

The National University of Lesotho
BSc Environmental Science Examination
ES 2301: Principles of Environmental Science

January 2024

Duration: 3 hours

Marks: 100

Instructions:

- Answer any **four (4)** questions
 - Where applicable illustrate your answer with diagrams.
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Question 1

- a) What is the purpose of Lesotho Environment Act? (5)
- b) With reasons, specify if Environmental Impact Assessment is needed for the following projects or not.
- i. Dams and reservoirs (5)
 - ii. Community garden development (5)
 - iii. Power plants (5)
 - iv. Large scale Irrigation system (5)
- (25)**

Question 2

- a) Why is it important to know biochemical cycle of elements? (4)
- b) What are sources of carbon dioxide into the atmosphere? (10)
- c) How does carbon dioxide influence climate change? (6)
- d) What is the role of leguminous plants in nitrogen cycle? (5)
- (25)**

Question 3

Explain how the following affect biodiversity

- a) Habitat change (5)
 - b) Climate change (5)
 - c) Invasive species (5)
 - d) Pollution (5)
 - e) Over extraction/overexploitation (5)
- (25)**

Question 4

- a) Describe why water should be conserved. (5)
 - b) How does pollution affect water resources? (10)
 - c) Mention and explain 5 Agricultural water conservation practices. (10)
- (25)**

Question 5

- a) Discuss why population growth should be a concern to Environmental scientists. (25)
- (25)**

Question 6

- a) Differentiate between renewable and non-renewable energy. (4)
 - b) Which of the above is sustainable and recommended for use? explain (15)
 - c) Discuss why hydrogen economy is good for environment. (6)
- (25)**