



**NATIONAL OPEN UNIVERSITY OF NIGERIA  
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS  
MARCH/APRIL 2016 EXAMINATION**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**COURSE CODE:** ESM423  
**COURSE TITLE:** HYDROLOGY AND WATER RESOURCES

**Time:** 2 1/2 hours  
**Instruction:** Answer 5 questions only

1. With the aid of a simplified diagram, explain the concept of hydrological cycle.
- 2a Define the term 'hydrology'.  
b. Explain the scope and relevance of hydrology.
- 3a. Mention **two** major environmental problems related to groundwater withdrawal.  
b. Explain **three** sources of each environmental problem mentioned in 3a
- 4a. Define drainage basin.  
b. Explain **five** features of a drainage basin  
c. Name three major basin patterns.
- . 5a. Name **three** agents of erosion.  
b. Discuss **five** methods of controlling erosion.
- 6a. Define the concept of interception.  
b. Of what importance is interception?  
c. Write short notes on **three** factors that affect interception.
- 7a. What is soil moisture?

- b. Mention and write short notes on the **three** forces influencing soil moisture.
- c. List **three** ways of measuring soil moisture.