



NATIONAL OPEN UNIVERSITY OF NIGERIA
14/16, Ahmadu Bello Way, Victoria Island

SCHOOL OF SCIENCE AND TECHNOLOGY
October, 2013 Examination

COURSE CODE: BIO306

COURSE TITLE: GENERAL PHYSIOLOGY II

TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER ANY FOUR QUESTIONS

- 1ai. Define the term osmoregulation.
ii. Distinguish between osmoconformers and osmoregulators.
bi. Explain the need for osmoregulation in animals.
ii. Describe the relationship between osmotic equilibrium and ionic composition of marine animals.
- 2ai. Enumerate the osmotic challenges animals in the freshwater environment face.
ii. Highlight the factors affecting evaporative water loss in terrestrial animals.
bi. How do terrestrial animals overcome the problems of water loss and water gains
ii. Write short notes on the following nitrogenous waste products:
(i) ammonia (ii) urea (iii) uric acid
- 3ai. What do you understand by the term excretory organ?
Ii Outline the functions of the mammalian kidney.
b. Briefly describe the urinary disorders you know
- 4ai. Outline the kinds of water available to plants in the soil.
ii. Compare transpiration and evaporation.
b. Discuss how certain factors affect the rate of water absorption in plants.
- 5ai. List the factors affecting stomatal opening and closing.
ii. Explain the mechanism of guttation.
b. What is the significance of the following:
(i) diffusion (ii) osmosis
- 6ai. Enumerate the factors affecting imbibitions.
ii. Describe the consequences of plasmolysis.
bi. Outline the common defects of the eye.
ii. Briefly explain the following:
(i) mechanism of hearing (ii) perception of body balance