

Core Concepts: Potable water is safe to drink, but not chemically pure. Fresh water treatment involves sedimentation, filtration, and sterilisation. Waste water treatment involves screening, sedimentation, aerobic digestion of effluent, and anaerobic digestion of sludge.

Section A: Key Terms & Concepts

1. The diagram below shows a simplified process for treating fresh water to make it potable. Label the stages A, B, and C using the terms provided.

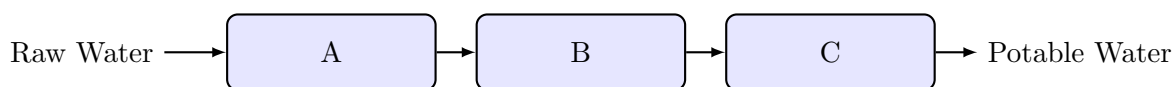


Figure 1: Potable Water Treatment Process

- **Terms:** Filtration, Sedimentation, Sterilisation

- A: _____

- B: _____

- C: _____

2. Complete the following sentences using appropriate scientific terms.

- a) Potable water is water that is _____ and fit for human consumption.
- b) The process of killing harmful microorganisms in water, often using chlorine or UV light, is called _____.
- c) Sludge produced during waste water treatment can be treated by _____ to produce biogas, which can be used as a fuel.

Section B: Core Concepts & Explanations

1. What is meant by the term 'potable water'? Explain why potable water is not considered chemically pure.

2. Describe the three main stages involved in treating fresh water from rivers or lakes to make it potable.

3. Explain why sterilisation is a crucial step in making water potable and name two common methods used for this process.

4. Outline the initial physical processes used in waste water treatment before biological treatment begins.

Section C: Exam Application & Extended Writing

1. A simplified flowchart for the treatment of waste water is shown below.

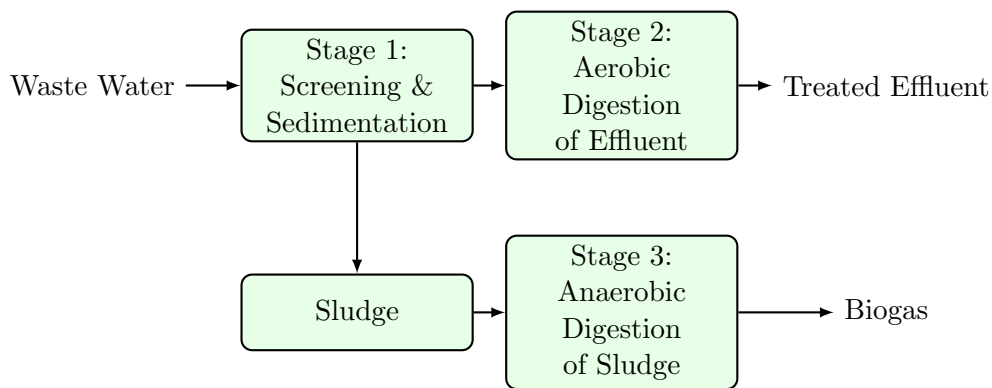


Figure 2: Waste Water Treatment Flowchart

Explain the purpose of Stage 2 and Stage 3 in the waste water treatment process.

2. Compare and contrast the treatment of fresh water to make it potable with the treatment of waste water, explaining why different processes are needed. (6 marks)
