

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR
OF SCIENCE (NATURAL RESOURCES MANAGEMENT)**

NARE 457: DRYLAND REHABILITATION

STREAMS: B.SC ENVIRONMENT Y4S2

TIME: 2 HOURS

DAY/DATE: FRIDAY 17/04/2020

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS:

- Answer ALL in section A and any other TWO in section B.
- Do not write anything on the question paper.

SECTION A: 30 MARKS

- Q1. Define the two commonly used classification systems of drylands. (4 marks)
- Q2. Explain why drylands are a vital part of the Earth's human and physical environments. (4 marks)
- Q3. List the five soil forming factors and explain how they influence the soil forming processes in the drylands. (6 marks)
- Q4. Discuss the climate and landscape characteristics of the drylands which if sustainably utilized can reduce the problem of limited access to energy. (6 marks)
- Q5. Write short notes on the following
- (a) Conservation tillage (3 marks)
 - (b) Retention ditches (2 marks)
 - (c) Roof catchments (2 marks)
 - (d) Agroforestry (3 marks)

SECTION B: 40 MARKS

- Q6. (a) Discuss the principal land degradation processes in the drylands. (10 marks)
- (b) Discuss the key indicators of drylands degradation. (10 marks)
- Q7. (a) Discuss the dimensions in which climate change may aggravate dryland degradation. (10 marks)
- (b) Discuss the characteristics of three reference soil groups commonly associated with the arid and semi-arid lands. (10 marks)
- Q8. (a) Discuss some of the innovations, technologies and management practices commonly used for climate change adaptation and resilience building in the drylands. (10 marks)
- (b) Discuss the role of community participation in dryland rehabilitation. (10 marks)
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