

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE
OF BACHELOR OF SCIENCE IN AGRICULTURE

AGRI 401: DRYLAND FARMING

STREAMS: BSC (AGRIC) Y4S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 06/12/2017

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION I AND CHOOSE ANY TWO IN SECTION II

SECTION I (30 MARKS)

- Q1. (a) In your opinion is it feasible to advice farmers in dry land farming conditions to adopt use of micro-irrigation. [4 marks]
- (b) Give an account of how farmers in dry land farming systems can purify sewerage water to facilitate its recycling and increase water use efficiency. [6 marks]
- Q2. Elaborate on why crop rotation may not be feasible in agricultural production system. [6marks]
- Q3. (a) Elaborate on why farmers should incorporate cover cropping in dryland farming systems. [5 marks]
- (b) Soil moisture dynamics greatly contributes to crop failures in dryland farming conditions. Explain. [4 marks]
- Q4. Describe the factors which must be efficiently integrated to enhance sustainable high yielding crop production under dryland farming conditions. [5 marks]

SECTION II (40 MARKS)

- Q5. (a) Environmental stress affects the crop growth in terms of morphology, physiological and metabolic processes and crop yield. Give account of abiotic stresses affecting crop performance. [10 marks]
- (b) Advice your county government on practices that can contribute to agricultural sustainability especially under dryland farming conditions. [10 marks]

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- Q6. (a) Give an account of how farmers can minimize runoff and water wastage in dryland farming systems to facilitate water use efficiency. [12 marks]
- (b) Water use efficiency is a key approach to mitigate water shortages under dryland farming systems. Advice farmers on how they can improve WUE. [8 marks]
- Q7. (a) As an agricultural extension agent advice farmers on why it may not be advisable to adopt conservation tillage. [10 marks]
- (b) As a dryland farming expert detail opportunities that you would promote to transform the life of farmers in dry areas. [10 marks]
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