



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY  
SCHOOL OF SPATIAL PLANNING AND NATURAL RESOURCES MANAGEMENT  
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN  
WATER AND ENVIRONMENTAL MANAGEMENT.  
3<sup>RD</sup> YEAR 2<sup>ND</sup> SEMESTER 2024/2025 ACADEMIC YEAR  
ONLINE EXAMS**

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**COURSE CODE: PNB 1308**

**COURSE TITLE: ECONOMICS, TECHNOLOGY AND ENVIRONMENTAL  
DEGRADATION**

**DATE: 23/4/2025**

**SESSION: 15.00-17.00**

**TIME: 2 HOURS**

**VENUE: LR 10**

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**Instructions:**

- 1. Answer ALL questions in Section A and ANY TWO QUESTIONS from SECTION B**
- 2. Hand in your work before leaving the exam room.**

**SECTION A: ANSWER ALL QUESTIONS (30MARKS)**

1. (a) Differentiate macroeconomics from microeconomics and give appropriate examples **(4marks)**  
(b) Name **five** factors of production **(5marks)**  
(c) What is the key objective of environmental economics? **(1mark)**.  
(d) Why are non-renewable energy resources finite? **(1mark)**  
(e) What is a clean technology **(1mark)**  
(f) Appropriate technology was developed not to dominate nature but to be in harmony with it. Justify this statement **(5marks)**  
(g) What is land degradation? **(1mark)**  
(h) List **five** consequences of land degradation **(5marks)**  
(i) Name **two** major causes of biodiversity loss **(2marks)**  
(j) As a scientist with economics background, you are hired by **Amani Group of Companies** to study the possibility of starting a water bottling factory in your county, **which five** factors will you consider for the viability of the factory? **(5marks)**

**SECTION B: ANSWER ANY TWO QUESTIONS (40MARKS)**

1. (a) Discuss the linkage between the environment and the economy **(10marks)**  
(b) Discuss the advantages of nuclear power **(10marks)**
2. (a) The purpose of environmental valuation is to ascribe an economic value in monetary terms to natural resources and the environment to lay the rules for their optimal use. Valuation helps to correct the balance between quantifiable and non-quantifiable effects in cost-benefit analysis. Discuss five market base methods **(10marks)**  
(b). Overgrazing can result in degradation of land. Discuss how this trend can be reversed **(10marks)**
3. (a) Discuss the main drivers of land degradation in your county. **(10marks)**  
(b) What are the environmental threats posed by water hyacinth? **(10marks)**