



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2011/2012

**SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(AGRICULTURE)**

KDM 200: DRYLAND ECOLOGY

DATE: Monday 26th March 2012

TIME: 8.00a.m-10.00a.m

INSTRUCTIONS

Answer question ONE and any other THREE questions below

1. a) Outline two ways by which predators respond to increased prey abundance. [2marks]
b) Distinguish between Interference competition and Exploitation competition.
c) Explain the causes of weak predator-prey relationship in drylands. [4marks]
d) Do drylands have a simple food web? Discuss. [8marks]
e) Describe the factors which control adaptive microbial population in drylands. [9marks]
2. a) Name three components of a dryland ecosystem through which energy flows. [3marks]
b) Explain the role of the following mechanisms in the survival of animals in drylands ecosystem
i) Mimicry
ii) Cryptic coloration
iii) Camouflage [3marks]
c) Describe the ways in which plants defend themselves against herbivory. [9marks]
3. a) State three reasons for low carrying capacity in drylands. [3marks]
b) Describe the characteristics of drylands affecting species diversity. [6marks]
c) Outline the abiotic factors which influence biome distribution. [6marks]
4. a) What is an ecological niche? [2marks]
b) Intraspecific competition leads to formation of ecological niches. Explain. [3marks]
c) Discuss the effect of herbivory on plant-plant relationships in drylands. [10marks]
5. a) What are the challenges of arid land reclamation using irrigation technology. [7marks]
b) Population of herbivores show distinct spatial variation in dryland. Discuss. [8marks]