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(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2019/2020 ACADEMIC YEAR

FOURTH YEAR FIRST SEMESTER Special/supplementary EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE

COURSE CODE: SBL 412
COURSE TITLE: ETHICS AND RISKS IN BIOTECHNOLOGY

DATE: Thursday 4th February, 2021 **TIME:** 8:00 – 10:00 a.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). Risk (4 MARKS)
 - ii). Biohazard (4 MARKS)
 - iii). Cloning (3 MARKS)
 - iv). Biosecurity (4 MARKS)
- b). Give examples where environment can influence functions of the genes and behavior of organisms (5 MARKS)
- c). State five points to consider in the design and submission of protocols for the transfer of recombinant nucleic acid molecules into human research participants (5 MARKS)
- d). state your own ethical concerns about genetically engineered organisms (5 MARKS)

Question 2

Outline the national institute of health (NIH) guidelines (20MARKS)

Question 3

Explain the rationale of standard assays (20 MARKS)

Question 4

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

Question 5

Explain the risks in under

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