

UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER 2017

TITLE OF PAPER : BIODIVERSITY CONSERVATION

COURSE CODE : BIO609

TIME ALLOWED : THREE HOURS

INSTRUCTIONS :

1. ANSWER QUESTION 1 AND ANY OTHER TWO QUESTIONS
2. WHEREVER POSSIBLE ILLUSTRATE YOUR ANSWERS WITH LARGE CLEARLY LABELLED DIAGRAMS

SPECIAL REQUIREMENTS: NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN
GRANTED BY THE INVIGILATORS

QUESTION 1 (COMPULSORY).

Swazi Nation Land suffers from extinctions of a large number of antelope species. What are the causes of these extinctions? What ecological, legislative and social changes would you introduce to restore biodiversity on Swazi Nation Land. You may use your home village as an example. **(40 Marks)**

QUESTION 2.

List and discuss the problems faced by small populations. How would you address each of these problems to ensure that small populations do not become extinct. **(30 Marks)**

QUESTION 3.

What information do Scientists need for effective population level conservation? **(30 Marks)**

QUESTION 4.

An African country named Kambokia is very rich in flora and fauna and is socially, economically and spiritually dependent on its biodiversity. One of the animals found in this country is the kirong, *Grongus kambokiensis*, a large sized mammal species that provides food, skins for ceremonial dress as well as meat for local use and export to neighbouring countries. It is an important part of Kambokian life and has become a symbol of national unity. The kirong has a gestation period of two years and bears one calf that grows to maturity in three years. Though the country was once teeming with huge populations of kirong it is now faced with numbers that are falling at an alarming rate. The government has put in place a number of initiatives to stem this decline and sustainably use this resource, but the success of these initiatives remains to be seen.

Using the kirong as a discussion point, explore how the various aspects of sustainable use of biological resources can be met in this case. Your discussion should look at the human and ecological aspects of sustainability. **(30 Marks)**

QUESTION 5.

How does ecological theory relate to conservation biology? **(30 Marks)**