



(Knowledge for Development)

KIBABII UNIVERSITY

**UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER
MAIN EXAMINATIONS**

FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGY

COURSE CODE: SBL 412

COURSE TITLE: ETHICS AND RISKS IN BIOTECHNOLOGY

DATE: Monday 19th July, 2021.

TIME: 2:00 – 4:00 p.m.

INSTRUCTIONS TO CANDIDATES

Answer question **ONE** [1] and **ANY** other **TWO** [2] questions

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

Question 1

- a). Define the following terms as used in comparative animal physiology
- i). Genetically Modified Organisms (3 marks)
 - ii). Transgenic animals (2 marks)
 - iii). Biotechnology (4 marks)
 - iv). Biosecurity (3 marks)
- b). What are the advantages of Genetically Modified animals (4 marks)
- c). Describe the objectives of the Cartagena protocol (5 marks)
- d). Give your own ethical concerns about genetically engineered organisms (5 marks)
- e). List four ethical issues with genetically modified plants (4 marks)

Question 2

Explain how the deliberate release of a genetically engineered organism is done (20marks)

Question 3

Explain the risks of biotechnological advances in

- a. Environmental use (7marks)
- b. Food and agriculture (7marks)
- c. Health and medicine (6marks)

Question 4

Outline the National Institute of Health (NIH) guidelines (20 marks)

Question 5

Explain why Eugenics as practiced in the 20th century was considered to be morally wrong (20 marks)