(18)

(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2020/2021 ACADEMIC YEAR

FOURTH YEAR FIRST SEMESTER SUPPLEMENTARY/SPECIAL EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIO-RESOURCE CONSERVATION AND MANAGEMENT

COURSE CODE: SZL 416

COURSE TITLE: ENVIRONMENTAL PHYSIOLOGY

DATE: 11TH JANUARY 2022 TIME: 11.00 – 1.00 PM

INSTRUCTIONS TO CANDIDATES

Answer Question one (1) and any other two (2) Questions. Question one is compulsory and carries 30 marks, the other Questions carry 20 marks each.

TIME: 2 Hours

This paper consists of 3 printed pages. Please Turn Over

KIBU observes ZERO tolerance to examination cheating

QUESTION ONE

a) Describe osmoregulation in freshwater fish. (4 Marks)

b) Explain three environmental factors that control diapause. (6 Marks)

c) How does body size affect animal physiology? (4 Marks)

d) Distinguish between aerobic and anaerobic respiration. (4 Marks)

e) Give four functions of the excretory organs. (4 Marks)

f) Explain the physiological changes that occur during:-

i. Vasoconstriction (4 Marks)

ii. Vasodilation (4 Marks)

QUESTION TWO

a) State three risks exposed to by hibernating animals. (6 Marks)

b) Discuss the behavioural strategies of regulating body temperature in animals. (14 Marks)

QUESTION THREE

a) Describe the various modes of respiration in animals. (14 Marks)

b) Describe three types of diaspause in insects. (6 Marks)

QUESTION FOUR

a) What is torpor? (4 Marks)

b) Outline the steps involved in the mechanism of urine formation. (16 Marks)

QUESTION FIVE

a) What is thermogenesis? (4 Marks)

b) Describe the structure of the nephron. (12 Marks)

c) Briefly explain ammonotelism in animals. (4 Marks)