



NATIONAL OPEN UNIVERSITY OF NIGERIA
UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE
EXPRESS WAY, JABI - ABUJA.
FACULTY OF SCIENCE
Department of Biological Sciences
2025_1 EXAMINATION...

BIO 306: General Physiology

Time: 2 Hours

Credit Units: 2

Instruction: Attempt Three (3) questions only. QUESTION 1 is compulsory.

- 1a. i. Classify animals on the basis of their osmotic responses (2 marks)
ii. Define each of these animal classifications (4 marks)
b. i. Outline the fundamental functions of a nervous system (4marks)
iii. Explain the principle of Osmosis (5 marks)
c.i. Account for Coordination in animals (5 marks)
ii. Describe osmotic responses of freshwater invertebrates and vertebrates. (10 marks)
Total Marks = (30 marks)

- 2a. Explain the following terms:
i. Uricotelism (5 marks)
ii. Ureotelism (5 marks)
b.i. Differentiate between a hyperosmotic regulator and hypoosmotic regulator (4 marks)
ii. Describe the excretion of ammonia in animals (6 marks)
Total Marks = (20 marks)

- 3a. i. Define transport system in plant (2 marks)
ii. List the different layers or capsules that protects the kidney from infection and injury
(3 marks)
b.i. The kidney regulates plasma volume. Discuss (5 marks)
ii. Write a comprehensive note on the functions of the Nephron (10 marks)
Total Marks = (20 marks)

- 4a.i. List any two (2) major components of the circulatory system (2 marks)
ii. Outline the functions of these components (3 marks)
b. Succinctly discuss the functions of blood (15 marks)
Total 20 Marks = (20 marks)

- 5a. Explain the cardiac cycle (8 marks)
b. Describe the mammalian heart and how it functions (12 marks)
Total 20 Marks = (20 marks)