



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF HEALTH, APPLIED SCIENCES AND NATURAL RESOURCES  
DEPARTMENT OF HEALTH SCIENCES**

<b>QUALIFICATION : ENVIRONMENTAL HEALTH SCIENCES</b>	
<b>QUALIFICATION CODE:</b> 08BOHS	<b>LEVEL:</b> 6
<b>COURSE CODE:</b> WSM611S	<b>COURSE NAME:</b> WASTE MANAGEMENT
<b>SESSION:</b> JULY 2022	<b>PAPER:</b> THEORY
<b>DURATION:</b> 3 HOURS	<b>MARKS:</b> 100

<b>SUPPLEMENTARY/SECOND OPPORTUNITY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S)</b>	<b>MR. IMMANUEL ZERIAPI</b>
<b>MODERATOR:</b>	<b>MR. JOSHUA HIDINWA</b>

<b>INSTRUCTIONS</b>	
<ol style="list-style-type: none"><li>1. Answer ALL the questions.</li><li>2. Write clearly and neatly.</li><li>3. Number the answers clearly.</li></ol>	

**PERMISSIBLE MATERIALS: NONE**

**THIS QUESTION PAPER CONSISTS OF 4 PAGES (Including this front page)**

## SECTION A (30 MARKS)

### QUESTION 1 [ 10 MARKS]

- 1.0 Assess the following statements and decide whether they are true or false. Write only the number of the question and next to it true for a true statement and false for a false statement next to the number of the question.
- 1.1 Advantage of an Incinerator, the initial cost is high during construction. (1)
- 1.2 All microorganisms have optimum temperature range. (1)
- 1.3 The amount of domestic waste generated in Namibia is estimated to be 20g per capital per day. (1)
- 1.4 Domestic waste should be marked with the international infectious substance symbol. (1)
- 1.5 Steam Sterilization disadvantage include low capital investment. (1)
- 1.6 Sharp items should be collected, regardless of whether they are contaminated. (1)
- 1.7 Suppliers of chemicals and pharmaceuticals can become responsible partners in waste minimization. (1)
- 1.8 Advantage of open dumping, it makes lands and other surrounding areas attractive for the developers. (1)
- 1.9 Duty of Care should be used in conjunction with the waste minimisation initiative. (1)
- 1.10 Leachate is the liquid that percolates through a landfill. (1)

## QUESTION 2 [ 10 MARKS]

2.0 Match the term in Column A with its description/definition in Column B.

(10)

COLUMN A	COLUMN B
2.1 Basel Convention	A. It was adopted in 2001 and entered into force on 17 May 2004.
2.2 Incinerator	B. To impose accountability over the entire lifecycle of products and packaging introduced to the market. .
2.3 Resource reduction	C. It takes care of all types of solid wastes except garbage.
2.4 Waste hierarchy	D. It is a process of burning the combustible components of garbage and refuse.
2.5 Extended Producer responsibility	E. Prescribes the prior informed consent procedures for certain Hazardous chemicals and pesticides in International Trade.
2.6 Satellite Dumping site	F. The engineer should also consider what the final use of the site will be and how long-term management of the site will impact this final use.
2.7 Rotterdam Convention	G. It is the cornerstone of most waste minimization strategies
2.8 Landfill site	H. The current practice used in Namibia for medical/clinical waste disposal.
2.9 Incinerator	I. In response to concerns about Toxic Waste being dumped in developing countries.
2.10 Stockholm Convention	J. Decrease unnecessary or excessive packaging.

## QUESTION 3 [ 10 MARKS]

3.0 Define the following terms:

3.1 Waste information system (2)

3.2 Litter (2)

3.3 Integrated resource management (2)

3.4 Comprehensive waste management policy. (4)

## **SECTION B (30 MARKS)**

### **QUESTION 4 [ 10 MARKS]**

- 4.1 List the operational schedule required to management landfill site. (5)
- 4.2 Name the functional elements of solid waste management programme. (5)

### **QUESTION 5 [ 20 MARKS]**

- 5.1 Outline the Integrated Collection strategy. (8)
- 5.2 Tabulate the comparison between Landfill site and Incinerator. (12)

## **SECTION C (40 MARKS)**

### **QUESTION 6 [20 MARKS]**

- 6.1 Discuss effect of Geographic and physical factors on waste generation. (10)
- 6.2 Describe the duties of Environmental Health Practitioner/s at regional level as stipulated in the National Waste Management Policy, July 2010 (10)

### **QUESTION 7 [ 20 MARKS]**

- 7.0 Explain the key concepts in household waste processing in Namibia. (20)

**GOOD LUCK**