

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**Plot 91, Cadastral Zone, Nnamdi Azikwe Expressway Jabi-Abuja**

**Faculty of Sciences**

**OCTOBER/NOVEMBER EXAMINATION 2016**

**COURSE TITLE:** WATER AND WASTEWATER MANAGEMENT

**COURSE CODE:** ESM 322 **DURATION:** 2 HOURS

***INSTRUCTION: ANSWER ANY FOUR QUESTIONS UNIT: 2***

1. (a) In simple clear terms, what does secondary treatment of wastewater

involve? (2 ½ mks)

(b) Discuss the efficient options in the secondary treatment of wastewater. (15 mks)

1. (a) In a tabular form, identify the various levels of water treatment and their

objectives. (12 ½ mks)

(b) Mention the types of Latrine systems. (5 mks)

1. In a tabular form, write on human activities that have potential impact on the freshwater ecosystem and the function at risk. 17 ½ mks
2. (a) Highlight five fresh water pollutants and their sources. 12 ½ mks

(b) List five reasons that justifies water and waste management. 5mks

1. (a) Identify five water borne diseases and their causing organisms. 5 mks

(b) What are the symptoms and the vehicle of transmission of the diseases and

mentioned in 5(a).

12 ½ mks

1. (a) What is Primary treatment with respect to On-site Sewage Disposal system?

11½ mks

(b) What do you understand by COD and BOD? 6mks