

UNIVERSITY OF ILORIN  
DEPARTMENT OF ZOOLOGY

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13/55EK146

ZLY 311 TEST (2015/2016 SESSION) DATE: 27<sup>TH</sup> JAN., 2016

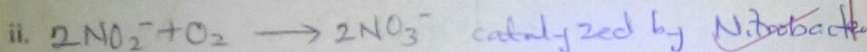
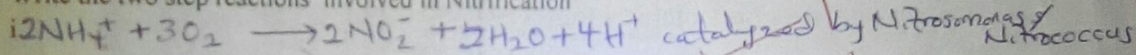
TIME ALLOWED: 20 MINS  
Instruction: Attempt all questions

1. What is Biogeochemical Cycle?  
Biogeochemical cycle is the process in which nutrient is cycled through the biotic and abiotic components of the ecosystem.

2. Complete the table below

Forms of Nitrogen	Chemical formula
a. Ammonia	NH <sub>3</sub>
b. Urea	CO(NH <sub>2</sub> ) <sub>2</sub>
c. Ammonium	NH <sub>4</sub> <sup>+</sup>
d. Nitrite	NO <sub>2</sub> <sup>-</sup>
e. Nitrate	NO <sub>3</sub> <sup>-</sup>
f. Atmospheric dinitrogen	N <sub>2</sub>

3. Write the two step reactions involved in Nitrification



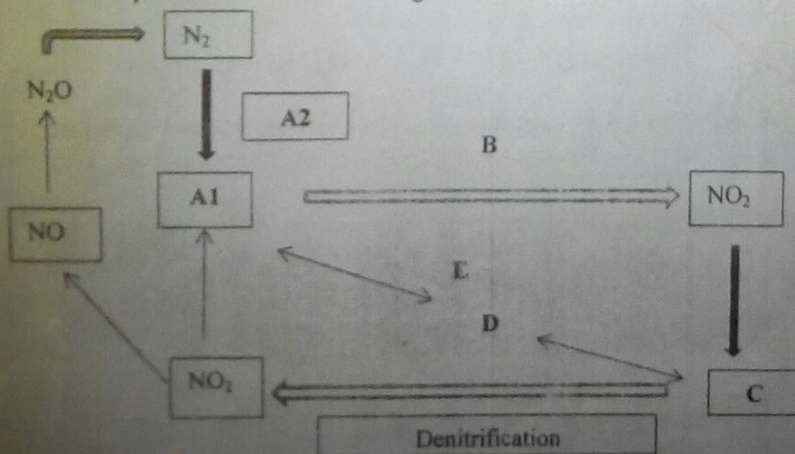
4. The major biogeochemical cycles found in the atmosphere are

Hydrological/water cycle, Nitrogen cycle, oxygen cycle, Carbon cycle

5. State two importances and human impact of phosphorus cycle

1. Phosphorus cycle is used in the production of detergents and fertilizers
2. It serves as major source of energy in animals in form of ATP and ADP.

6. Name the processes or forms of nitrogen involved in A-E



A1 = NH<sub>4</sub> (Ammonia)  
A2 = Nitrogen Fixation  
B = Nitrification  
C = NO<sub>3</sub> (Nitrate)  
D = R-NH<sub>2</sub>  
E = Ammonification

7. In the presence of iron, sulfur can precipitate as Ferrous sulphate and incorporated into biotic processes

8. Describe Hydrologic cycle (Hint: illustration only)

O'ShegMan