INTERNATIONAL UNIVERSITY OF EAST AFRICA
'Learning to Succeed'

FACULTY OF SCIENCE AND TECHNOLOGY

END OF SEMESTER EXAMINATIONS - APRIL 2025

PROGRAMME: BSEM
YEAR/SEM: YEAR 3/SEMESTER 2
COURSE CODE: BSE3202
NAME: PLANT AND ANIMAL RESOURCES

DATE:
TIME:

INSTRUCTIONS TO CANDIDATES:

SECTION A

Attempt all questions in this section (40 marks)

Question 1:

a.What do you understand by the term resource? Give 3 examples of plant and animal resources. (7 marks)

b. Mention at least five characteristics of plants (5 marks)

c. Identify the similarities & differences between plants and animals (8 marks)

d. What is photosynthesis and how is it important? (7 marks)

e. Define the following terminologies as applied to living organisms (2 marks each)

i. Heterotrophism

ii. Multicellularity

iii. Parasitism

iv. Autotrophism

f. What is a threat to plants and animals? Mention 4 examples (5 marks)

Question 2:

a. Mention at least 5 important processes in plants (5 marks)

b. How does photosynthesis differ from respiration? (4 marks)

c. c. What is turgidity and why is it important in plants? (7 marks)

d. What do understand by the term stimulus? Give 4 examples of stimuli in relation to tropism in plants (6 marks)

e. Differentiate between positive and negative tropisms (6 marks)

f. Distinguish between internal and external fertilization in animals (8 marks)

g. What is locomotion and why is it an important process in animals)

(4 marks)

SECTION B

Attempt any 3 questions (60 marks)

Question 1:

a. Due to rising global temperatures, some plant and animal species are struggling to survive in their natural habitats. How does climate change threaten biodiversity, and what can be done to mitigate it? (10 marks)

b. A nearby river is contaminated by industrial waste. How might this pollution affect the aquatic plants and animals living in the water? (10 marks)

Question 2:

a. What are tropisms and why are they important? (6 marks)

b. Discuss at least 6 types of tropisms (14 marks)

Question 3:

What are human-wildlife conflicts and how do they affect both human livelihoods and wildlife conservation efforts (20 marks)

Question 4:

a. Discuss the steps involved in photosynthesis (10)

b. Which factors determine the rate of photosynthesis? (10 marks)

Question 5:

Define the following terminologies. Give relevant examples where applicable (4 marks each)

i. Plant health

ii. Osmosis

iii. Pollination

iv. Fertilization

v. Seed dispersal

Question 6:

a. Discuss the three types of transpiration (9 marks)

b. Discuss the three important roles of transpiration in plants. (6 marks)

c. Which factors determine the rate at which transpiration occurs in plants? (5 marks)

Question 7:

Our well-being is so dependent on the various plant and animal resources. However, a number of factors have put these resources under threat.

i). Discuss the threats to plant animal resources (12 marks)

ii). Discuss the various ways through which the threats to animal resources can be combated (8 marks)

Question 8:

a. What is reproduction in plants? (2 mark)

b. Differentiate between sexual and asexual reproduction in plants. Give examples. (8 marks)

c. Microscopic animals such as amoeba reproduce asexually. Using a diagram, discuss the process of binary fission in amoeba.
(10 marks)

Question 9:

a. What are plant nutrients? (2 marks)

b. Giving at least four examples, differentiate between macronutrients and micronutrients (8 marks)

c. Describe the process of nutrient uptake in plants (10 marks)

Question 10:

a. Describe the processes involved in sexual reproduction in animals (10 marks)

b. With examples, discuss asexual reproduction in animals (10 marks)

Question 11:

Different animals have evolved specialized feeding methods based on their diet and habitat. Discuss the various types of feeding in animals (20 marks)

Question 12:

a. a. What are the roles of plants and animals in an ecosystem? (10 marks)

b. Communication in animals refers to the ways animals exchange information with each other to convey messages about danger, mating, food sources, or territory. Discuss the different types of communication in animals (10 marks)