



**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**University Village, Plot 91 Cadastral Zone, Nnamdi Azikiwe Express Way, Jabi - Abuja.**

**FACULTY OF SCIENCES  
ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT  
JANUARY/FEBRUARY 2018 EXAMINATIONS**

**COURSE CODE: ESM 444      TIME ALLOWED: 2HOURS      CREDIT UNIT: 2**

**COURSE TITLE: INDUSTRIAL WASTES AND INDUSTRIAL WATER TREATMENT**

**Instruction:** Attempt question number one (1) and any other three (3).

1. With relevant examples, justify the view that the handling of industrial wastes is a major problem all over the world. **(25marks)**
- 2a. Briefly discuss the types of recirculation of water system **(9marks)**
- 2b. What are the advantages inherent in the use of closed recirculation water system **(6marks)**
- 3a. Define the term industrial waste water **(5marks)**
- 3b. Explain the five ways of treating industrial waste water **(10marks)**
4. Discuss the biochemical processes of treating industrial wastewater. **(15marks)**
5. Explain the concept of waste management and of the different techniques of waste disposal **(15marks)**