



*"Investing in Africa's Future"*

COLLEGE OF BUSINESS, PEACE, LEADERSHIP, AND GOVERNANCE

**NMEC 404/NAFR 401: RESOURCE AND ENVIRONMENTAL ECONOMICS**

**END OF SECOND SEMESTER EXAMINATIONS**

**APRIL 2023**

**LECTURER: MR G. MANDEWO**

**DURATION: 3 HOURS**

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### ***INSTRUCTIONS***

Answer Question **number 1** and **any other two questions**. Total possible mark is **100**.

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Start **each** question on a new page in your answer booklet.

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The marks allocated to **each** question are shown at the end of the question.

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**Show all your workings.**

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Credit will be awarded for logical, systematic and neat presentations.

1. (a) The idea behind resolving externalities is to internalise the externality. In the context of environmental problems come up with practical strategies to resolve externalities. In each case demonstrate how the externality will be resolved. What is the contribution of Ronald Coase to this problem? **[15 Marks]**  
 (b) Write brief notes on the following (Hint: ensure that the concept is explicit by using algebra and diagrams)
  - (i) Aquaculture **[5 Marks]**
  - (ii) Emission charges **[5 Marks]**
  - (iii) Pollutant taxonomy **[5 Marks]**
  - (iv) Resource accounting **[10 Marks]**
  
2. The concept of sustainable development the basis for environmental management. You are required to use your own practical examples to discuss the concept considering the following.
  - (a) Intertemporal analysis **[5 Marks]**
  - (b) Dynamic efficient allocation **[5 Marks]**
  - (c) Efficient allocation (two different resources) **[10 marks]**
  
3. (a) Explain three types of externalities with emphasis on environmental examples and suggest solutions to externalities. (In your response demonstrate how the externality problem is resolved) **[5 Marks]**  
 (b) Economists are interested in climate change. Relate the effect of climate change to economic activities and suggest practical ways of tackling this problem in a global context. **[5 Marks]**  
 (c) The Environmental Management Agencies are mandated to manage the environment and ensure sustainable use of environmental resources. Drawing your examples from the environment define the three main versions of sustainability. **[10 Marks]**
  
4. Environmental valuation is key to optional utilization of the environment. Using a country of your own choice and with specific examples show how you would appraise the value of an environment. Why is valuation key to sustainable utilization of the environment? **[20 marks]**
  
5. (a) Discuss areas of mismanagement of replenish able but deplete able resources such as fisheries **[4 Marks]**  
 (b) Why is common property resources subjected to over exploitation? **[4 Marks]**

- (c) Suggest practical measures community may adopt to ensure sustainable use of a common property resource **[4 Marks]**
- (d) Illustrate and explain biological and market allocation of fisheries **[4 Marks]**
- (i) Make a clear distinction between contemporaneous externality and inter generational externality **[4 Marks]**
- 6 (a) Taxes and subsidies enhance internalisation of externality. Explain how. **[4 Marks]**
- (b) What contribution does the Coase theorem have to the problem of externalities **[4 Marks]**
- (c) The following emerging trends in environmental management
- (i) Environmental management agencies/authorities **[6 Marks]**
- (ii) Global warming **[6 Marks]**
- Write brief notes on each of the above
7. (a) Illustrate Cost benefit analysis that factors in time and risk. **[10 Marks]**
- (b) In what way do cost effective analysis and impact analysis are improvisations that enables project appraisal when CBA is not viable?
- [10 Marks]**
8. (a) The environment affords the economic system with resources. Economists are interested in the efficient allocation of these resources. Explain in detail how efficient allocation of the following THREE resources can be attained;
- (i) Depletable but replenishable resources **[4 marks]**
- (ii) Recyclable resources **[4 marks]**
- (iii) Depletable resources **[4 marks]**
- (iv) Common property resources **[4 marks]**
- (v) Renewable resources **[4 marks]**
- (c) Explain what is meant by 'sustainable development' and discuss the extent to which this is a useful concept. **[8 marks]**

**END OF EXAMINATION**