



# UNIVERSITY OF EMBU

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2016/2017 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF  
SCIENCE IN MANAGEMENT AGROECOSYSTEMS AND ENVIRONMENT AND  
BACHELOR OF SCIENCE IN WATER RESOURCES MANAGEMENT

AEM 202: ATMOSPHERIC SCIENCE

DATE: APRIL 4, 2017

TIME: 8:30-10:30AM

INSTRUCTIONS:

Answer Question ONE and ANY other TWO Questions

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QUESTION ONE

- a) Define the following terms;
- i) Eutrophication (1 mark)
  - ii) Parallax (1 mark)
- b) Differentiate between;
- i) Absolute humidity and relative humidity (2 marks)
  - ii) Aurora borealis and the aurora Australis (2 marks)
  - iii) Radiation and convection (2 marks)
  - iv) Geostrophic balance and *geostrophic wind* (2 marks)
  - v) Cyclone and anticyclone (2 marks)
- c) Describe the major processes that modify the solar radiation passing through the atmosphere (3 marks)
- d) Discuss the contribution of aerosols in the atmosphere to climate change (5 marks)
- e) Describe the process of ozone layer depletion (5 marks)
- f) Using examples describe greenhouse gases (5 marks)

**QUESTION TWO**

- a) Discuss the impacts of global warming on agriculture (10 marks)
- b) Using a schematic illustration discuss the various types of clouds (10 marks)

**QUESTION THREE**

- a) Discuss the effects of acid rain on the environment (10 marks)
- b) Using a schematic illustration discuss the layers of the atmosphere (10 marks)

**QUESTION FOUR**

- a) Discuss the impact of land use change on the modification of climate (10 marks)
- b) Discuss the role of atmospheric circulation in regulating climates globally (10 marks)

**QUESTION FIVE**

- a) "Water greatly affects the behaviour of the atmosphere". Discuss (10 marks)
- b) Using a schematic illustration discuss the carbon cycle (10 marks)

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