEAR SECOND SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION
BACHELOR OF SCIENCE IN AGRIBUSINESS MANAGEMENT**

AGR 102: PRINCIPLES OF CROP PRODUCTION

DATE: 6/6/2017

TIME: 2:00 – 4:00 PM

INSTRUCTION

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

SECTION A: COMPULSORY

QUESTION ONE (30 MARKS)

- a) Explain four steps carried out by a farmer during land preparation (4 marks)
- b) With three reasons, explain why a farmer should be advised to use reduced tillage (3 marks)
- c)
 - i. Explain four economic importance of pests and diseases in crop production (4 marks)
 - ii. Explain four reasons why zoning is important in crop production (4 marks)
- d) A farmer intend to plant chickpea in a 10 ha piece of land. If the spacing is 40 x 10 cm estimate the plant population (3 marks)
- e)
 - i Calculate the amount of fertilizer to be applied in Kg/ha and in 50-kg bags, using the carrier as Sulphate of Ammonia (21% N), if the recommended rate is 60 kg N/ha (4 marks)
 - ii Explain four advantages of sexual propagation over asexual types of propagation (4 marks)

- f) With an example in each case, explain four methods a farmer can use to determine the maturity indices in crops (4 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO (20 MARKS)

- a) Describe any four cropping systems that can be adapted by Kenyan farmers (12 marks)
- b) Explain any two advantages of each system in (a) above (8 marks)

QUESTION THREE (20 MARKS)

- a) Explain five factors that affect crop production in Kenya (10 marks)
- b) Discuss five ways in which Kenyan farmers can adapt in order to conserve water in their farms (10 marks)

QUESTION FOUR (20 MARKS)

Explain 10 reasons why weeds are better competitors than crop plants for environmental or growth resources (20 marks)

QUESTION FIVE (20 MARKS)

- a) Describe six methods a farmer can successfully employ to manage pests and diseases in crops (12 marks)
- b) Explain four types of crop losses that farmers face during crop production (8 marks)