

**BINDURA UNIVERSITY OF SCIENCE EDUCATION**  
**FACULTY OF AGRICULTURE AND ENVIRONMENTAL SCIENCE**

**Department of Environmental Science**

**ESM 415**

**Solid and liquid waste management**

**BSc SHEM Part IV Examination**

**TIME: 2 HOURS (70 marks)**

 **OCT 2023**

**INSTRUCTIONS**

Answer QUESTION ONE from SECTION A and any other two questions from SECTION B.

Question one carries 30 Marks and the rest 20 Marks each.

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**SECTION A (COMPULSORY)**

1. In a sustainable waste management system, waste characterisation is an important step that is undertaken before waste is eventually transported for disposal.
  - a) Discuss with the aid of examples factors that affect waste composition (20)
  - b) Explain why waste characterisation is important (10)

**SECTION B**

2. Discuss the effects of poor waste water management systems on the environment (20).
3. Discuss why you would choose convectional waste water treatment methods over non-conventional treatment methods. (20).
4. Examine the importance of the 'R's in the achievement of sustainable municipal solid waste management (20)
5. Unsustainable waste management practices can contribute to climate change. Elaborate. (20)

**END OF PAPER**