



NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SEPTEMBER/OCTOBER 2015 EXAMINATION

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: ESM423

COURSE TITLE: HYDROLOGY AND WATER RESOURCES

Instruction: Answer 5 questions only

Time: 2 1/2 hours

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