



# MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF AGRICULTURE, ENVIRONMENT AND HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENTAL SCIENCES

SECOND YEAR FIRST SEMESTER EXAMINATION FOR BACHELOR OF ENVIRONMENTAL STUDIES (COMMUNITY DEVELOPMENT) BACHELOR OF SCIENCE (COMMUNITY RESOURCE MANAGEMENT)

**ECD 202: COMMUNITY WATER RESOURCES AND SANITATION MANAGEMENT**

**DATE:**

**TIME:**

---

**INSTRUCTIONS:** Answer Question **ONE (Compulsory)** and any other **TWO** Questions

## QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Explain the meaning of the following
- i. Water quality (2 marks)
  - ii. Eutrophication (2 marks)
  - iii. Biochemical Oxygen Demand (2 marks)
- b) Explain four principal objectives of water quality monitoring (4 marks)
- c) Sanitation management is major challenge in slum settlements in Kenya. Discuss (8 marks)
- d) Discuss four key drivers of water pollution in Kenya. (12 marks)

## QUESTION TWO (20 MARKS)

Discuss the relevance of waste management hierarchy in achieving a clean and healthy environment

## QUESTION THREE (20 MARKS)

- a) Explain any four characteristics of hazardous wastes (8 marks)
- b) Explain any six water quality parameters measured during water quality assessment. (12 marks)

**QUESTION FOUR (20 MARKS)**

Using examples, evaluate the role of various stakeholders in community water resources and sanitation management in Kenya

**QUESTION FIVE (20 MARKS)**

- a) Describe the treatment process for drinking water as practiced in Machakos water treatment plant . (10 marks)
- b) Describe the treatment process for wastewater as practiced in Machakos town. (10 marks)