



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A CONSTITUENT COLLEGE OF JKUAT)

(A Centre of Excellence)

Faculty of Applied and Health Sciences

DEPARTMENT OF **ENVIRONMENT AND HEALTH SCIENCE**

DIPLOMA IN ENVIRONMENTAL SCIENCES

(DES 12S)

AES 2101: ECOLOGY AND EVOLUTION

SPECIAL/SUPPLEMENTARY: EXAMINATIONS

SERIES: February 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this paper

- *Answer booklet*

This paper consists of **FIVE** questions.

Answer Question **ONE (compulsory)** and any other **TWO** questions

This paper consists of 2 PRINTED pages

Question ONE

- a) Define the following terminologies as used in ecology. **(5marks)**
 - (i) Population
 - (ii) Alien species
 - (iii) Ex-situ conservation
 - (iv) Metagenomics
 - (v) Speciation
- b) Briefly explain Human impact on coral reefs **(5marks)**
- c) List THREE types of natural selection **(3marks)**
- d) Describe the agents of variation among species in the environment **(5marks)**
- e) Discuss the meaning of survival of the fittest **(5marks)**
- f) Briefly explain landscape level conservation as an approach to ecosystem management **(5marks)**
- g) Explain the meaning of Molecular ecology **(2marks)**

Question TWO

Describe the anthropogenic impact on the environment **(15marks)**

Question THREE

Discuss the Darwin's theory of evolution **(15marks)**

Question FOUR

Describe various physical factors present in an ecosystem and how they affect the distribution of organisms in environment. **(15marks)**

Question FIVE

Discuss the environmental impacts of invasive species. **(15marks)**