

The Co-operative University of Kenya

END OF SEMESTER EXAMINATION DECEMBER-2018

EXAMINATION FOR THE DEGREE OF BACHELOR OF CO-OPERATIVE BUSINESS

UNIT CODE: CODM 2204

UNIT TITLE: PRINCIPLES OF ECOLOGY AND BIODIVERSITY

DATE: DECEMBER, 2018

TIME:

INSTRUCTIONS:

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

QUESTION ONE

- (a) Define the following terms (12 marks)
- Population
 - Ecosystem
 - Niche
 - Competitive exclusion principle
 - Producer
 - Predation
- (b) With the aid diagram, explain carbon cycling in an ecosystem (10 marks)
- (c) Discuss human populations and carrying capacity of natural systems (8 marks)

QUESTION TWO

- (a) Describe the factors that can cause feedback on population growth. Give examples for each factor (10 marks)
- (b) Fill in the following table (5 marks)

Ecosystem	Producer	Primary Consumer	Secondary Consumer	Tertiary Consumer
Grassland				

- (c) What is the role producers and decomposers in nature? Give example

QUESTION THREE

- (a) Describe human impacts on biodiversity in Kenya and describe ex-situ and in-situ conservation measures being undertaken to protect biodiversity in the country (11 marks)
- (b) Compare and contrast the following giving examples (9 marks)
- Biotic and abiotic factors
 - Semelparity and iteroparity
 - Pyramid of numbers and pyramid of biomass

QUESTION FOUR

- (a) Distinguish between k-selected and r-selected organism, giving examples (10 marks)
- (b) Define ecological pyramids and describe the different types using diagrams and examples (10 marks)

QUESTION FIVE

- (a) Define and describe THREE types of negative interactions and TWO types of positive interactions among species with examples (10 marks)
- (b) Name and describe the THREE main types of forests (5 marks)
- (c) To measure the population density of mice in a particular field, 10 mice are capture, marked and released. The next day, 10 mice are recaptured and two out of the 10 are found to be marked. What is the population estimate for mice in the area (show your work) (5 marks)