



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2019 TRIMESTER

FACULTY OF ARTS AND SOCIAL SCIENCES

DEPARTMENT OF ECONOMICS

REGULAR PROGRAMME

ECN 412: ENVIRONMENTAL ECONOMICS

Date: APRIL 2019

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Define and illustrate the following concepts:
- i) Materials Balance Model. **(5 Marks)**
 - ii) Total Economic Value (TEV). **(5 Marks)**
 - iii) Solutions to negative environmental externalities. **(5 Marks)**
 - iv) Cost Benefit Analysis. **(5 Marks)**
- b) For a proposed chemical factory in Kajjado County, give 5 possible negative environmental impacts and suggest mitigation measures to deal with each. **(10marks)**
- Q2. a) How do humans generate pressures, consequently, affecting their own environmental utilization space? **(10 Marks)**
- b) Explain and illustrate the following monetary valuations of the environment:
- i) Market valuation of natural capital and asset changes. **(5 Marks)**
 - ii) Maintenance Cost Valuation. **(5 Marks)**
- Q3. a) Explain 5 costs and 5 benefits of cleaning up a river passing through an industrial city. **(10 Marks)**
- b) Outline the opportunity cost of preserving a swamp. **(5 Marks)**
- c) How is the problem of market failure addressed in the context of Pareto optimality (efficient outcome)? **(5 Marks)**

Q4. Outline any **two** of the following methods of measuring the value of non-marketed environmental goods and services. **(20 Marks)**

- i) Contingent Valuation Method (CVM).
- ii) Travel Cost Method (TCM).
- iii) Hedonic Regression/Pricing Method (HRM).
- iv) Benefits Transfer Method (BTM).

Q5. a) What are the environmental and economic impacts of rapid urbanization in Africa? **(10 Marks)**

b) Outline costs associated with environmental degradation and show their environmental impacts. **(10 Marks)**

END