



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR
FOURTH YEAR FIRST SEMESTER**

**SCHOOL OF NATURAL RESOURCES & ANIMAL
SCIENCES
BACHELOR OF ENVIRONMENTAL STUDIES
(BIOLOGY AND HEALTH)**

COURSE CODE: EBH 4132

COURSE TITLE: WASTEWATER MANAGEMENT

DATE: 5TH DECEMBER, 2019

TIME: 0830 -1030 HRS

INSTRUCTIONS TO CANDIDATES

Section A is compulsory

Answer any THREE questions in section B

This paper consists of 3 printed pages. Please turn over

SECTION A: 25 MARKS (ANSWER ALL THE QUESTIONS)

- 1) Define waste based on Basel convention and United Nations Statistics Division (UNSD) **(4 Marks)**.
- 2) Discuss **Three** classifications of wastes **(6 marks)**
- 3) What do you understand by the term **Biological oxygen demand?****(2marks)**
- 4) Highlight **TWO** impacts of wastes on Environment **(2 marks)**
- 5) With illustrations explain sludge treatment process **(5 marks)**
- 6) Waste water is a resource. Discuss **(3 marks)**
- 7) Give three common methods used in water analysis **(3 marks)**

SECTION B: 45 MARKS (ANSWER ANY THREE QUESTIONS)

- 8)
 - a) While giving examples, clearly discuss the factors affecting municipal water use in Kenya. **(12 marks)**
 - b) Why do we need to Measure Wastewater Flow? **(3 marks)**
- 9)
 - a) According to your understanding describe the term **wastewater treatment**. **(2 marks)**
 - b) Clearly discuss what measures should be taken to ensure wastewater reduction in Kenya **(10 marks)**
 - c) Describe **Three** types of wastewater **(3 marks)**
- 10) Wastewater is pumped directly into the sea or into fresh water bodies without any form of treatment. In other parts of developed countries, lack of adequate wastewater treatment infrastructure,

maintenance and outdated systems heavily compromise wastewater treatment efforts. Discuss the effects of this **(15 marks)**.

11)

a) What is meant by Guidelines and standards **(2 marks)**

b) While giving examples describe three categories of contaminants **(9 marks)**

c) Explain what you understand by turbidity and how it is measured in water **(4 marks)**