



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
OCTOBER, 2019_2 EXAMINATIONS

COURSE CODE: ESM 423

COURSE TITLE: Hydrology and Water Resources.

CREDIT: 3 Units

TIME ALLOWED: 2hrs:30minutes

Instruction: Attempt question number ONE (1) and any other FOUR (4) questions. Question number one (1) carries 22 marks, while the other questions carry (12) marks each.

- 1a) Discuss the modern stages of hydrology development (16mks)
1b) Name water supply facilities (3mks)
1c) List the remedial measures, for reducing excessive sediment (3mks)
- 2) Explain the Scope of Hydrology (12mks)
- 3a) What is Hydrology? (3mks)
3b) Discuss extensively the three phases of water (9mks)
- 4a) What is Precipitation? (2mks)
4b) Name any five of the major branches of hydrology (5mks)
4c) Mention the key dimensions in the development and management of water resources according to Wurbs (2003) (5mks)
- 5) Describe the formation of precipitation by the following (12mks)
i) Warm clouds (6mks)
ii) Cold clouds (6mks)
- 6a) What is Humidity? (1mk)
6b) State the three major contributions of Leonardo da Vinci made to the development of hydrology (3mks)
6c) Discuss the sources and components of runoff (8mks)