CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE IN AGRONOMY AND MASTER OF SCIENCE IN DRYLAND FARMING

AGRI 813: CROPPING SYSTEMS

STREAMS: MSc. AGRONOMY & MSc. DRYLAND FARMING TIME: 3 HOURS

DAY/DATE: FRIDAY 13/12/2024 8.30 A.M. – 11.30 A.M.

INSTRUCTIONS:

Section A – Answer All Questions (20 Marks)

1. Describe the three expected crop interaction in mixed crop communities. (5 marks)
2. Describe why continuous cropping is an appropriate cropping system in the tropics. (5 marks)
3. Describe the accrued benefits of an alley cropping system. (5 marks)
4. Describe crop rotation as a sustainable cropping system. (5 marks)

Section B (40 Marks)

5.

a) Explain the concept of interference reactions in plant communities. (5 marks)

b) Discuss management of water and fertilizer application in intercropped systems. (15 marks)

6.

a) Explain using real crop examples how complementary interactions can occur in both time and space in plant communities. (8 marks)

b) Discuss a strong case for specialized farming vs multiple cropping in the tropics. (12 marks)

7.

a) Describe crop equivalent yield (CEY) as an important index for evaluating cropping systems. (8 marks)

b) Giving relevant crop mix examples describe the importance of solar radiation capture and how farmers can plan its usage efficiently for reduced competition in intercropped systems. (12 marks)

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