



EMBU UNIVERSITY COLLEGE

(A Constituent College of the University of Nairobi)

2015/2016 ACADEMIC YEAR

SECOND SEMESTER EXAMINATION

FIRST YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

(MANAGEMENT OF AGRO-ECOSYSTEMS AND ENVIRONMENT)/ (WATER RESOURCES MANAGEMENT).

AEM 104: ENVIRONMENTAL PHYSICS

DATE: APRIL 13, 2016

TIME: 08:30-10:30

INSTRUCTIONS:

Answer Question ONE and ANY Other TWO Questions

QUESTION ONE

- a) Explain the following terms:
- i) Global warming (2 Marks)
 - ii) Atmospheric window (2 Marks)
 - iii) Noise control (2 Marks)
 - iv) Residence time (2 Marks)
- b) State Newton's Law of Cooling (2 Marks)
- c) Describe the concept of Entropy of a system. (3 Marks)
- d) Discuss the principles of first law of thermodynamics. (5 Marks)
- e) Discuss briefly the causes and effects of acid rains. (6 Marks)
- f) i) Outline the methods of heat transfer. (3 Marks)
- ii) Outline the importance of thermal insulation. (3 Marks)

QUESTION TWO

- a) Discuss the main effects of noise pollution. (10 Marks)
- b) Discuss the impacts of global warming (10 Marks)

QUESTION THREE

- a) Using a schematic representation, discuss the hydrologic cycle. (10 Marks)
- b) Using a schematic illustration, discuss the heat island phenomenon (10 Marks)

QUESTION FOUR

- a) Discuss the relationship between surface tension and soils. (10 Marks)
- b) "Water greatly affects the behaviour of the atmosphere". Discuss using relevant examples (10 Marks)

QUESTION FIVE

- a) Using schematic illustrations, discuss the atmospheric processes that modify the solar radiation. (10 Marks)
- b) Discuss the causes and processes of ozone layer depletion. (10 Marks)

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