



# MACHAKOS UNIVERSITY

University Examinations For 2021/2022 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FOURTH YEAR SECOND SEMESTER EXAMINATIONS FOR

BACHELOR OF ENVIRONMENTAL SCIENCE

ENS 457: ARID AND SEMI ARID LANDS DEVELOPMENT

**DATE:** \_\_\_\_\_

**TIME:** \_\_\_\_\_

**INSTRUCTIONS:** Answer question ONE and any other TWO

## QUESTION ONE (COMPULSORY) (30 MARKS)

- Based on the Climatic Aridity Index, discuss four types of arid zones. (8 marks)
- Discuss the adaptations of animals to arid zones environment (10 marks)
- Discuss salinity as a challenge affecting soil in the arid regions of the world (12 marks)

## QUESTION TWO (20 MARKS)

Rainwater harvesting is an important way of promoting agricultural production in the arid and semi-arid regions of Kenya. Discuss.

## QUESTION THREE (20 MARKS)

Discuss the impacts of drought in Kenyan drylands.

## QUESTION FOUR (20 MARKS)

Discuss the methods that you would advocate for use in improving soil fertility in the dryland areas of Kenya.

## QUESTION FIVE (20 MARKS)

Discuss FIVE factors that cause aridity.