



**EMBU UNIVERSITY COLLEGE**

**(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)**

**TRIMESTER EXAMINATION 2013/2014**

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

**AEM 205: POLLUTION SCIENCE**

**DATE: AUGUST 6, 2014**

**TIME: 8.30 – 10.30 AM**

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**INSTRUCTIONS:**

**Answer Question ONE and ANY Other TWO Questions.**

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**QUESTION ONE**

- a) Define the following terms as used in pollution science.
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| i.) Pollution                    | (3 marks) |
| ii.) Environmental biotechnology | (3 marks) |
| iii.) Volatile organic compounds | (3 marks) |
| iv.) Chlorofluorocarbons         | (3 marks) |
- b) Describe three major primary pollutants produced by human activity. (6 marks)
- c) Explain the differences between point and non-point sources of pollution. (6 marks)
- d) Describe the effect of geothermal power plants on surrounding ecologies. (6 marks)

## **QUESTION TWO**

- a) Using examples, explain the air pollution reduction efforts that can be deployed in Kenya. (10 marks)
- b) Explain how heat can be a source of pollution in water resources. (10 marks)

## **QUESTION THREE**

- a) Describe the importance of microbial ecology to environmental pollution in East Africa (6 marks)
- b) Explain how emergent countries such as Kenya can make use of microbial resource management to minimize water-borne pollution. (10 marks)

## **QUESTION FOUR**

- a) Outline and explain briefly five valuable services that environmental biotechnology can provide to societies in African countries. (10 marks)
- b) Define environmental impact assessment and discuss its importance in maintaining adequate quality of life for Kenyans. (10 marks)

## **QUESTION FIVE**

- a) Explain three main methods of solid waste management, showing their relevance in the Kenyan context. (10 marks)
- b) Describe three central principles of waste management. (10 marks)

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