



The Co-operative University of Kenya

END OF SEMESTER EXAMINATION DECEMBER-2016

EXAMINATION FOR THE DEGREE OF BACHELOR OF DISASTER RISK MANAGEMENT AND SUSTAINABILITY

UNIT CODE: CODM 2108

UNIT TITLE: PRINCIPLES OF ECOLOGY AND BIODIVERSITY

DATE:

TIME:

INSTRUCTIONS:

- Answer question **ONE (compulsory)** and any other **TWO** questions

QUESTION ONE

- (a) Describe the genetic diversity occur and state its **THREE** implications in ecological studies (5 marks)
- (b) Explain **FIVE** factors that affect biodiversity (5 marks)
- (c) Explain the Theory of Island Biogeography and illustrate how distance and area of isolated islands influence species numbers and extinction (5 marks)
- (d) Outline **FIVE** characteristics of an ecosystem (5 marks)
- (e) Explain how the state factors influence the functioning and structure of an ecosystem (5 marks)

QUESTION TWO

- (a) Explain the **FOUR** categories of ecosystem services that human beings derive from the May Forest Complex (10 marks)
- (b) Explain how market-based mechanisms are used in biodiversity conservation (10 marks)

QUESTION THREE

- (a) Explain in detail the major causes of biodiversity loss in Kenya (10 marks)
- (b) Describe the process of autotrophic succession highlighting the steps involved (10 marks)

QUESTION FOUR

- (a) In reference to its properties, discuss the significance of disturbance on long-term ecosystem changes (10 marks)
- (b) Describe possible animal adaptive strategies for their survival in the natural habitats (10 marks)

QUESTION FIVE

- (a) Explain the **TWO** basic strategies of biodiversity conservation (10 marks)
- (b) Highlight some of the successful action aimed at reducing biodiversity loss as listed in the Millennium Ecosystem Assessment (MEA 2005) (10 marks)