



**National Open University of Nigeria**  
**Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja**  
**Faculty of Science**  
**POP EXAMINATION 2022\_2**

**COURSE CODE: ESM423**

**COURSE TITLE: Hydrology and Water Resources**

**CREDIT: 3 Units**

**TIME ALLOWED: 3Hours**

**Instruction:** Attempt question number ONE (1) and any other THREE (3) questions. Question number one (1) is compulsory and carries 25 marks, while the other questions carry equal marks (15) each.

1). Discuss, extensively using examples how hydrologist improve the society with their knowledge(**25marks**).

2a). Discuss the three major factors affecting interception (**8marks**)

2b). How does convectional precipitation occur (**3marks**)?

2c). Describe the formation of orographic precipitation (**4marks**)

3a) What is Hydrology? (**2marks**)

3b) What is a water shed? (**1mark**)

3c). Why is relative humidity important to the hydrologist? (**12marks**)

4a). Describe the structure of a water molecule (**7marks**)

4b). Explain the importance of integrated water management to development and management of water resources (**8marks**)

5a). Define any six of the main branches of hydrology (**6marks**)

5b). Describe the instrument used in the measurement of precipitation and how precipitation is measured (**9marks**)

6a). Define the term humidity? (**5marks**)

6b). Write on specific humidity and its role in hydrology (**10marks**)