



# MURANG'A UNIVERSITY OF TECHNOLOGY

## SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF APPLIED SCIENCES

UNIVERSITY ORDINARY EXAMINATION

2018/2019 ACADEMIC YEAR

**FIRST YEAR FIRST SEMESTER EXAMINATION**

ACH 601 – ENVIRONMENTAL CHEMISTRY

DURATION: 2 HOURS

DATE: 14/12/2018

TIME: 2:00-4:00 PM

**Instructions to candidates:**

1. Answer Any Four Questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

**QUESTION ONE (25 MARKS)**

- a) Discuss five (5) major limitations to successful implementation of environmental legislation in Kenya. (10 Marks)
- b) There has been growing need for energy in developing countries. Discuss at least five (5) sources of energy that are considered green energy. (10 Marks)
- c) Discuss how carbon credit policy has helped towards protection of the environment. (5 Marks)

**QUESTION TWO (25 MARKS)**

- a)
- i. Briefly discuss the sources and process of acid rain formation. (5 Marks)
  - ii. Distinguish between wet and dry deposition of acid rain (5 Marks)
  - iii. Explain the effects of acid rain to the environment (10 Marks)
- b) Explain the process and effect of long range transportation of air pollutants. (5 Marks)

**QUESTION THREE (25 MARKS)**

- a) Distinguish between primary and secondary aerosols as atmospheric pollutants. (5 Marks)
- b) Explain the effects of Aerosols to the environment. (5 Marks)
- c) Discuss three (3) ways used to reduce atmospheric aerosol pollution. (6 Marks)
- d) Devolution in Kenya has increased the rate of urbanization which has had impact to the environment. Discuss the impact of urbanization to the;
- i. Atmosphere (3 Marks)
  - ii. Lithosphere (3 Marks)
  - iii. Biosphere (3 Marks)

**QUESTION FOUR (25 MARKS)**

- a) One of the Kenyan Government “Big Four Agenda” is construction of affordable housing. Discuss five (5) ways in which this project would help reduce climate change. (10 Marks)
- b) Discuss at least five (5) measures adopted by a specific Kenyan industry to minimize environmental pollution. (10 Marks)
- c) Using specific Examples Explain the term Product Carbon footprint. (5 Marks)

**QUESTION FIVE (25 MARKS)**

- a) Agriculture is the backbone of Kenyan economy. Discuss five (5) ways in which Agricultural activities have contributed to climate change (10 Marks)
- b) Since the World realized the dangers of climate change, there has been increased research and calls for sustainable green economy. Discuss five (5) new technologies that have helped reduce climate change and environment pollution. (10 Marks)
- c) Most of the Kenyan population are not aware of climate change. Discuss five (5) ways that could be undertaken by Kenyan Government to create environmental awareness. (5 Marks)