



# MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

DEPARTMENT OF ENVIRONMENTAL SCIENCES

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF ENVIRONMENTAL SCIENCES

ENS 454: MINING AND SUSTAINABLE DEVELOPMENT

DATE: 9/8/2021

TIME: 8.30-10.30 AM

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## INSTRUCTIONS;

Answer question ONE and any other TWO questions

### QUESTION ONE (30 MARKS)

- a) Briefly discuss the significance of mining in the development of your County (10 marks)
- b) Explain how to protect water resources from the adverse impacts of mining activities (10 marks)
- c) Highlight specific ways of utilizing areas where mining activities have ceased (10 marks)

### QUESTION TWO (20 MARKS)

Discuss the strategies you would put in place to manage the adverse impacts of Acid Mine Drainage

### QUESTION THREE (20 MARKS)

Discuss any **five** social challenges associated with mining activities and explain how to manage the challenges

**QUESTION FOUR (20 MARKS)**

- a) Explain the term *Acid Rain* (5 marks)
- b) Discuss strategies you would institute to deal with the adverse impacts of Acid Rain (15 marks)

**QUESTION FIVE (20 MARKS)**

Discuss the necessity for a suitable monitoring and evaluation program in areas where mining activities take place