



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS**  
**SCHOOL OF SCIENCE AND TECHNOLOGY**  
**MARCH/APRIL 2014 EXAMINATION**

**COURSE CODE: BIO 306**  
**COURSE TITLE: GENERAL PHYSIOLOGY II**  
**TIME ALLOWED: 2 HOURS**  
**INSTRUCTION: ANSWER ANY FOUR QUESTIONS**

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

b. Briefly describe any four urinary disorders you know.