



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
 SCHOOL OF AGRICULTURAL AND FOOD SCIENCES
 UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE
 AGRIBUSINESS MANAGEMENT AND AGRICULTURAL EXTENSION EDUCATION
 FOURTH YEAR SECOND SEMESTER 2017/2018 ACADEMIC YEAR**

REGULAR

COURSE CODE: **AAE 3425**

COURSE TITLE: **ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS**

EXAM VENUE: **STREAM: BSc Agric. Ext. Educ & BSc.
 Agribusiness Management**

DATE: **EXAM SESSION: 9.00 – 12.00 Noon**

TIME: 3.00 HOURS

Instructions:

1. Answer ALL question in Section A (compulsory) and ANY other TWO questions in Section B.
2. Candidates are advised not to write on the question paper.
3. Candidates must hand in their answer booklets to the invigilator while in the examination room.

SECTION A**(30 Marks)****Answer ALL Questions in this section**

1. Define the following terms: [6 marks]
 - (i) Natural resource economics
 - (ii) Environment
 - (iii) The Circular Flow Income

2. Briefly explain the following broad issues in the economic evaluation of environmental problems [6 marks]
 - (i) Externalities
 - (ii) Market failures
 - (iii) Irreversibility

3. “Marketable emission permits create a market for externalities.” Explain how this system works and its advantages [8 marks]

4. Suppose there are three different groups A, B and C in a community and their demand curves for a certain good are given respectively by:
 $Q = 150 - 3P$ for group A
 $Q = 300 - 2P$ for group B
 $Q = 200 - P$ for group C
The good can be produced at a marginal cost of Ksh.125 per unit. Use graphs (price on the vertical axis) to determine the total quantity of the good which should be produced if the good is a:
 - (i) PUBLIC GOOD [5 marks]
 - (ii) PRIVATE GOOD [5 marks]

SECTION B**(40 Marks)****Answer ANY TWO Questions in this section**

5. “Discharge of pollutants into the environment is as old as mankind. Moreover excessive pollution is associated with economic growth and industrialization. Therefore developing economies should not start worrying about pollution issues.” Outline a rational response to this statement in view of efficient allocation of environmental resources in developing countries [20 marks]

 6. Define the term “property rights.” Explain how properly defined property rights and competitive price system result in efficient resource allocation, from the point of view of society as a whole [20 marks]

 7. With the aid of a clearly labeled diagram, explain the material balance model and how it provides maximum benefits to mankind. [20 marks]

 8. Explain why public sector is needed in environmental management and why its size is a technical issue [20 marks]
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