

UNIVERSITY OF SWAZILAND

MAIN EXAMINATION PAPER 2015

TITLE OF PAPER : BIOCONTROL AND ECOSYSTEMS

COURSE CODE : ERM614

TIME ALLOWED : THREE HOURS

INSTRUCTIONS :

1. THIS PAPER HAS SIX (6) QUESTIONS
2. ANSWER ANY FOUR (4) QUESTIONS
3. 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

Discuss in detail the three general approaches to biological control, i.e. classical biological control, augmentation and conservation of natural enemies.

[25 marks]

Question 2

Describe the invasion process as observed for alien species. What impacts do the organisms have on social, economic and environmental levels?

[25 marks]

Question 3

What is a pesticide treadmill? Discuss in detail factors which lead to this and elaborate on how you would address these for ecosystem health.

[25 marks]

Question 4

Give an account of a specific invasive pest, the problem/s it causes and biological control measures which have been used against it.

[25 marks]

Question 5

What is genetic engineering? Examine the environmental impacts of this technology on ecosystem services as well the importance of biosafety.

[25 marks]

Question 6

Elaborate on the classification of pests based on their place of origin as well as their economic importance.

[25 marks]