



MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

MAIN EXAM

2023/2024 ACADEMIC YEAR

SECOND YEAR FIRST SEMESTER EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN PUBLIC HEALTH AND
BIOSTATISTICS

COURSE CODE: HEH 313

COURSE TITLE: SOLID WASTE MANAGEMENT

DATE: 6/12/2023

TIME: 8.00-10 AM

INSTRUCTIONS TO CANDIDATES:

Answer All the Questions in Section A and Any 2 Questions in Section B
TIME: 2 hour

MMUST observes ZERO tolerance to examination cheating

Paper Consists of 2 Printed Pages. Please Turn Over



SECTION A – Answer ALL the Questions in this section

1. Explain the following terms (4 marks)
 - a) Waste disposal
 - b) Dumping of waste
2. The main steps in solid waste management include generation, onsite handling/ collection, transport/ transfer, processing/ recovery and disposal. Could you define the following terms (4 marks)
 - a) Waste generation
 - b) Waste collection
3. Waste classification can be done depending on factors/ criteria. Identify the 4 main criteria used to classify waste (4 marks)
4. What is a refuse transfer station. Identify any six activities that may be carried out at a refuse transfer station (4 marks)
5. Identify and highlight any 6 six sources of solid waste in Kenya (4 marks)
6. For proper solid waste management, the duty bearer should ensure that there is a proper plan and or time table. While briefly explaining, give 2 reasons why you think this is necessary
7. Apart from having proper plan and time table, frequency of collection is also critical. Highlight on the suitable collection frequency for the following categories of solid waste while giving reason for that frequency for that category of waste. (4 marks)
 - i. Garbage
 - ii. Rubbish
 - iii. Mixed waste
 - iv. Waste from commercial areas.
8. Waste sorting can be done at the household (point of generation) or at the refuse transfer station. At whatever point it is done the purpose is either to reduce its size, recover or reuse. With a short explanation can you define the following words as used in solid waste management while giving an example in each case. (4 marks)
 - a) Recycle
 - b) Re use
 - c) Recover
9. What is the public health importance of solid waste? (4 marks)
10. List at least 4 ways un which solid waste can be of benefit to the society (4 marks)

SECTION B – Answer ANY Two Questions in this section

1. The aim of solid waste management is to treat the waste so that it becomes safe to be allowed to rejoin the ecosystem by way of disposal. There are several disposal methods where some of them are considered either safe or unsafe, though they are still used to dispose off solid waste. One such a safe method is controlled tipping or land fill that is touted to protect the environment. In an in-depth explanation, discuss this method of solid waste disposal.
 - b) List and briefly highlight on any 5 advantages of this method solid waste disposal method
 - c). List and briefly highlight on any 5 disadvantages of this method of solid waste disposal (15 marks)
2. Design an incinerator and explain its working mechanism (15 marks)
3. Describe composting as a solid waste treatment and disposal method (15 marks)

