



NATIONAL OPEN UNIVERSITY OF NIGERIA

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science**

DEPARTMENT OF BIOLOGICAL SCIENCES

2024 I EXAMINATION

COURSE CODE: BIO 306

COURSE TITLE: GENERAL PHYSIOLOGY 11

CREDIT UNIT: 3 UNITS

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER QUESTION ONE AND ANY THREE OTHERS.

- 1i. Osmoregulation is of great necessity to animals. Discuss. 8mks
- 1ii. Write a detailed process of excretion in platyhelminthes. 10mks
- 1iii. How do water absorbed by the root reach the leaves through the stem. 3 mks
- 1iv. Show by means of an experiment that water moves upwards through the vessels and tracheids of xylem. 4mks

- 2i. Write notes on the following patterns of excretory in animals. 7 mks
- 2ii. Animal life in the terrestrial environment is a compromise. Comment. 8 mks

- 3i. A nerve impulse is a self-propagating wave of depolarisation and repolarization. Discuss. 9mks
- 3ii. By means of a diagram, illustrate the above. 6 mks

- 4i. Give a detailed account of homeostatic blood pressure regulatory functions of the kidney. 8mks
- 4ii. Critically analyse the structure and functions of the nephron. 7mks

- 5i. Write concisely on the distal convoluted tubule (DCT). 6mks
- 5ii. With an illustration, show the arrangement of malpighian tubules in a typical insect. 5mks
- 5iii. Soil air affects rates of water absorption. Comment. 4mks.

- 6i. Describe the arrangement of green gland as excretory organs in crustaceans. 12mks
- 6ii. How does the presence of salt in the soil affect the rates of water absorption? 3mks