

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF
BACHELOR IN ECONOMICS AND SOCIOLOGY**

ECON 445: ENVIRONMENTAL ECONOMICS

STREAMS: ECON SOCI

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 31/3/2021

11.30 AM – 1.30 PM

INSTRUCTIONS:

- Answer Question One (Compulsory) and any other Three Questions.
- Do not write on the question paper

QUESTION ONE

- a) With respect to environmental economics, discuss the meaning of the following terms;
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|----------------------------|-----------|
| a. Environmental economics | [2 Marks] |
| b. Market failure | [2 Marks] |
| c. Sustainable development | [2 Marks] |
| d. Pollution | [2 Marks] |
| e. Use and not-use values | [2 Marks] |
- b) Water Users Associations are public utility providers of water in different areas of the country. Using relevant illustrations, discuss how efficient allocation of water is attained.[8 Marks]
- c) Explain the relationship between agriculture and environment. [7 Marks]

QUESTION TWO

- (a) What happens to the level of output produced when there is a discrepancy between private and social costs ? [3 Marks]
- (b) Explain the implications of sustainable development for population and natural resource issues. [4 Marks]

- (c) Most regions in Kenya are semi-arid. Recently, many policy makers have been advocating for irrigation use as a way of increasing food production in the country. Given that most irrigation schemes in Kenya are managed under common property regime where members develop their own local user mechanism in terms of managing the resource. Discuss how to efficiently achieve a good policy in management of current irrigation water resources in order to achieve sustainable development in agriculture. [8 Marks]

QUESTION THREE

- (i) a) Using a diagram, discuss the relationship between the environment and economic growth. [7 Marks]
- (ii) Explain how to use the following models in valuation of environmental amenities.
- a. Travel cost model [2 Marks]
 - b. Hedonic pricing model [2 Marks]
 - c. Contingent valuation models [2 Marks]
 - d. Cost Benefit analysis [2 Marks]

QUESTION FOUR

- i. What is the difference between weak and strong sustainability? [4 Marks]
- ii. Most agricultural farming in Kenya requires use of pesticides and herbicides. There has been an increasing perception for horticultural food consumers that Greenhouse farming uses more pesticides than open field farming. Using relevant examples, discuss the current trends in management of agricultural pesticides as well as the case for or against greenhouse use. [11 Marks]

QUESTION FIVE

- (i) xyz Company is a processing company located upstream. The company releases effluents from production into the river. However, there are other water users downstream including fishermen, and irrigation farmers. Discuss how efficiency can be attained in containing the externality. [15 Marks]
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