

**NATIONAL UNIVERSITY OF LESOTHO**  
**BSc ENVIRONMENTAL HEALTH**  
**END OF SEMESTER A EXAMINATIONS**

**JANUARY 2024**

**100 Marks**

**TIME: 3 HOURS**

**EHS2300: INTRODUCTION TO ENVIRONMENTAL HEALTH**

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**Instructions to candidates**

1. Answer **ALL** questions in the paper.
  2. Each question must be started on a new page.
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**QUESTION 1** **[20]**

Define the following terms as used in Introduction to Environmental Health and give an example of each:

- |   |     |
|---|-----|
| a) Social environment;                                  | [4] |
| b) Lithosphere;   | [4] |
| c) Teratogenicity;                                      | [4] |
| d) Professionalism.                                     | [4] |
| e) Legal duties of an environmental Health Practitioner | [4] |

**QUESTION 2** **[36]**

- a) Explain how poverty plays a role in determining the health of a population. Give examples to justify your answer. [12]
- b) With justification, debate the following statement: "The dose makes the poison." [12]
- c) Using a labelled diagram, explain a dose-response curve and the role it plays in environmental toxicology. [12]

**QUESTION 3** **[30]**

- d) Explain how the risk matrix can be applied to different assessments performed by the EHP [4]
- a) A 70 year old man weighing 70kg has been exposed to chemical X for 30 years through his daily drinking water at a concentration of 0.75 µg/day. The chemical is a known carcinogen with a reference dose of 0.004 mg/kg\*day and a slope factor of 0.027 mg/kg\*day. Calculate the following:
- i. Daily intake [8]
  - ii. Hazard index (non-carcinogenic) [5]
  - iii. Risk (Carcinogenic) [5]
- b) Interpret the acceptability of the risk calculated in a) (ii) and a) (iii) above [4]
- c) Mention any 2 factors that promote the acceptability of risk [4]

**QUESTION 4 [14]**

Describe the process used for conducting a Health Impact Assessment (HIA). [10]

Give 2 examples of projects that should be subjected to a HIA. [4]

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