

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF MASTER OF SCIENCE IN AGRONOMY

AGRI 813: CROPPING SYSTEMS

STREAMS: MSC. AGRONOMY (PART TIME)

TIME: 3 HOURS

DAY/DATE: TUESDAY 04/12/2018

8.30 A.M. – 11.30 A.M.

INSTRUCTIONS:

SECTION A (ANSWER ALL QUESTIONS) 20 MARKS

1. Explain any 4 basic principles that underlie the development of a cropping system. (4 marks)
2. Describe 2 socio-economic reasons for the adoption of a multiple cropping system by farmers. (4 marks)
3. Giving crop examples, describe how a crop mixture can enhance light interception and light use efficiency in an intercrop system. (6 marks)
4. Describe the 3 major types of crop interactions in mixed crop communities. (6 marks)

SECTION B: ANSWER ANY 2 QUESTIONS (EACH QUESTION 20 MARKS)

5. (a) Describe what affects the capacity of a legume to fix N and explain any 6 advantages of including a legume in an intercropping system. (8 marks)
- (b) Describe the term annidations and discuss the 3 forms in which it occurs in space and time. (12 marks)
6. (a) Giving examples, explain the differences between a decoy and a trap crop in pest and disease management in an intercrop system. (6 marks)

- (b) Explain how a farmer may manage fertilizer application in a legume-cereal intercrop system for good results. (7 marks)
- (c) Explain any 7 factors that can affect soil carbon loss from agricultural soils. (7 marks)
7. (a) Describe how humid climates can be successfully utilized under agro-forestry systems. (10 marks)
- (b) Analyze shifting cultivation as a cropping system. (10 marks)
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