



**National Open University Of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**  
**Faculty of Science**  
**OCTOBER/NOVEMBER 2016 EXAMINATION**

**COURSE CODE: BIO 306**

**COURSE TITLE: GENERAL PHYSIOLOGY II**

**CREDIT UNIT: 2**

**TIME: 2 HOURS**

**INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER THREE (3) QUESTIONS**

1. (a) Outline the factors affecting imbibitions (3 marks)  
(b) Summarize the significance of the following in general physiology:  
    (i) Diffusion (6 marks)  
    (ii) Osmosis (6 marks)  
(c) Water and nutrients are transported in plants- Discuss (10 marks)
2. (a) Distinguish between hormonal and Nervous Control Properties (9 marks)  
(b) Write **short notes** on the following:  
    (i) Ammonia (3 marks)  
    (ii) Uric acid (3 marks)
3. (a) What is an excretory organ? (2 marks)  
(b) Outline the sequences of plasmolysis (4 marks)  
(c) Write **short notes** on the following giving named examples:  
    (i) Perception of body balance (5 marks)  
    (ii) Mechanism of hearing (4 marks)
4. (a) What do you understand by the term osmoregulation? (3 marks)  
(b) Make a justifiable presentation on the need for osmoregulation in animals (5 marks)  
(c) Distinguish between transpiration and evaporation (7 marks)
5. (a) Enumerate the osmotic challenges facing animals in the freshwater environment (2 marks)  
(b) Highlight the factors affecting evaporative water loss in terrestrial animals (5 marks)  
(c) Give a detailed account of the relationship between osmotic equilibrium and ionic composition in marine animals (8 marks)
6. (a) Outline the kinds of water available to plants in the soil (3 marks)  
(b) With relevant examples, describe the various ways reflex response is applied in our daily activities (12 marks)