



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF  
SPATIAL PLANNING AND NATURAL RESOURCES MANEGEMENT  
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN WATER  
RESOURCES AND ENVIRONMENTAL MANAGEMENT  
SEMESTER 2023/2024 ACADEMIC YEAR**

**SEP-DEC 2023 EXAM**

**CENTRE: MAIN CAMPUS**

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**COURSE CODE: PNB 1206**

**COURSE TITLE: ECONOMICS OF NATURAL RESOURCE MANAGEMENT**

**EXAM VENUE: LR 5**

**STREAM: BSc. Water Resources Management**

**DATE: 16/4/2025**

**EXAM SESSION: 15.00-17.00**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer question 1 (compulsory) and ANY other 2 questions.**
- 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.**

### QUESTION ONE

- a) Analyze the 'Poverty-Environment nexus' Mythology (6 marks)
- b) Explain how Property Rights Regimes impacts natural resources management (6 marks)
- c) Analyze the correlation between maximum sustainable yield (MSY) and Maximum Economic Yield (MEY) (6 marks)
- d) Explain how Production Possibility Frontier (PPF) models economics of scarcity and choice (6 marks)
- e) With examples explain the 'Natural Resource Trap' ideology (6 marks)

### QUESTION TWO

- a) Discuss how principles of natural resource economics promote sustainable development (10 marks)
- b) Explain how Kenya National Environment Policy's principles promote natural resources management (10 marks)

### QUESTION THREE

- a) Using fisheries/forest as an economic resource, discuss application of Maximum Sustainable Yield (MSY) model in optimal resource extraction (15 marks)
- b) Explain how natural resource economists can support optimal resource exploitation (5 marks)

### QUESTION FOUR

- a) Explain how natural resource economics impacts ecosystem services phenomena (10 marks)
- b) With examples explain how economics of scarcity, opportunity cost, and economic growth can be integrated in natural resource management (10 marks)

### QUESTION FIVE

Based on principles of economics discuss how natural resources evaluation methods promote sustainability (20 marks)