UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER 2017/18

TITLE OF PAPER: PREDICTIVE NICHE MODELLING

COURSE CODE: BIO612

TIME ALLOWED: THREE HOURS

INSTRUCTIONS:
1. ANSWER ALL THREE (3) QUESTIONS.
2. EACH QUESTION CARRIES 30 MARKS.
3. ILLUSTRATE YOUR ANSWERS WITH LARGE AND CLEARLY LABELLED DIAGRAMS WHERE APPROPRIATE.

SPECIAL REQUIREMENTS: NONE

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

QUESTION 1

What is niche modelling? Explain in detail the approach and analysis taken by niche modelling. Include in your discussion how we should interpret the maps produced by niche models.

[30 marks]

QUESTION 2

Discuss the various niche modelling methods that have recently been developed. Make sure to clearly indicate which method(s) performs best, and under what situations.

[30 marks]

QUESTION 3

The threat of alien invasive plants and animals is very real, yet the consequences of an inadvertent introduction are still poorly known for most species. Write an essay that illustrates the role that niche modelling can play in predicting the future ranges of such alien invasives.

[30 marks]